ANNUAL REPORT

2015-16

Dr.Y.S.R.Horticultural University

Venkataramannagudem, West Godavari Dist.-534101

Dr.YSRHU, Annual Report, 2015-16

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Dr. Y.S.R. HORTICULTURAL UNIVERSITY

FOREWORD

Horticulture is one of the important sectors of Agriculture comprising fruits, flowers, vegetables, spices, condiments, plantation crops, medicinal and aromatic plants. The importance of Horticultural crops is widely acknowledged that is reflected in expansion of area under horticulture crops, increasing production, enhanced quality of produce and higher returns per unit of land. It provides nutritional security to the people. Recognizing the importance of Horticultural crops and its growth potential in the state, the Govt. of Andhra Pradesh has established Andhra Pradesh Horticultural University (APHU) second of its kind in the country at Venkataramannagudem, West Godavari District vide Govt. Act No.30 of 2007 (G.O.Ms.No.134 dated 26.06.2007). Subsequently, it was renamed as Dr.Y.S.R. Horticultural University vide Act No.13 of 2011. The university is functioning with two Horticultural Colleges, seventeen Research Stations, four Horticultural Polytechnics, five private Horticultural Polytechnics and three Krishi Vigyan Kendras.

Development of the Horticultural expertise and skilled manpower is one of the important mandate of the University which aims at meeting the needs of technically trained human resource for the Horticulture industries of the State and the country. The University offers B.Sc.(Hons.) Horticulture, M.Sc.(Horticulture) with specialization in (i) Fruit Science (ii) Vegetable Science (iii) Plantation, Spices, Medicinal and Aromatic crops (iv) Floriculture and Land Scape Architecture, Horticultural Plant Pathology and Horticultural Entomology and Ph.D.(Horticulture), besides Diploma in Horticulture. The course curriculum prescribed by the V Deans Committee of Indian Council of Agricultural Research is being followed for the degree programmes.

A total of 839 students were on roll during the academic year 2015-16, of which, 511 were in B.Sc. (Hons.) Horticulture; 46 M.Sc. (Horticulture); 13 Ph.D (Horticulture) and 269 students in diploma in Horticulture course. During the period of report two Academic Council meetings, one REC meeting and two ZREAC meetings were held.

Dr.YSR Horticultural University is conducting basic, applied, location / region specific and anticipatory research for the overall development of Horticultural crops in the state at 17 research stations located in various districts.

Bio-fertilizer unit has been established to produce bio-fertilizers for the supply to farmers to reduce indiscriminate use of chemical fertilizers.

Two Krishi Vigyan Kendras were established recently under this university. The activities includes Technology assessment and refinement, organizing frontline demonstrations to increase production potential of various crops and Enterprises in farmers field, organizing vocational and skill oriented trainings both on and off campus. The university scientists are also involved in different extension activities like organizing Kisan Melas, Rythu Sadassus, Exhibitions, Polam Pilustondi, Farmer Field School programmes etc. to cater the timely needs of the farmers and address the problems faced in getting good returns through farming.

I take this opportunity to thank the Indian Council of Agricultural Research (ICAR) and Government of Andhra Pradesh for extending their timely financial and technical support to the University. I am also thankful to Academic Council, Research and Extension Council for their timely guidance and cooperation to achieve the desired objectives.

I am thankful to University Officers, Associate Deans, Principals, Heads of Research Stations, KVK heads and supporting staff for their cooperation in carrying out the activities reported in this annual report.

(Sri Chiranjiv Chowdhary)
Vice-Chancellor

CONTENTS

CONTENTS

SUMMARY

Dr. Y. S. R. Horticultural University (Dr.YSRHU), the 2nd of its kind in the country was established in the year 2007 vide Act No.30 of Government of Andhra Pradesh by carving out from Acharya N. G. Ranga Agricultural University, Hyderabad. The university is functioning with 2 Horticultural Colleges, 17 Research Stations, 4 Horticultural Polytechnics and 3 Krishi Vigyan Kendras.

The University is governed by a Board of Management comprising of 21 members headed by the Vice-Chancellor. The Vice-Chancellor is supported by University Officers viz., Registrar, Dean of Horticulture, Director of Research, Director of Extension, Director of Industrial and International Programmes, Dean of PG Studies, Dean of Student Affairs, Controller of Examinations, Comptroller and Estate Officer in University management. The academic affairs of the University are governed by the Academic Council, UG and PG Boards, the Research and Extension services are guided by Research and Extension Council (REC) led by the Vice-Chancellor.

The principal mandate of the university is to impart high quality education besides conducting research and extension programmes in Horticultural Sciences. The University is striving to do justice to its mandate through well integrated and coordinated programmes of teaching, research and extension under the able guidance of His Excellency, the Chancellor and the Board of Management.

EDUCATION

The University offers a four year B.Sc. (Hons.) Horticulture degree programme and two year M.Sc. (Hort.) programme in seven disciplines viz., Fruit Science; Vegetable Science; Plantations, Spices, Medicinal and Aromatic crops, Floriculture & Landscape Architecture, Plant Pathology and Entomology at two constituent Colleges of Horticulture located in Venkataramannagudem and Anantharajupeta. At present Ph.D (Hort.) degree programme is being offered in College of Horticulture, Venkataramannagudem. A two year diploma programme is being offered in four university and five private affiliated horticultural polytechnics.

The University has taken up development of infrastructure like buildings for the colleges, separate hostels for girls and boys, staff quarters, well equipped laboratories by providing funds received from ICAR, NABARD and State Government to each college besides positioning well qualified faculty so as to obtain ICAR and UGC recognition. As per the recommendations of the Peer Review Team of ICAR, the University has been accredited for a period of five years from April,2016 to March,2021.

Activities like modernization of classrooms, internet connectivity for students and staff, improving student amenities, strengthening of library etc. were taken up with ICAR developmental grants, NABARD and State Govt. funds. The staff and students of the university convey their sincere gratitude to ICAR for this gesture.

During seventh semester of B.Sc. (Hons.) Horticulture, students register for Rural Horticulture Work Experience Programme wherein each student is attached to a farmer in a village and made to stay with farmers to orient towards the production, protection and marketing of horticultural produce and the constraints encountered by the farmers at various levels of production and marketing.

The university is developing entrepreneurship among students in the field of post harvest technology and value addition, commercial horticulture and protected cultivation of horticultural crops as a part of Experiential Learning Programme in the eighth semester.

A total of 711 students were admitted every year into different courses of the university i.e. B.Sc. (Hons.) Horticulture (316); M.Sc. (Hort.) (50); Ph.D. (11); Diploma in Horticulture (345), 145 in University Colleges and 200 in affiliated Private Colleges.

A total of 839 students were on roll during the academic year 2015-16, of which, 511 were in B.Sc. (Hons.) Horticulture; 46 M.Sc. (Horticulture); 13 Ph.D (Horticulture) and 269 students in diploma in Horticulture course.

RESEARCH

Crop Improvement

- Evaluation of coconut hybrids, revealed that the cross combinations GBGD X LCOT and GBGD X PHOT recorded significantly higher nut yield, copra output and oil yields *i.e.,* 134 and 125 nuts per palm, 23.65 kg and 22.09 kg copra output per palm and 16.22 kg and 15.0 kg oil per palm respectively.

- In evaluation of coconut hybrids for different agro climatic regions, out of nine entries Godavari Ganga (ECT X GBGD) recorded maximum nut yield of 170 nuts/palm/year followed by Chandra Sankara (COD X WCT) with 156 nuts/palm and Keraganga (WCT X GBGD) with 155 nuts/palm/year.

- In chillies, LCA-655 and LCA-616 recorded significantly higher green chilli pod yield of 36800 kg/ha and 34525 kg/ha respectively over the check CA-960 (25525 kg/ha). LCA-655 also recorded the highest vitamin 'C' content (134.48 mg/100g) and dry pod yield (6250 kg/ha) over other entries and the check CA 960 (4250 kg/ha) indicating its suitability to both fresh green and dry chilli.

- In cashew, the variety BPP-8 has recorded maximum annual nut yield and cumulative nut yield per tree (8.16 kg and 54.32 kg) for eight annual harvests.

- Among the different medium duration turmeric varieties, KTS-6 recorded more plant height (97.20cm), more number of leaves (18.80), leaf length (49.90 cm), more number of corms (17.20) and more fresh rhizome yield (362.23 gm/plant) followed by BSR-2.

- Among the different long duration turmeric varieties, Sugandham (Local Variety) recorded more plant height (104.20cm), more number of leaves (18.40), leaf length (50.20 cm), more number of corms (20.40) and more fresh rhizome yield (370.00 gm/plant) followed by Tekurpet.

- Among the different coriander varieties, LCC-291 recorded more plant height (49.60 cm), more number of primary branches (5.94), secondary branches (12.24), more number of umbels per plant (21.00) and seed yield (5.60 gm/plant) followed by LCC-304 and LCC-282.

- New coriander variety LCC-219, with high yield, high essential oil content and suitable for rain fed and irrigated conditions was recommended for release in Andhra Pradesh, Telangana and Tamil Nadu in XXVI workshop of AICRPS held at IISR, Calicut during October, 2015.

- Studies on rhizome bulking in five turmeric varieties revealed considerable increase of fresh and dry weight of whole rhizome from October to February. Among the varieties cv. Mydukur was found to be vigorous recording the highest fresh rhizome yield (361.6 g/plant) followed by BSR-2 (298.9 g/plant).

- Among the mango varieties, higher number of fruits per tree was recorded in Neeleshan (218.71). Mallika recorded maximum fruit weight of 433.67 g and Totapuri recorded the highest yield (68.77 kg/tree) under high density planting.

- Total of forty varieties/germplasm lines of sapota are being maintained including six new collections added to the germplasm collection during 2015 and were evaluated for their performance. Among different accessions planted, maximum canopy volume was recorded in DHS-2 (475.58 m^3) while, higher number of fruits $tree^{-1}$ (3847.67) and fruit yield (274.99 kg $tree^{-1}$ and 27.49 tha^{-1}) was recorded in Virudhnagar. However, fruit weight was maximum in Columbian Sapota (246.23 g).

- Varietal trial on jackfruit indicated that maximum plant height (7.05 m) was recorded in Burliar-1 and maximum canopy volume (309.98 m^3) was recorded in Singapore. Yield was maximum in Muttam Varikka (114.46 kg fruits/tree). However, highest average fruit weight (9.48 kg) was recorded in Gumless Jack.

- The clones of banana collected from different centres under various genomic groups were evaluated. Among the Cavendish group, KBS-8 (AAA) recorded highest bunch weight (22.17 Kg) than local check. In Poovan Group (AAB), local check (KC Keli) recorded higher bunch weight (20.60 Kg) than H-531. Under Plantain group (AAB), Manjeera Nendran-II (11.88 kg/bunch) has given more yield than local check. Regarding the Monthan group (ABB), NRCB-08 has recorded highest yield than local check. Similarly, under Pisangawak group (ABB), BCB-1 has recorded better yield than local check.

Crop Production:

- In coconut based cropping system mode, application of 75% RDF + organic recycling with vermicompost followed by 50% RDF + organic recycling with vermicompost + vermiwash + bio fertilizer application of *in situ* – green manuring recorded increased mean nut yield of 177 and 170 nuts/palm/year compared to mono cropping of coconut 140 nuts/palm/year.

- In cashew, planting densities cum fertilizer trial, trees planted at closer densities i.e. 5m x 4m recorded higher vegetative growth parameters and at wider densities (10mx5m) yields were higher (6.10 kg/tree) when applied with fertilizer dose @ 150:50:50 kg/ha NPK. Annual nut yield and cumulative nut yield per tree was maximum (6.10 kg and 57.88 kg).

- High density planting in cashew, wider spacing (8x8 m) has recorded the maximum annual nut yield and cumulative nut yield 3.12 kg /tree and 17.12 kg/tree respectively for eight annual harvests.

- Among the different integrated weed management treatments in onion Cv. Agrifound Light Red, hand weeding practice at 20, 40 and 60 DAT recorded more plant height (42.15 cm), polar (5.34 cm) and equatorial diameter (7.48 cm), more fresh weight of bulb (85.00 g), less weed density (49.00 No/M^2 Area), more yield (23.60 t/ha) and more TSS (12.41%) followed by herbicidal treatment combinations of Oxyfluorfen Ethyl @ 0.25kg a.i. ha^{-1}(PE) + Quizalofop Ethyl @ 50 g a.i.ha^{-1} (POE) at 20 DAT + Propaquizafop @ 62.5 g a.i.ha^{-1} (POE) at 40 DAT + HW at 60 DAT which recorded highest plant

height (40.15 cm), equatorial diameter (7.12 cm), fresh weight of bulb (71.34g), less weed density (53.33 No/M^2 Area), yield (22.00 t/ha) and TSS (12.20 %) respectively.

- INM in chilli revealed that 75% RDN along with biofertilizers, *Trichoderma viride* and VAM recorded maximum yield (125.2 q/ha) followed by 75% RDN along with biofertilizers (118.3q/ha) against 113.3 q/h recorded by RDF.

- In Baneshan variety of mango, significantly highest number of fruits per tree (59.81 and highest yield of 24.37 kg/tree was recorded when trees were centre opened, lightly pruned up to 2nd node followed by clipping of fruit stalks after harvest. It also recorded significantly lowest incidence of thrips (2.09 thrips/panicle), hoppers (2.16 hoppers/panicle) and anthracnose (12.87%).

- In mango cv. Baneshan, spraying of 2% K_2SO_4 thrice starting from peanut stage followed by spraying at 15 days interval recorded significantly highest number of fruits/tree (59.89), fruit weight (278.64g), yield (16.31 kg/tree) TSS (20.59 ^{0}B), total sugars (14.52%), non-reducing sugars (11.29%), reducing sugars(3.26%) and lowest titrable acidity (0.08%)

POST HARVEST:

- Acid lime treated with BA @ 50 ppm to 100 ppm recorded lowest physiological loss of weight (19.50% & 23.50%), highest shelf life (21 to 24.50 days), lowest spoilage percentage (24.99 to 36.11). Ascorbic acid content (38.75 mg/100 ml) and TSS (9^0 Brix) were highest in limes treated with GA_3 @100 ppm concentration. Among the different packing materials used LDPE bags was found better where compared to gunny bags and poly net bags. The highest shelf life of 24.5 days in BA @ 50-100 ppm treated fruits and lowest PLW but the disease occurrence of 24.9% was recorded in fruits stored in the LDPE bags over all other treatment combinations of packing material and growth regulators in Lime.

- In an observation trial on quality and product recovery of mango leather with eight non-commercial varieties of mango, the highest product recovery (%) was recorded in Hyder (39.24 %) followed by Kothapalli kobbari variety (32.29 %) by using EZIDRY equipment.

- The treatment of Chitosan @1.5% + Polyethylene wrapping recorded the highest shelf life of 16 days at ambient temperature and 28 days at cold storage conditions without any change in the quality of fruits in mango.

PLANT PROTECTION:

- Severe incidence of coconut black headed caterpillar was observed in all the coastal districts of Andhra Pradesh and 38 lakh parasitoids were supplied to the farmers in the affected areas. The inundative release of parasitoids regulated the pest successfully.

- Foliar spray with neem formulation 10000 ppm @ 5ml/L followed by fiopronil (0.01%) or thiamethoxam (0.025%) or dimethoate (0.06%) given at button stage and marble stage of the fruit effectively (>75% control) managed thrips on fruits in sweet orange. Similarly spraying with the same pesticides two times at 7 days interval during peak pest activity period could effectively check the thrips population on leaves.

- The package of treating the seed with *Trichoderma viride*-2 (IIVR) @4g/kg coupled with soil application @ 10 g/sqm and soil drenching @ 5% recorded the highest germination percentage and lowest damping off incidence in chilli, tomato and brinjal crops and was at par with similar package using the bioagent *Pseudomonas fluorescence* and these two were significantly superior over other treatment combinations.

- L-Cyhalothrin 0.003% @ 0.6 ml/lit was found effective against leaf and blossom webber (LBW), leaf miner, shoot tip caterpillar (STC) and apple and nut borer (ANB) in cashew.

- Three sprays of Hexaconazole (0.2%)+ Streptocycline (100ppm), 1st spray immediately after pruning diseased and dead wood, 2nd spray two weeks after fruit set and 3rd spray two months after fruit set was found effective in management of sweet orange scab.

EXTENSION

The University has two KVKs located at Pandirimamidi in East Godavari District and Venkataramannagudem in West Godavari District. Scientists of Dr.Y.S.R.H.U. have participated in the extension activities like Technology Assessment and Refinement, organizing Frontline Demonstrations to increase production potential of various crops and enterprises in farmers' fields, organizing trainings and capacity building programmes, vocational and skill orientated trainings and related other extension activities both on and off the campus. As a support to mass media cell of Commissioner of Agriculture, All India Radio and Doordarshan, monthly calendar of operations of Horticultural crops was prepared well in advance and circulated to all the concerned stations and extension agencies in the state.

Research and Extension Council (REC) at university level is the statutory body selected once in two years with representative farmers, departmental officers, scientists and industry people throughout the state and Zonal Research and Extension Advisory Council (ZREAC) meetings at zonal level discusses the situation to identify the researchable issues and extension gaps to be addressed and to finalize the technical programme for research and extension.

Extension services of the research stations situated across the state includes the Joint Field Diagnostic visits along with department of horticulture officials, announcement of alarming situations regarding crop condition and climate, invasion of new pests and diseases, mitigation of adverse weather conditions etc. The constituent colleges conduct Rural Horticultural Work Experience Programme (RHWEP) to the students to inculcate the extension activities in villages through direct participation. The NSS units of various colleges and polytechnics conducts multifarious activities like Skill Demonstrations, Awareness Programmes, Cleanliness Drives and Health Camps in villages as a part of special camps organized every year.

The Krishi Vigyan Kendras and Research Stations mandated with transfer of technology are taking care of the extension activities. Eleven villages were adopted by Krishi Vigyan Kendras in East and West Godavari districts to conduct location specific extension activities i.e., OFTs, FLDs, Trainings, Demonstrations etc. Conducted 10 on farm trials (OFTs), 24 Front line demonstrations (FLDs), 59 training programmes and 102 other extension activities covering 6720 farmers to promote the best/location specific technologies for improving yields and reducing the cost of cultivation.

Every year **"Udyana Panchangam"** in telugu covering the production technology of horticultural crops is being published and released on Ugadi (Telugu new year) day for the benefit of the farmers. The other need based booklets and pamphlets are being published for providing latest technical information to the farmers on various horticultural crops.

I. INTRODUCTION

Looking at the horticultural growth potential in the state, the Govt. of Andhra Pradesh established Andhra Pradesh Horticultural University (APHU) second of its kind in the country at Venkataramannagudem, West Godavari District vide Govt. Act No.30 of 2007 (G.O.Ms.No.134 dated 26.06.2007) carving out of its parent University i.e ANGRAU, Rajendranagar. Subsequently, it was renamed as **Dr.Y.S.R. Horticultural University** vide Act No.13 of 2011. The University has a mandate of human resource development through **Education,** need based **Research** and dissemination of the proven technologies through **Extension.**

MANDATE

- To **t**rain human resources needed for the development of horticulture and allied sciences **(Education).**
- To conduct research and generate technologies in crop improvement, production, and post-harvest technologies of horticultural crops **(Research).**
- To transfer/disseminate the technologies generated by the University and also in collaboration with the line departments of the Government **(Extension).**

The university is functioning with 2 Horticultural Colleges, 16 Research Stations, 4 Horticultural Polytechnics and 2 Krishi Vigyan Kendras. Apart from the non-plan research programmes, fifteen All India Coordinated Research projects are also being implemented at different research stations of the University. Funds for research are provided by the State Government and also the Indian Council of Agricultural Research (ICAR). The ICAR provides 75 per cent of funds for conducting research under various All India Coordinated Research Projects of ICAR.

The University is governed by a Board of Management headed by the Vice-Chancellor. The Vice-Chancellor is supported by University Officers viz., Registrar, Dean of Horticulture, Director of Research, Director of Extension, Director of Industrial and International Programmes, Dean of PG Studies, Dean of Student Affairs, Controller of Examinations, Comptroller and Estate Officer in University management. The academic affairs of the University are governed by the Academic Council, Boards of Faculty for UG and PG studies led by the Vice-Chancellor. The Research and Extension services are guided by the Research and Extension Council (REC).

This university offers B.Sc. (Hons.) Horticulture, M.Sc. (Horticulture) with specialization in i) Fruit Science ii) Vegetable Science iii) Floriculture and Landscape Architecture, and iv) Spices, Plantation, Medicinal and Aromatic crops and Ph.D (Horticulture). The course curriculum prescribed by the IV Deans' committee of Indian Council of Agricultural Research is being followed for the degree programme. At under graduate level, besides course work, to equip with the practical field knowledge on the Horticultural crops, students shall also undergo Rural Awareness Work Experience Programme (RAWEP) and subsequently Experiential learning programme with subject modules, namely, (1) Commercial Horticulture (2) Protected cultivation of high value Horticultural crops (3) Processing of fruits & vegetables for value addition (4) Floriculture and landscape gardening. In RAWEP, the final year students are deputed to stay in villages and are attached to different host farmers for 90 days, where they will interact with farmers of the village, work with them, understand the field problems, apply the latest knowledge, acquire necessary skills and gain self confidence. In view of the globalization of horticultural trade and for imparting quality education and training in horticulture the practical based training programmes i.e., RAWEP and Experiential Learning Programme (ELP) are useful to develop the manpower requirement with technical expertise. With an intention to provide self employment to rural youth, and also to make use of the services of rural youth in rural development, the University has established six horticultural Polytechnics in non-municipal areas to offer two year Diploma in Horticulture.

The University scientists are involved in popularizing the proven technologies and improved varieties developed through various extension activities viz., All India Radio, print and electronic media, participation in Exhibitions, Kisan Melas, diagnostic surveys, Polam Pilustondi, Rythu Kosam Chandranna Yatralu, disaster management programmes, Rythu Sadassus and training programmes.

II. UNIVERSITY ADMINISTRATION

His Excellency, the Governor of Andhra Pradesh, **Sri E.S.Lakshmi Narasimhan** is the Chancellor of the University.

Dr.B.M.C.Reddy, Vice-Chancellor is the Academic Head and Principal Executive Officer of the University.

The organizational set up of the University is presented in flow chart.

The University is governed by the following authorities.

- Board of Management
- Academic Council

A. AUTHORITIES OF THE UNIVERSITY

1. Board of Management

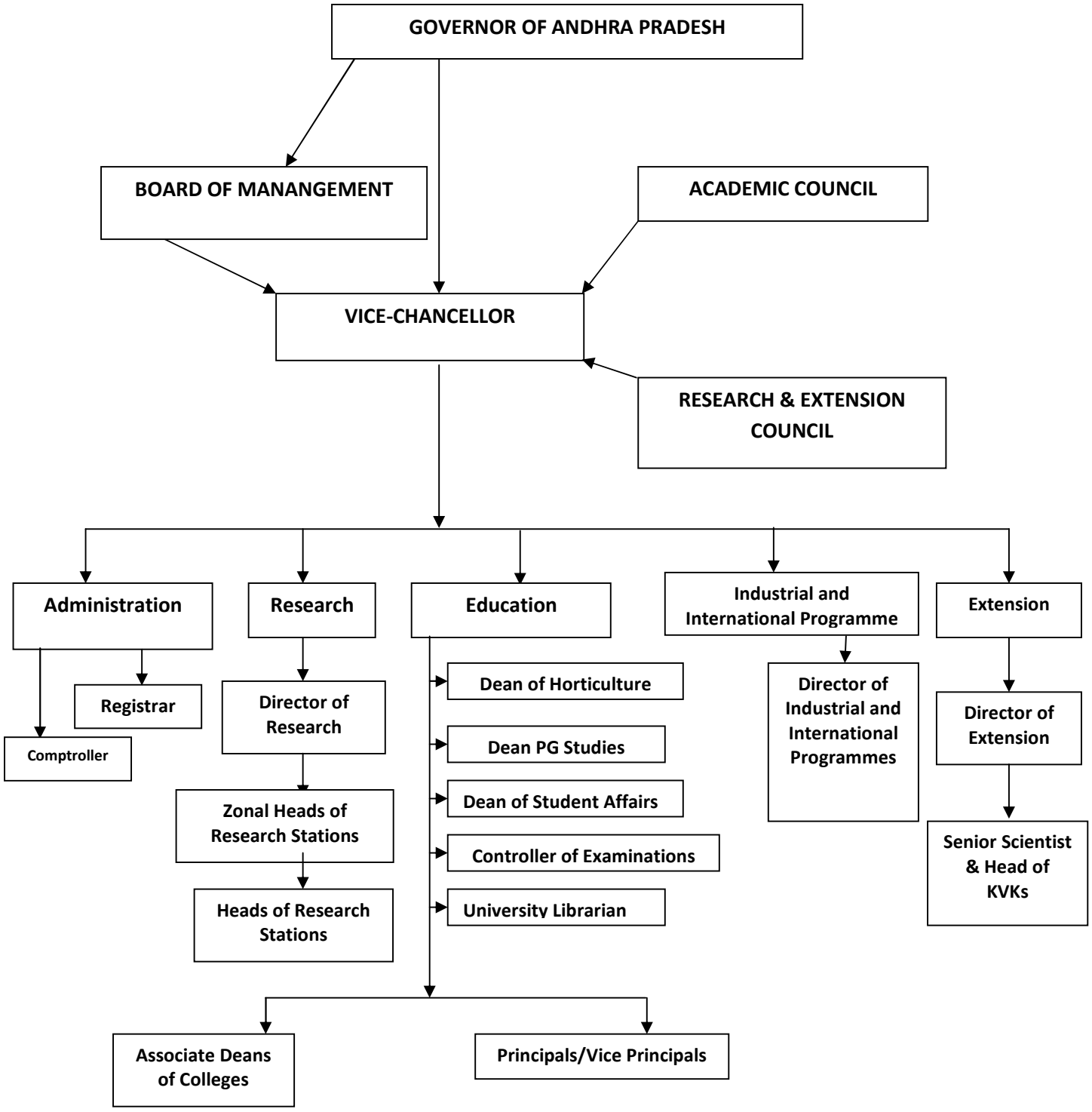
The Board of Management of Dr.YSRHU is the apex body, empowered to make policy decisions, with the Vice-chancellor as its chairman who is also the chief executive of the university.

The Board of Management has representatives from State Legislature/Parliament (4 no.), the Horti-industry (2 no.) and State Chamber of Panchayat Raj (1) as well as Horticultural Scientific Community (1 no.). In addition, one representative from the Indian Council of Agricultural Research, three Members of Academic Council of the University, Secretaries to Government from Panchayat Raj and Finance Departments and Director of State Departments of Agriculture and Animal Husbandry are also the Members of the Board of Management of Dr.YSRHU. During the period under report the Board of Management was not constituted by Govt. of Andhra Pradesh except for the Ex-officio members.

Members of Board of Management, Dr.YSRHU

Ex-Officio Members	**Dr.B.M.C. Reddy**, Vice-Chancellor **Dr.A.Padmaraju**, Vice-Chancellor, ANGRAU **Dr. Manmohan Singh,** IAS, Vice-Chancellor, SVVU **Sri T.Vijaya Kumar,** IAS, (upto 31.07.2015) Special Chief Secretary to the Govt. of A.P. Agriculture & Cooperation (Horti.) Department. **Sri Chiranjiv Choudhary,** IFS, (01.08.2015 onwards) Ex-Officio Secretary to Govt. of A.P. (Horti. & Seri) Agril. & Cooperation Department **Smt. K.Sunitha,** IAS, Finance Secretary (B & A), Finance Department, Govt. of A.P. **Smt. V.Usha Rani,** IAS (upto 31.07.2015) Commissioner of Horticulture, Govt. of Andhra Pradesh **Sri Chiranjiv Choudhary,** IFS (01.08.2015 onwards) Commissioner of Horticulture, Govt. of Andhra Pradesh

ORGANIZATIONAL STRUCTURE OF
Dr. Y.S.R. HORTICULTURAL UNIVERSITY



2. Officers of the University

The list of University Officers for the year is furnished as follows.

UNIVERSITY OFFICERS

Vice-Chancellor	**Dr. B.M.C. Reddy**
Registrar	**Dr. B.Srinivasulu**
Comptroller	**Dr. J.Dilip Babu** (upto 24-02-2016) **Smt.N.Sreekala** (25-02-2016 onwards)
Dean of Horticulture	**Dr.M.Lakshminarayana Reddy**
Dean of Post Graduate Studies	**Dr. M.Lakshminarayana Reddy**
Dean of Student Affairs	**Dr. D. Srihari**
Director of Research	**Dr. J.Dilip Babu**
Director of Extension	**Dr.R.V.S.K.Reddy**
Director of Industrial & International Programmes	**Dr. M.B.Nageswara Rao**
Controller of Examinations	**Dr.D.Srihari**
Estate Officer	**Sri P.R.P.Raju**

3. Academic Council

The Academic Council is vested with the responsibility of implementing and monitoring all the academic programmes. The Council is headed by the Vice-Chancellor, as Chairperson and consists of Deans of Faculties, Directors of Research and Extension, Dean of Student Affairs, Controller of Examinations, University Heads of Departments and Professors as Members. In addition, the Council consists of ten academicians, representing different faculties nominated by the Vice-Chancellor and two representatives of the Board of Management. As Chief Executive of the University the Vice-Chancellor is having the powers and responsibilities for the academic administration.

MEMBERS OF ACADEMIC COUNCIL

Clause (i) The Vice-Chancellor	Dr.B.M.C.Reddy, Vice-Chancellor, Dr.YSRHU
Clause (ii) The Vice-Chancellor, ANGRAU	Dr.A.Padma Raju, Vice-Chancellor, ANGRAU
Clause (iii) The Vice-Chancellor, SVVU	Dr.Manmohan Singh, IAS, Vice-Chancellor, SVVU & Principal Secretary to the Govt. of A.P., AH, DD & F Dept.
Clause (iv) The Dean of Faculties	Dr.M.Lakshminarayana Reddy, Dean of Horticulture, Dr.YSRHU Dr.M.Lakshminarayana Reddy, Dean PG Studies, Dr.YSRHU
Clause (v) The Directors	Dr.J.Dilip Babu, Director of Research, Dr.YSRHU

	Dr.R.V.S.K.Reddy, Director of Extension, Dr.YSRHU Dr.M.B.Nageswara Rao, Director of Industrial & International Programmes, Dr.YSRHU
Clause (vi) Dean of Students Affairs	Dr.D.Srihari, Dean of Students Affairs, Dr.YSRHU
Clause (vii) Controller of Examinations	Dr.D.Srihari, Controller of Examinations, Dr.YSRHU
Clause (viii) The University Librarian	Dr.R.V.S.K.Reddy, University Librarian, Dr.YSRHU
Clause (ix) The University Heads of Departments and Heads of Departments of College	
Clause (x) The Associate Deans of Colleges	Dr.A.Sujatha, Associate Dean Dr.K.Gopal, Associate Dean
Clause (xi) The Associate Directors of Research of the Regions / Zones/Zonal Heads	Dr.B.V.K.Bhagawan, Principal Scientist (Hort.) & Zonal Head Dr.L.Naram Naidu, Principal Scientist (Hort.) & Zonal Head Dr. K.T.Venkataramana, Principal Scientist (Pl.Path.) & Zonal Head
Clause (xii) Three Principal Scientists (Crop)	Dr.B.Govindarajulu, Principal Scientist (Pl.Path.) & Head Dr. L.Naram Naidu, Principal Scientist (Hort.) & Head Dr. G.Ramanandam, Principal Scientist (Hort.) & Head
Clause (xiii) Members of Board of Management	
	Smt. V.Usha Rani, IAS, Commissioner of Horticulture, Government of A.P. Dr.P.V.Ramesh, IAS, Principal Secretary, Government of A.P. (R&F), Finance Department
Clause (xiv) The eminent educationists from outside the University in the field of Horticulture	Dr.A.B.Patil, Director of Extension, University of Horticultural Sciences, Bagalkot, Karnataka Dr.C.Ravisankar, Professor (Hort.) & Univ. Head (Retd.), ANGRAU
Clause (xv) One nominee of the Indian Council of Agricultural Research	Dr.S.Arulraj, Director National Research Centre on Oil Palm, Pedavegi
Clause (xvi) Two Associate Professors and two Assistant Professors from the faculties	Dr. K.Swarajya Lakshmi, Associate Professor (Hort.) Dr. D.R.Salomi Suneetha, Associate Professor (Bio-Chemistry)

	Dr.N.Emmanuel, Assistant Professor (Ento.) Sri V.N.P.Siva Rama Krishna, Assistant Professor (Hort.)
Clause (xvii) Two Principals of Polytechnics	Dr.C.N.Byanna, Vice Principal Smt. D.Aparna, Vice Principal
Clause (xviii) The Registrar	Dr.B.Srinivasulu, Registrar, Dr.YSRHU

B. MEETINGS OF THE AUTHORITIES OF THE UNIVERSITY

Academic Council:

The Academic Council normally meets once in six months. Accordingly 15th Academic Council meeting was held on 29.06.2015 and 16th Academic Council meeting was held on 19.12.2015 at International Guest House, Dr.Y.S.R.Horticultural University Campus, Venkataramannagudem, West Godavari District.

Research and Extension Council:

The Research and Extension Council normally meets in a year. Accordingly 6th Research and Extension Council (REC) meeting was held on 18.04.2015 at International Hostel, University Head Quarters, Venkataramannagudem, West Godavari District.

Members of Research and Extension Council (REC)

The Vice-Chancellor, Dr.YSRHU	Dr.B.M.C.Reddy
The Commissioner of Horticulture	Commissioner & Director of Horticulture
The Commissioner of Agriculture	Commissioner & Director of Agriculture
The Director of Women Development & Child Welfare	Director, Women Development & Child Welfare
The Commissioner of Sericulture	Director of Sericulture
The Principal Chief Conservator of Forests	Principal Chief Conservator of Forests
Two members of the Board of Management	1. Vice-Chancellor, ANGRAU
	2. Vice-Chancellor, SVVU
The Director of Research	Dr.J.Dilip Babu, Dr.YSRHU
The Director of Extension	Dr.R.V.S.K.Reddy,Dr.YSRHU
All Deans of the Faculties, Dr.YSRHU	
The Dean of Horticulture	Dr. M.Lakshminarayana Reddy
The Dean of PG Studies	Dr. M. Lakshminarayana Reddy
The Dean of Students Welfare	Dr. D. Srihari, Dr.YSRHU
The Principal Extension Education	--

All Associate Director of Research (Zonal Research Heads)	1. Dr.B.V.K.Bhagawan, Principal Scientist (Hort.) & Head, Coastal Zone-I
	2. Dr.L.Narama Naidu, Principal Scientist (Hort.) & Head, Coastal Zone-II
	3. Dr.K.T.Venkata Ramana, Principal Scientist (Hort.) & Head, Rayalaseema Zone
All Associate Deans of the Colleges	Dr.A.Sujatha, HC & RI, V.R.Gudem
	Dr.K.Gopal, HC & RI, AR.Peta
All Heads of Departments of the University	Head, Department of Pomology
	Head, Department of Olericulture
	Head, Department of Floriculture
	Head, Department of Spices, Plantation crops and Medicinal crops
	Head, Department of Post Harvest Technology
	Head, Department of Entomology
	Head, Department of Plant Pathology
	Head, Department of Genetics & Plant Breeding
	Head, Department of Agronomy & Soil Science
	Head, Department of Plant Physiology Bio-chemistry and Microbiology
	Head, Department of English Statistics and Social Sciences
	Head, Department of Horticultural Engineering and Environmental Science
17.Principal Scientists (Crop)	Principal Scientist (Pomology)
	Principal Scientist (Olericulture)
	Principal Scientist (Floriculture)
	Principal Scientist (Spices, Plantation crops and Medicinal crops)
All Heads of Krishi Vignan Kendras & District Extension Units.	Dr.E.Karuna Sree, Programme Coordinator, KVK, Venkataramannagudem, W.G.District.

	Dr.A.Srinivas, Programme Coordinator, KVK, Pandirimamidi, East Godavari District
Three Officers not below the rank of The Deputy Director of Horticulture	Additional Director of Horticulture Executive Director, MIDH Dy. Director of Horticulture, Eluru
Research and Extension Council may co-opt as members not more than four persons who are specialized in research for such period and in such manner as may be prescribed, so as to secure adequate representation of different sector of Horticulture/Agriculture and allied fields. Such members shall be two from Andhra Pradesh and two outside the state.	Dr. K. Purushottam Dr. Y. N. Reddy
Ten progressive farmers of which three shall be woman, who are prominent in horticulture/agriculture and allied branches to be nominated by the Vice-Chancellor for their specialized knowledge and experience	1. Sri G. Venkataramaraju Surya Nagar, Railway Kodur, Kadapa District. 2. Sri Powdu Kusalavudu Gondhi Pakala,(V), Chintapalli (M), Visakhapatnam District, 3. Smt. Mallina Lakshmi Devi W/o Sri. M. Ravindra Prasad, Bowdara (V), S. Kota Mandal, Vizianagaram District 4. Sri Bandaru Srinivasa Rao S/o Tirupathaiah, Ananthavarappadu (V), Vatticherukuru (M), Guntur District 5. Sri Bantu Srinivasa Rao Madicherla (V), Bapulapadu (M) Krishna District

	6. Smt. Garimella Mythili Venkataramana W/o Chinna Satyanarayana, Kotevari Agraharam, Ambajipeta Mandal, East Godavari District . 7. Sri Danda Veeranjaneyulu Sri Veeranjaneya Chilli & Vegetable nursery, Bobbepalli (V), Martur (M), Prakasam District 8. Sri Ch. Trinadha Srinivasa Rao, Vattigudipadu post, Aagiripalli (M), Krishna District 9. Mrs. P. Vijaya Lakshmi, Kondampalli, Penukonda, Ananthapur District, 10. Sri B. S. V. Raghavayya (Raghu) Venkataramannagudem, Tadepalligudem (M) West Godavari District
22. Two persons nominated by the Vice-Chancellor representing different horticulture based industries.	1. Sri K. J. Prabhakar Rao, General Manager, M/s/ Ruchi Soya Industries, Ampapuram, Bapulapadu Mandal, Krishna District. 2. Sri. Y. Narayana Rao, C/o R. Surya Rao, Rajavolu, Rajahmundry, East Godavari District
23. Representatives from the under mentioned organizations, not exceeding seven	
a. Agriculture Chemicals	--
b. The A.P.State seed development corporation Limited/National seed corporation /Seed industry/NABARD/Commercial banks	Chief General Manager, NABARD, Hyderabad

c. Indian Nursery Association	Sri Palla Subrahmanyam, President, All India Nurserymen Association, Kadiyapulanka, Kadiyam (M), West Godavari District.
d. Micro Irrigation Industries	Sri M. S. Prasad, State Agronomist, M/s. Jain Irrigation Systems Ltd., Opp: Park,Near Canara Bank, Gandhinagar, Hyderabad
e. Food processing industry	Sri T. Chandrasekhar Reddy, Puthalapattu Mandal, Chittoor District – 517124.
f. The A.P.State Agro-Industries Development Corporation Limited	--
g. Non-govt. organization	President Bhagavathula Charitable Trust BCT Farm Complex, Haripuram, 531 061, Rambilli Mandal Visakhapatnam District.
h. Exporters, Horticulture products export development agency	General Manager, APEDA, 8th Floor, Chandra Vihar Building, Mukkaramjahi Market Hyderabad-500 001
i. Marketing / Food packing Industry	Sri P. Janardhana Reddy, Bharathi Seeds Pvt Ltd, 5l/28, Opposite petrol pump, Noonepalli, Nandyal, Kurnool District.
The Vice-Chancellor may, for purpose of consultation, invite any two Scientists and/or two extension experts as per the need of the agenda to attend the meeting.	1. Dr.S.S. Hebbar, Principal Scientist (Hort.), Division of Vegetable Crops IIHR, Bengaluru. 2. Dr.B.Balakrishna Principal Scientist (Extension), Division of Extension and Training IIHR, Bengaluru

1. The Vice-Chancellor Shall Be Ex-Officio Chairman.	
2. The Term of Nominated/Co-opted Members Shall be two years.	
3. The Research and Extension council shall meet at least once in a year.	

C. FACULTY STRENGTH

The cadre-wise strength of teaching staff of Dr.YSRHU is as follows

Teaching Staff	
Post	**No.**
Professors	18
Associate Professors	23
Assistant Professors	71

III. EDUCATION

Teaching Institutions

Dr.YSR Horticultural University (Dr.YSRHU) offers, B.Sc. (Hons.) Horticulture, M.Sc. (Horticulture) with specialization in Fruit Science, Vegetable Science, Floriculture & Landscape Architecture and Spices, Plantation, Medicinal & Aromatic crops and Ph.D (Horticulture). In addition to these, Dr.YSRHU is also offering two years Polytechnic diploma programme in horticulture.

The list of colleges and polytechnics with their location, year of establishment and courses offered is given in Table-1.

S.No.	Year of establishment	Name of the institute & location	Courses offered
I. Colleges of Horticulture			
1.	2007	Horticultural College & Research Institute, Anantharajupet, Kadapa district	B.Sc. (Hons.) Horticulture M.Sc. (Horticulture) with specialization in Fruit Science, Vegetable Science, Floriculture & Landscape Architecture and Spices, Plantation, Medicinal & Aromatic crops Horticultural Plant Pathology & Post Harvesting Technology
2.	2007	Horticultural College & Research Institute, Venkataramannagudem West Godavari district	B.Sc. (Hons.) Horticulture M.Sc. (Horticulture) with specialization in Fruit Science, Vegetable Science, Floriculture & Landscape Architecture and Spices, Plantation, Medicinal & Aromatic crops and Horticultural Entomology & Post Harvesting Technology Ph.D (Horticulture)
II. Horticultural Polytechnics			
1.	2003	SKPP Horticultural Polytechnic, Ramachandrapuram, East Godavari district	Diploma in horticulture and allied courses in Plant Breeding, Soil Science, Agronomy, Plant Pathology, Entomology, Economics, Engineering, English, Extension Education etc., are offered.
2.	2008	SSPG Horticultural Polytechnic, Madakasira, Anantapur district	
3.	2009	Horticultural Polytechnic, Kalikiri, Chittoor district	
4.	2013	Horticultural Polytechnic, Nuzvid, Krishna district	

Admission Strength and out turn of Students

Horticultural College & Research Institute, Venkataramannagudem

Course	Students admitted (2015-16)			Students on Roll (All years)		
	Boys	Girls	Total	Boys	Girls	Total
B.Sc.(Hons) Horticulture	33	71	104	84	186	270
M.Sc. (Horticulture, Plant Pathology, Entomology & Post Harvesting Technology)	16	21	37	13	11	24
Ph.D in Horticulture	04	04	08	06	07	13

Horticultural College & Research Institute, Anantharajupet

Course	Students admitted (2015-16)			Students on Roll (All years)		
	Boys	Girls	Total	Boys	Girls	Total
B.Sc.(Hons) Horticulture	29	51	88	97	144	241
M.Sc. (Horticulture, Plant Pathology, Entomology & Post Harvesting Technology)	9	5	14	14	8	22
Ph.D in Horticulture	-	-	-	-	-	-

Horticultural Polytechnics

Name of the college	Students admitted (2015-16)			Students on Roll (Both the years)		
	Boys	Girls	Total	Boys	Girls	Total
Govt. Horticultural Polytechnics						
SKPP Horticultural Polytechnic, RC Puram	17	12	29	30	23	53
SSPG Horticultural Polytechnic, Madakasira	08	17	25	18	28	46
Horticultural Polytechnic, Kalikiri	11	11	22	20	21	41
Horticultural Polytechnic, Nuzvid	14	09	23	25	18	43
Pvt. Horticultural Polytechnics						
SBVR Pvt. Hort. Polytechnic, Badvel	18	18	36	16	18	34
Private Hort.Polytechnic, Jangareddygudem	17	13	30	15	14	29
Private Hort. Polytechnic, Maddirala	09	02	11	09	02	11
Private Hort. Polytechnic, Neliparthi, Salur	06	06	12	07	05	12

Details of hostels and students accommodated:

Name of the college/Polytechnic	No. of Hostels			No. of students accommodated		
	Boys	Girls	Total	Boys	Girls	Total
HC & RI, V.R.Gudem	01	01	02	152	285	437
HC & RI, AR'Pet	01	01	02	95	142	237
HPT, Madakasira	01	01	02	17	28	45
HPT, Kalikiri	01	01	02	18	20	38
HPT, Nuzvid	01	01	02	23	18	41

Research projects taken up in Colleges:

College of Horticulture, Venkataramannagudem

Twenty M.Sc (Hort) and 04 Ph D (Hort.) students submitted their theses as detailed below

Department	Research completed (No.)	
	M. Sc (Hort.)	Ph.D (Hort.)
Floriculture and Land Scape Architecture	04	01
Fruit Science	07	02
Vegetable Science	06	01
Plantation, Spices, Medicinal and Aromatic crops	03	--

College of Horticulture, Anantharajupet

Five M.Sc (Hort) students submitted their theses as detailed below:

Department	Research completed (No.)	
	M. Sc (Hort.)	Ph.D (Hort.)
Floriculture and Land Scape Architecture	01	--
Fruit Science	01	--
Vegetable Science	02	--
Plantation, Spices, Medicinal and Aromatic crops	01	--

Other Research Projects:

- Standardization of stage wise irrigation schedules in Mango cv. Baneshan
- Testing of suitability of onion varieties for early and late kharif seasons
- Evaluation of papaya (*Carica papaya*) varieties
- Studies on the management of Leaf Hoppers in mango with certain newer insecticides
- Screening of certain guava varieties against spiralling white fly (*Aleurodicus dispersus*) and their management with certain newer insecticides
- Studies on substitution of nutrients with organic & bio fertilizers on Growth, Yield and quality of papaya Cv. Arka Prabhat
-

Students Activities

A.NSS Activities:

College of Horticulture, Venkataramannagudem

Programme	Date
Vanamahostavam - Programme: Planting of Silver oak saplings in the premises of Dr. YSRHU	10.07.2015
Swatcha Bharat and Swatcha Andhra Pradesh Programme - Inaugared by Dr. BMC Reddy, Hon'ble Vice-chancellor, Dr YSRHU	03.10.2015
Eye screening camp at HC &RI, Venkataramannagudem	10.03.2016
Blood donation camp at HC &RI, Venkataramannagudem	17.03.2016
NSS Special Camp at Kunavaram Village (Bangarugudem)	26-03-2016 to 01-04-2016
NSS Special Camp at Chinatadepalli Village	26-03-2016 to 01-04-2016
NSS Advisory Board Meeting at Dr YSRHU, VR Gudem	29-10-2015

Inauguration of Vanamahostavam Programme

Planting of Silver Oak saplings

Participation in Swacha Bharat and Swacha Andhra Pradesh

Eye Screening Camp

Inauguration of Blood Donation Camp by Dr. D Srihari, DSA and NSS Programme Co-ordinator

Dr D. Srihari, DSA and NSS Programme Co-ordinator inaugurating the NSS Special Camp at Kunavarm village

Dr D. Srihari, DSA and NSS Programme Co-ordinator Inaugurating the NSS Special Camp at Chinatadepalli Village

NSS Volunteers involved sanitation at Kunavaram village

Cleaning of Roads at Chinatadepalli Village by NSS Volunteers

Cleaning & Colouring Anganwadi Kendram at Kunavaram village

Construction of Drainage at Chinatadepalli Village

Demonstration of Jam Preparation to the Rural Women at Kunavaram village

preparation of Multigrain Biscuits by Rural Women in NSS Special Camp at Chinatadepalli Village

Dr D V Swamy, NSS Programme Officer Addressing the gathering in Validictory function at Chinatadepalli village

r A. Sujatha, Associate Dean Addressing the gathering in Validictory function at Kunavaram Village

NSS HRD Training Programmes:

Dr V. Sudha Vani, Assistant Professor (Horticulture) & NSS Programme officer attended the 192nd orientation training programme from 26/9/15 to 02/10/15 in Andhra University, Visakhapatnam.
Dr D V. Swamy, Associate Professor (Horticulture) & NSS Programme officer attended orientation training programme from 20/11/15 to 26/11/15 in Andhra University, Visakhapatnam.
Dr D V Swamy, Associate Professor (Horti.) and NSS Programme officer attended the review meeting on 29-02-16 and 01-03-2016 at SVU to present the annual work done report and action plan for 2015-2016.
Dr.V.Sudha Vani, Assistant Professor (Horti.) & NSS Programme officer attended the training programme on "Climate Literacy-Mainstreaming Climate Change into Higher Education-Agriculture Education" from 29/02/2016 to 02/03/2016 at Dr.MCR HRD institute Hyderabad.

Visit of Foreign delegates:

Dr. Venu K, Professor and Director, Centre for Integrated Biological and Environmental Research at Delaware State University, Dover, DE delivered a guest lecture on "A model to study disease resistance and epigenomics using the bean-bean interaction" for the benefit of staff and interacted with students on 16.7.2015.

Dr Venu K., Professor and Director, delivering a guest lecture on epigenomics for the benefit of staff and students at HCRI, V.R.Gudem.

College of Horticulture, Anantharajupet

NSS Activities:

- "Orientation training" was organized by NSS unit to the NSS volunteers on 03.07.2015.
- The NSS unit of HC&RI, Anantharajupeta has conducted Special campaign on "National cleanliness programme" on 15th and 16th October 2015.
- NSS officers collected fund from students of Horticultural College And Research Institute,

Anantharajupeta towards supply of bricks for construction of New Capital city, Amaravathi.

- Under NSS programme, "Clean and Green" campaign was taken up and the traffic islands/road dividers of Koduru town were cleaned from 26-11-2015 to 28-11-2015.
- Organized special NSS camp at Punnativaripalli Village, Obulavaripalli (mandal) of YSR District from 29-03-2016 to 04.03.2016.
- Organized special NSS camp at B. Kammapalli Village, Kodur (mandal) of YSR District from 29-03-2016 to 04.03.2016.

- As a reciprocation to the call of Sri. N. Chandra Babu Naidu, Hon'ble Chief Minister of Andhra Pradesh. The NSS volunteers of HC&RI, Anatharajupet have collected funds towards the supply of bricks for construction of new capital at Amaravathi, Andhra Pradesh. The cheque was handed over to Dr. K.Gopal, Associate Dean, HC&RI, Anantharajupet.

NSS: Funds collected from students of Horticultural College And Research Institute, Anantharajupeta towards supply of bricks for construction of New Capital Amaravathi, Andhra Pradesh.

Other Achievements:

- Out of fifty outgoing students of 2012 batch, 30 students appeared for ICAR-2016 entrance examination of PG courses, three students (23rd and 35th ranks in Horticulture and 41st rank in Plant Science) bagged Junior Research Fellowship, 13 Non-JRF and one Senior Research Fellowship (4th rank) from HC&RI, Anantharajupeta.

- Anti-Ragging legal awareness programme conducted at HCRI, Anantharajupeta on 02-09-2015

- Newly established Vermi-compost unit and Mushroom production unit were inaugurated by Hon'ble Vice Chancellor Dr. B.M.C. Reddy and production was started in the campus.
- PG programme in Horticultural Plant Pathology and Post-Harvest technology was started in the current year with an in-take of 3 and 2 students respectively in each department.
- A well-equipped central lab facility was established in the campus for conducting research activities by both the students and teaching faculty.
- Dr. K. Gopal, Associate Dean explaining about the existing facilities in central lab to Dr. A. Padma Raju, Hon'bleVice-Chancellor of ANGRAU

- The Indian constitution day was celebrated at Horticultural College and Research Institute, Anantharajupet, on 26-11-2015. Dr. K. Gopal, Associate Dean participated as chief guest and addressed the students regarding the importance of Indian constitution in maintaining the democratic governance in the country.

125thIndian Constitution Day was celebrated at Horticultural College And Research Institute, Anantharajupeta on 26-11-2015

- The Placement Cell conducted campus selections by Jain Irrigation Systems, Zonal Manager, Rayalaseema Region on 12-05-2016 for UG and PG students and five final year students got selected.
- Five students of this campus got selected as Horticultural Officers and were posted in various places.
- Seven students were selected as Teaching Associates and Research Associates in Dr. Y.S.R. Horticultural University.
- Around 41 students of this campus got selected as MPEO's (Multipurpose Extension Officers) in Department of Horticulture, Hyderabad and were posted in various places in Andhra Pradesh.

Hon'ble Vice Chancellor Dr. K. B.M.C Reddy and Dr. K. Gopal, Associate Dean, HCRI, Anantharajupeta facilitate JRF Rankers – 2015-16

- Rashtriya Ekta Diwas was celebrated on 31-10-2015 at HC&RI, Anantharajupet under the leadership of Dr.K.Gopal, Associate Dean, to commemurate the birth anniversary of Sardar Vallabhai Patel who was instrumental in keeping India united.

"RashtriyaEktaDiwas" was conducted at HCRI, Anantharajupeta on 31-10-2015

- Dr. K. Gopal, Associate Dean, HCRI, Anantharajupeta, Dr. M. Ramaiah, ADR and other officials reviewed RAWEP activitiesat Petlur

- Teachers Day was celebrated on 5th September, 2015 at HC&RI, Anantharajupet by praying floral Tributes to Sri Sarvepalli Radhakrishnan a great teacher. Dr.K.Gopal, Associate Dean, HC&RI, Anantharajupet spoke about the role of teacher in moulding the students into perspective mode to become good citizens of the nation.

Teachers Day celebrated at HCRI, Anantharajupeta on 5th September2015

- Dr. M. Lakshmi Narayana Reddy, Dean of PG Studies, Dr. YSRHU, Venkataramannagudem, Dr. M. Kannan, Professor & Head Department of Floriculture and landscape architecture, Tamil Nadu Agricultural University, External Examiner, visited HC & RI, Anantharajupeta on 05-03-2016

- International Women's Day celebrated on 8th March, 2016 at HC&RI, Anantharajupet

- Hon'ble Vice Chancellor Dr.B.M.C. Reddy, Dr.YSRHU, visted HCRI, Ananatharajupeta on 02-12-2015 interacted with teaching staff and discussed the different problems in the campus.

- RAWEP students conducted exhibition stall at Obulavaripalli and Kammapalli villages. A farmer meeting was also organized& presided by Dr.K.Gopal, Associate Dean, HCRI, Anantharajupeta at both villages on 04-12-2015.

RAWEP students arranged exhibition stall on14-12-2015

World Human Rights Day on 10-12-2015

- Farmers from different locations of Rayalaseema zone visited poly houses at HC&RI, Anantharajupeta. DrK.Gopal, Associate Dean, Dr. R. Nagaraju, Asst.Prof (Hort) interacted the farmers and explained about importance and cultural practices of various high value under cover crops.

- Dr. K. Gopal, Associate Dean, HCRI, Anantharajupeta reviewing ELP Activities 2015-16

Horticultural Polytechnic, Kalikiri:

NSS special camp was organized at Moore Yadlapalli village of Vayalpadu Mandal, Chittoor district from 21-03-2016 to 27-03-2016.

Horticultural Polytechnic, Madakasira

NSS special camp was conducted in R. Anantapuramu village, Madakasira Mandal, Anantapuramu district from 29th March 2016 to 4th April 2016. 45 NSS Volunteers have taken part in the Special Camp Programme. The Activities like Swachh Bharath, Sanitation, Socio-Economic Survey, Farmers field visit, Health camp and Shramadhanam were taken up during the Programme.

SKPP Horticultural Polytechnic, Ramachandrapuram

The NSS unit of Horticultural Polytechnic, Ramachandrapuram consisting of fifty students have conducted the following programmes to inculcate the social responsibility and activities by the students.

Camp/Activity & Venue	Date
World Health Day - College campus and RC Puram Town	07-04-2015
Dr.B.R.Ambedkar Jayanthi - College campus	14-04-2015
International Yoga Day - College campus	21-06-2015
Digital India week - College campus and RC Puram Town	02-07-2015 to 07-07-2015
Vanamahotsavam week - College campus and RC Puram Town	08-07-2015 to 15-07-2015
Teacher's Day- College campus	05-09-2015
International Literacy week - College campus and RC Puram Town	08-09-2015 to 14-09-2015

NSS Day - RC Puram Town, East Godavari district	24-09-2015
Swachh Bharath Campaign - RC Puram Town	01-10-2015 to 15-10-2015
Gandi Jayanthi and International Day of Non violence and peace - College campus	02-10-2015
National Unity Day - College campus	31-10-2015
Constitution Day- College campus	26-11-2015
Swacch Bharath Clean and Green Programme- College campus	28-11-2015
Aids awareness Campaign - R.C.Puram Town	01-12-2015
Republic Day - R.C.Puram Town	26-01-2016
NSS Special camp - Oduru Village	18-03-2016 to 24-03-2016

Sports, Games & Cultural Activities

College of Horticulture, Venkataramannagudem

Inter-collegiate Sports, Games, cultural and literary meet, 2015-16

The 5th Inter Collegiate Sports, Games, Cultural and Literary Meet was conducted at Horticultural College and Research Institute, VR Gudem, under the chairmanship of Dean of Student Affairs Dr. D. Srihari from 7th-8th January, 2016. The institute was awarded with the Overall Championship for sports, games, cultural and literary activities. HC&RI, VR Gudem students, Ch HariPriya (VH/15/24) and P. Praveen Kumar (VH/15/44) stood as champions in athletic events.

HC&RI, Anantharajpeta students performing the group dance

HC&RI, VR Gudem students performing the group song

HC&RI, VR Gudem 2012 batch students receiving the overall championship in sports and games

Chief guest Dr. P. Nageswara Rao, Professor and Head, Tadepalligudem National Institute of Technology distributing Prizes to the winners

Agriunifest: A total of 11 students have participated from Horticultural College and Research Institute, Venkataramannagudem in 16th All India Inter Agricultural Universities Cultural and Literary meet-2016 held at Orissa University of Agriculture and Technology, Bhubaneswar, Odisha from1st-4th February, 2016.

Dr YSRHU Students performing march past in Agriunifest at OUAT, Bhubaneswar

Dr YSRHU Students participation in singing competition (Patriotic songs)

SKPP Horticultural Polytechnic, Ramachandrapuram

Conducted 4th Inter Collegiate Sports, Games, Cultural and Literary meet, 2015-16 at SKPP Horticultural Polytechnic, Ramachandrapuram for the Polytechnic colleges under Dr.YSRHU, Venkataramannagudem.

Agriunisports : A total of 20 students were participated from HC&RI, VR Gudem in 16th All India Inter Agricultural Universities Sports Meet-2016 held at Tamil Nadu Agricultural University, Coimbatore, Tamilnadu from 22-02-2016 to 26-02-2016.

Dr YSRHU Students performing march past in Agriunisports 2015-2016

Dr YSRHU Students playing Volley Ball (Women) in Agriunisports, 2015-2016

International Yoga Day:

International Yoga Day was celebrated at HC&RI, VR Gudem on 21-06-15. Hon'ble Vice-Chancellor, Dr. BMC Reddy, University officers, teaching, non- teaching staff and students have participated and performed the Yogasanas.

- **P. Saroja** (VH/12/67) and **K. Harika Challappa Naidu** (VH/ 12/20), third year B.Sc (Hons.) Horticulture got first and second prizes respectively in essay writing competition held on "Role of yoga in physical and mental health of youth".
- **N. Priyanka** (VHM/13/13) M. Sc (Horti.) second year and **S. Ashok Kumar** (VH/1306) second year B. Sc (Hons.) Horticulture students got first and second prizes, respectively as best performers of yoga postures.

Dr BMC Reddy, Hon'ble Vice-chancellor, Dr YSRHU addressing the participants in first international Yoga day held at HCRI VR Gudem

Staff and students of Dr YSRHU performing Yoga

International Youth Day-2015:

International Youth Day was organized by HC&RI, VR Gudem on 12th August, 2015. Dr. D. Srihari, Dean of Student Affairs, Dr. YSRHU and Dr. A. Sujatha, Associate Dean, NSS Programme officers, Dr R V Sujatha, Assistant Professor (Econ.), Sri. M. Paratpara Rao, Assistant Professor (GPBR), teaching staff and students have attended the programme. Dean of student affairs and Associate Dean has delivered a message to the students about power of youth in bringing transformational changes in the society. Students have shared their views on engagement of youth in local and national politics for sustainable human development. At the end of the programme, pledge was taken by the students on the occasion of International Youth Day and also on 'Say No to Ragging.'

Staff and Students taking pledge on the occasion of International Youth Day at HC&RI, VR Gudem

Andhra Kesari Tanguturi Prakasam Pantulu Jayanthi:

All the staff and students have participated in Sri Tanguturi Prakasam Pantulu 143th Jayanthi celebrations at HC&RI, VR Gudem on 23-08-15.

Staff and students in Andhra Kesari Tanguturi Prakasam Pantulu Jayanthi celebrations

Teacher's Day:

All the teaching staff have participated in teacher's day celebration on the eve of 128th birth Anniversary of Dr. S. Radhakrishnan conducted at HC&RI, VR Gudem.

Teacher's Day Celebrations at HC&RI, VR Gudem

Gandhi Jayanthi:

Dr. K. Umajyothi, Professor (Horticulture) & Associate Dean (i/c), teaching staff, students and time scale workers have participated in 146th Birth Anniversary celebrations of Mohandas Karam Chand Gandi on 02-10-2015 at HC&RI, VR Gudem.

Staff members paying floral tributes to Mahatma Gandhi

Yoga Day:

Yoga Day was organised on 13-10-2015 at HC&RI, VR Gudem in which teaching, non-teaching staff and students have participated. Sri. Y. Sambasiva Rao, Yoga master explained the importance of yoga and how to overcome the physical and mental health problems in daily life through yoga.

Yoga Master showing Yoga postures to the staff and students

Fresher's Day:

Fresher's Day was celebrated on 06-10-2015. Dr. D. Srihari, Dean of Student Affairs, was the Chief guest of the function and Dr. A. Sujatha, Associate Dean presided over the function. Senior students welcomed the first year students and fresher's have performed various cultural activities.

Dr. D. Srihari, Dean of Student Affairs, Dr YSRHU, Inaugurating the Fresher's Day Celebrations at HC&RI, VR Gudem

National Unity Day:

Dr. D. Sreehari, Dean of Student Affairs, Dr.V. Sudha Vani, Assistant Professor (Horticulture) & NSS Programme Officer, staff and students have participated in National Unity Day/ Rastriya Ekta Diwas celebrated in memory of 140th birthday of Sardar Vallabhai Patel on 31-10-2015 at HC&RI, VR Gudem. All the participants have paid floral tributes to Sardar Vallabhai Patel and was administered with unity pledge.

Dr. D. Sreehari, Dean of Student Affairs, staff and students taking pledge on the eve of National Unity Day

Constitutional Day:

All the staff members and students have participated in "Constitutional Day" celebrations on 26/11/2015 in commemoration of approval of the constitution written by Bharat Ratna Sri Baba Saheb Bheem Rao Ambedkar in the year 1949, which came into force on January 26, 1950 marking the beginning of a new era in the history of India.

Celebration of constitutional day at HC&RI, VR Gudem

International Women's Day:

International Women's Day was celebrated at HC&RI, VR Gudem with a theme of "Equality of women is progress for all". All the women staff members have participated in the celebrations Petty games and various competitions were held on the eve of International women's Day on 08-3-2016.

International Women's Day Celebrations at HCRI, VR Gudem

Other significant events:

Awards:

- Ms P. Asha Devi (VH/12/08) third year B. Sc (Hons.) Horticulture got first prize in essay writing (Telugu), debate (English), second prize in elocution (Telugu) and third prize in elocution (English) state level competetions held on the eve of Godavari Pushkarams at Acharya Aadikavi Nannayya University, Rajahmundry on 9/7/15. Received gold medals in the above events from Hon'ble Chief Minister of Andhra Pradesh, Sri. Nara Chandra Babu Naidu garu on 22-07-15 at Anam Kala Kendram, Rajahmundry.

Hon'ble Chief Minister of Andhra Pradesh, Sri. Nara Chandra Babu Naidu Presenting a Goldmedal to Ms P. Asha Devi, third year student of Dr YSRHU in Prantiya Vidya Sadassu-2015 at Rajahmundry & Dr.B.M.C.Reddy, Hon'ble Vice-Chancellor, congratulating the Winners

- Md Ayesha Siddikha (VH/15/10) received pratibha award from District Educational Officer, West Godavari for securing highest marks in Intermediate course.

Md Ayesha Siddikha with Pratibha Award

Horticulture College and Research Institute, Anantharajupeta

- Students Activities cell was inaugurated by Dr. D. Srihari, Dean of student's affairs, Dr. Y.S.R.HU, VR Gudem on 17-04-2015.
- Field visit to final year students. (both modules of ELP 401 and 402) was organized and were taken to HC& RI, VR Gudem, and Commercial nurseries located near Kadiyapu Lanka (vil & Mandal) and commercial protected cultivation units near Vottigudipadu (vil), Nuziveedu (M).
- Personality development classes were conducted from 27-04-2015 to 30-04-2015 by smart series, Bangalore.
- A guest lecture was arranged on 19-06-2015 The officials Mr. Paramdhamam, Head (Marketing) and Mr.Sudhakar, Deputy Manager (HR) from M/s. Coromondal Fertilizers and Chemicals Limited, Vijayawada has delivered lectures.
- All the III year students were taken to Papaya Processing Unit located near Kodur and Mango processing unit located near Settigunta (Vil), Kodur (M).
- "Orientation training" was organized by NSS unit to the NSS volunteers on 03.07.2015. NSS programme officer, unit I, Smt. G.Thanuja Sivaram imparted training to the volunteers.
- Essay and elocution competetions were held at college level on 03-07-2015 on the occasion of celebrarion of Godavari Pushkarams, 2015
- Vanamahotsavam Programme was organized at Z.P.High school Y.Kotta village in Rly Kodur, Kadapa Dist on 10.07.2015 by NSS Unit, HC&RI, Anantharajupeta
- A special meeting was organized to commemorate the services of Dr. A.P.J Abdul Kalam on the unfortunate and of sudden demise of Dr. A.P.J Abdul Kalam 27-07-2015.
- Legal Awareness programme on "Antiragging" to 2nd year and 3rd year students was held on 02-09-2015.
- Fresher's Day was celebrated at HC&RI, Anantharajupeta on 09-10-2015

Freshers Day was celebrated on 09-10-2015

- 140th birth anniversary of Sardhar Vallabhai Patel, Freedom fighter, who is popularly known as "Iron man of India" was celebrated as 'Ektha Diwas' on 30-10-2015.
- Faculty of HC&RI, Anantharajupeta visited flood affected areas in Obulavaripalli (M) and Kodur mandal and explained farmers about management practices to be adopted in flood affected mango, sweet orange, papaya and betel vine gardens.
- 125th Indian Constitution Day celebrated on 26-11-2015.
- Exhibition was conducted by RHWEP students (Girls) at Obulavaripalli and Kammapalli

villages on 04-12-2015.

- World Human Rights Day was celebrated on 10-12-2015.
- Participation of staff and students of HCRI, Anantharajupeta in5th Inter collegiate sports, games, cultural and literary eventsconducted by HC&RI, Venkataramannagudem on 7th and 8th of January, 2016

- ICAR, JRF coaching classes were organized for the benefit of ELP (final year) and III year students by S. Mallesh, M.Sc. (Hort) (PhD) Alumini of this campus on 29-01-2016 and 30-01-2016.

Students of HCRI, Anantharajupetaparticipated in AgriUnifest 2015-16 from1st to 4th Feb, 2016

- Organized International women's Day on 08-03-2016 by WPC. A meeting was organized and importance of protecting the girl child and women's rights were discussed. Various games and sports competitions were held for women staff and girl students. Prizes were distributed to the winners.
- Faculty of Dept. of Floriculture participated in one day interaction programme arranged with officers (21members) of A.P Urban Greening and Beautification corporation Limited, Govt. of A.P, Hyderabad on 20-03-2016. Explained about "Indoor Gardening and Value addition in flowers" held at HC&RI, VRgudem.
- Farmers from Kavali mandal of Nellore district along with their Horticultural officer visited the campus on 19-03-2016.
- Farmers from Sullurpeta mandal and Nellore (Rural) mandals of Nellore district along with their Horticultural officers visited the campus on 29-03-2016.
- Inauguration of Central Laboratory in HCRI, Anantharajupeta by Dr. N.K. Krishna Kumar, DDG (Hort) ICAR, New Delhi and Hon'ble Vice Chancellor Dr. B.M.C. Reddy, Dr.YSRHU, Dr. Prakash Patil, PC Fruits, IIHR, Bengaluru on 11-06-2015

- On 11-06-2015 the Dr. N.K. Krishnakanth DDG (Hort), ICAR, New Delhi visited Horticultural College & Research Institute, Anantharajupet and interacted with all the faculty and staff on ongoing activities and students performance Dr.BMC Reddy, Vice Chancellor, Dr. MLN. Reddy, Dean of Horticulture and Dr.K. Gopal, Associate Dean, HC&RI, Anantharajupet accompanied the guests.

Hon'ble DDG Dr. N.K. Krishna Kumar and Hon'ble VC Dr. B.M.C. Reddy, Dr.YSRHU, interaction with staff of HCRI and HRS, Anantharajupeta

Important events at HCRI Anantharajupeta during 2015-16

- 125th Birthday of Dr.B.R.Ambedkar was celebrated on 14-04-2015.
- College day was celebration on 17th April 2015 Dr. D. Srihari, COE and Dean of student's affairs, Dr. Y.S.R.HU, Sri K.Sowrappa garu, Deputy General Manager for southernregion, SBH, Bengaluru, Sri D. Madhusudhan Reddy, Assistant director of Horticulture, Kadapa graced the occasion.
- Farewell for the final year B.Sc.(Hons) Horticulture, 2011 admitted batch students was organized by third year 2012 admitted batch students on 29th April 2015.
- All India Coordinated Research Project on Fruits at Horticultural Research Station, Anantharajupeta, was inaugurated by Dr. N.K. Krishna Kumar, Deputy Director General (Hort. Sci.) on 11th June, 2015 in the presence of Dr. B.M.C. Reddy, Hon'ble Vice-Chancellor, Dr. M. Lakshminarayana Reddy, Dean of Horticulture, Dr. Prakash Patil, Project Coordinator (Fruits), ICAR-AICRP on Fruits, IIHR, Bengaluru, Dr. M. R. Dinesh, Principal Scientist &Head, Division of Fruit Crops, IIHR, Bengaluru. Dr. K. Gopal, Associate Dean, HC&RI, Anantharajupeta, Dr. K. T. Venkataramana, Zonal Research Head (Rayalaseema zone), CRS, Tirupati, Dr. C. Madhumathi, Senior Scientist (Hort) & Head, HRS, Anantharajupet, and staff of HRS and HC&RI.
- "Vanamahotsav" was organized on 10-07-2015 at Z.P.High School, Y.Kota village and an awareness rally, meeting and planting of trees in the school campus were taken up.
- Freshers day was celebrated on 09-10-2015. Sri. B. Dasarada Rami Reddy, Zonal Manager (Rayalaseema Region) was the chief guest and Dr. K.T.V. Ramana, Zonal Research Head, CRS, Tirupati and Dr. C.Madhumathi, Sr. Scientist (Horticulture) & Head, HRS, Anantharajupeta were the guest of honour.
- 140th Birth Anniversary of Sri. Sardar Vallabhai Patel as 'Ekta Diwas' on 31st October, 2015.
- 125th Indian Constitution Day was celebrated at Horticultural College and Research Institute, Anantharajupeta on 26-11-2015.
- On the occasion of 5th Inter collegiate sports, games, cultural and literary events, conducted at HC&RI, Venkataramannagudem on 7th and 8th of January, 2016 fifty two (52) students of HC&RI, Anantharajupeta participated in all the events. Dr. K. Gopal, Associate Dean, Anantharajupeta, Dr. R. Nagaraju, Assistant Professor (Hort.) and Sri. M. Balakrishna, Assistant Professor (SS) & OSA participated in this event. Secured first position in girls Volleyball (girls), Kho-kho (boys), Shuttle (boys), Table tennis (boys & girls) and 1500m running (boys), Javelin through (boys & girls), Discuss through (boys), Long jump (boys), High jump (boys) and also got first position group song (Indian patriotic), group dance, skit and poster making.
- Participated in 16th All India Inter Agricultural University Youth Festival conducted from 1st February to 4th February at Bhubaneshwar, Odisha. Twelve students have participated in group song (folk, Indian) group dance, skit, mono action, cartooning and poster making competitions.
- Participated in the 16th All India Agricultural Universities Sports and Games meet held at Tamil Nadu Agricultural University, Coimbatore from 22nd to 26th February, 2016 accompanied by Sri. M. Balakrishna, Asst. Professor (Soil Science) & OSA and Sri. Y. Ravi Shankar Babu, Physical Director. Students of constituent colleges of the university participated in different sports and games events.
- Anti-Ragging Legal Awareness Programme was conducted at Horticultural College & Research Institute, Anantharajupeta on 02/09/2015 at 3.00 PM. Dr. K. Gopal, Associate Dean inaugurated the programme by inviting P. Nagaiah Yadav, Sub Inspector of Police,

Rly. Kodur, Sri K. Venkatarama Raju, Bar Council President and Sri J. Reddeppa, Advocate, Rly. Kodur.

Guest lectures and coaching classes conducted:

- A guest lecture on "Organic farming & Entrepreneurship" by S. Rajendra Nath Reddy, President-Corporate Relations, Virtual Agri. Services, Hyderabad was organized on 6.1.2016 .
- A guest lecture on "Dry land Horticulture" was delivered by Dr. V. Nache Gowda, Dean, College of Horticulture, Kolar, University of Horticultural Sciences, Bagalkot on 20-02-2016. All the students and teaching staff attended and got acquainted with different dry land crops, cropping systems and techniques for growing dry land horticultural crops.
- A guest lecture on Importance and scope for Horticulture in value addition and landscape architecture was given by Dr. M. Kannan, Professor & Head, Department of Floriculture and landscape architecture on 05-03-2016.
- A guest lecture on climate change adaptation through 'Agro-tech' by Dr. Raman was arranged on 11-04-2016.

Other activities

- Students Activities Cell was Inaugurated by Dr. D. Srihari, Dean of student's affairs, Dr. Y.S.R.HU, VR Gudem on 17-04-2015.
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HORTICULTURE POLYTECHNIC, MADAKASIRA

- Fresher's day was celebrated on 03.10.2015. Dr B. Narendra, Principal, Agricultural Polytechnic, Madakasira, Er. Sai Gangadhar, Assistant Professor, College of Agricultural Engineering and Dr D.S. Ravisankar, College Doctor were participated as guests of honor. Dr M. Ramakrishna, Principal, preside over the function and given message to students about the career opportunities and well being in the campus. The programme was followed by cultural activities performed by the students.

- 2nd College day was celebrated on 12th May 2016. Sports and Games competitions like volley ball, cricket, running events (100 m 200m 400m), long jump, shot put, javelin throw, discuss throw, chess and caroms were conducted and prizes were distributed to winners.

4th Intercollegiate Sports, Games, Cultural and Literary meet:

The Students of SSPG Horticulture Polytechnic, Madakasira participated in 4th Inter Collegiate Sports, Games, Cultural and Literary meet, 2015-16 held at SKPP Horticulture Polytechnic, Ramachandrapuram from 29th February to 2nd March 2016. And college team has won in cricket – Runners, Shuttle, Tennicot – Winners (Boys & Girls) Cultural – Solo Song 2nd prize, elocution and essay writing -2nd prize Regarding Sports - 100 mt , 200mt, 400mt(Relay), Javelin, Disc throw, Shot-put – Girls Won 1st prize in all events. **Kum K. Jyothi Lakshmi, bagged individual championship in Sports in Girls Division**. The Valedictory function was held on 02.03.2016. Honourable Vice-Chancellor of Dr YSRHU was the Chief Guest and DSA and other principals were on dais. Dr B.M.C. Reddy, Vice- Chancellor distributed prizes to all winners and runners of all games, sports, cultural and literary events.

Horticultural Polytechnic, Madakasira

Dr. B.R. Ambedkar's birthday was celebrated on 14-04-2015 NSS volunteers and staff members participated in this function. Dr. M. Rama Krishna, Principal, presided over the function. Dr. R. Veera Ragavaiah, Dean of Student Affairs, Acharya N.G. Ranga Agricultural University Hyderabad was the chief guest for the function. The dignitaries on the dais and students spoke about the Ambedkar and his contributions to India and Indian constitution.

Plantation programme

Plantation programme was taken up in college campus by the NSS Volunteers on 15.04.2015

International Day of Yoga was conducted on 21.06.2015, Dr. M. Rama Krishna, Principal, acted as chief guest. Later yoga masters, Sri. M. Nagabhushanam and G.A. Shiva Kumar spoke about the history and benefits of yoga and students practiced yogasanas in presence of the masters. Prizes and Certificates were distributed to best performers by the dignitaries on the dais.

Digital India- Awareness on 'Digital India' for students was organized on 7th July, 2015. Dr. M. Ramakrishna, Principal explained about the importance of digitalization and Digital India programme.

Vanamahostavam-10.07.2015

Vanamahostavam was celebrated at this Polytechnic on 10.07.2015. Dr. M. Ramakrishna, Principal along Sri. Lingaiah, Principal I.T.I. College, Madakasira the special guest and other Staff members and all Students have participated in the programme. Saplings like Ashoka, Teak, Delonix, Ticoma were planted along the compound wall and fencing of the college.

Legal Awareness Camp

Legal Awareness Camp was conducted on 04.09.2015. Sri B. Devender Reddy, civil judge, Madakasira was the chief guest and Sri V. Harinath, Circle Inspector, Madakasira, and Dr. B. Narendra, Principal, Agriculture polytechnic, Madakasira, were the distinguished guests of the function . The dignitaries addressed the students on Anti Ragging and A.P. prohibition of Ragging Act, 26 of 1997 Further, enlightened the severity of the act and action to be taken and punishment involved in ragging.

Teacher's Day - 05.09.2015

The Teacher's day was celebrated at this Polytechnic on 05.09.2015 on the eve of Birth Anniversary of Dr. Sarvepalli Radhakrishnan, philosopher, states man, and former President of India. The principal, staff and students have participated in the function. Dr. M. Ramakrishna, Principal, addressed the students about Dr. Sarvepalli Radhakrishnans's life and his Contribution to India. Other teachers and students spoke on this occasion.

International Non - Violence day

The "International Nonviolence Day" on 2nd October, the Day of Gandhi Jayanthi was celebrated. All Staff members and Students have participated in this function. Dr M. Ramakrishna, Principal Presided over the function and gave message to students about Non-Violence and its importance to get Independence to India which was followed by Mahatma Gandhi. Students also spoke on this occasion.

Swachh Bharath (special cleanliness campaign)

The "National cleanliness campaign" under Swachh Bharat was conducted on 02.10.2015. All NSS Volunteers and staff members have participated and takeup cleanliness in the office and its surroundings and along college roads by removal of parthenium and unwanted plants to keep the campus clean.

National Unity day

The Rashtriya Ekta Diwas (National Unity Day) on the eve of Birth Anniversary of Late. Sardar Vallabhai Patel was observed on 31.10.2015. All the NSS volunteers and staff members participated in this function. Dr. M. Ramakrishna, Principal presided over and addressed the gathering about Late. Sardar Vallabhai Patel and his contribution to the unity of the Nation. Students and staff took "RASHTRIYA EKTA DIWAS PLEDGE" for integrity of the Country.

Constitution Day

The Constitution Day was celebrated on 26.11.2015 to commemorate the day of constitution approval in the year 1949. The students and staff members have participated in this function. Dr M. Ramakrishna, Principal gave message to the students regarding Constitution Day and role of Dr Ambedkar in drafting the Constitution of India. Students also spoke on this occasion.

World AIDS Day

The World AIDS Day'was conducted on 1st December 2015 Dr. M. Ramakrishna, Principal gave massage on "HIV Virus –AIDS" and their effects on health to the students and staff members.

World Human Rights Day

The World Human Rights Day' was observed on 10th December 2015. Dr M. Ramakrishna, principal delivered a speech on human rights to the NSS Volunteers, The students also spoke on this occasion.

National Youth Day - 12th January 2016

The National Youth Day was conducted in view of 126th Birth Anniversary Day of Swami Vivekananda. The students and staff members have participated in this function. Dr. M. Ramakrishna principal and Dr. D.S. Ravishankar, contractual doctor spoke about the thoughts of Swami Vivekananda to youth of India

National Voters day

The National Voters Day was conducted on 25th January, 2016. Dr. M. Ramakrishna, Principal delivered a massage on National Voters Day to the students and Sri V. Ramana, Technical officer, spoke about the importance of voting.

Martyr Day

The Martyr Day was celebrated on 30th January, 2016 in the memory of those who gave their lives in the struggle for India's freedom. Ten minutes silence was observed by students and staff members. Later Dr. M. Ramkrishna, Principal delivered speech about the important people who sacrificed their lives to make India free from British ruling.

Pulse Polio programme

The Pulse Polio programme on 21.02.2016 was attended by NSS Volunteers. Volunteers motivated the people to bring the children for vaccination and polio drops were given to 100 children in Valmiki circle of Madakasira town.

International Women's Day

The International Women's Day was celebrated on 08.03.2016. The students and staff members have participated in the function.

Agricultural Workshop on Global Warming with Special reference to Saving of Fuel

Agricultural Workshop on Global Warming with Special reference to Saving of Fuel was organised by petroleum Conservation Research Association under the Ministry of Petroleum and Natural Gas, Govt of India on 09.03.2016 with an aim to create awareness to students to conserve fuel for the future generation. Sri KVSS Narayana Raju, External faculty delivered the lecture, conducted quiz competition and distributed certificates to winners. The principal and staff members have participated in the programme

IV. RESEARCH

1. Thrust areas of research

- Increasing productivity
- Sustaining productivity under biotic and abiotic stress
- Improving nutritive value
- Environment protection
- Increasing profitability to the farmers
- Export promotion
- Minimization of post harvest losses
- Processing and value addition

2. Research Stations

Sl.No.	Horticultural Research Stations	Research Crops	AICRP on
1.	Horticultural Research Station, Kovvur, West Godavari District.	Banana, Elephant Foot Yam, Colocasia, Diascorea	Banana, Elephant Foot Yam
2.	Horticultural Research Station, Ambajipeta, East Godavari District.	Coconut, Cocoa	Coconut
3.	Horticultural Research Station, Pandirimamidi, East Godavari District.	Fruits, Vegetables, Palmyrah, Rubber, Passion Fruit	Palmyrah
4.	Horticultural Research Station, Venkataramannagudem, West Godavari District	Sapota, Jack, Betelvine, Medicinal & Aromatic plants, Tapioca	Sapota, Jack, Papaya, Betelvine, Medicinal plants, Tapioca
5.	Horticultural Research Station, Chintapalle, Visakhapatnam District.	Spices, Flowers, Coffee, Pine-apple, ginger,	Black pepper, Turmeric, Ginger
6.	Post harvest Technology Research Station, Venkataramannagudem, West Godavari District.	Mango, Sweet orange	
7.	Horticultural Research Station, Lam, Guntur District.	Chilli, Vegetables, Spices	Chilli, Vegetables, Grain spices
8.	Horticultural Research Station, Darsi, Prakasam District.	Sweet orange, Vegetables	-
9.	Mango Research Station, Nuzvid, Krishna District	Mango	-
10.	Cashew Research Station, Bapatla, Guntur District.	Cashew	Cashew
11.	Horticultural Research Station, Vijayarai, West Godavari District.	Oil Palm, Vegetables	Oil palm
12.	Citrus Research Station, Tirupati, Chittoor District.	Citrus, Sweet orange	Sweet orange, Acid lime

13.	Horticultural Research Station, Anantapur, Anantapur District.	Arid Fruit crops	Pomegranate, Amla
14.	Horticultural Research Station, Anantharajupet, Kadapa District.	Fruit crops, Vegetables	-
15.	Horticultural Research Station, Mahanandi, Kurnool District	Vegetables	-
16.	Citrus Research Station, Petlur, Nellore District.	Citrus crops	-

3. Seasonal weather/climatic conditions and crop performance

Climate and Seasonal Conditions during 2015-16

Andhra Pradesh with high geographical diversity, 5 agro-climatic zones, varied soil types and good irrigation resources is better placed for production of various horticultural crops such as fruits (6.40 lakh ha; 105.10 lakh tons), vegetables (4.42 lakh ha; 81.72 lakh tons), plantation crops (4.55 lakh ha; 17.35 lakh tons) and spices (3.22 lakh ha; 11.55 lakh tons). Flowers, medicinal and aromatic plants are also grown in sizable area. However, due to rapid change in the climate, there is an abnormal behaviour in the precipitation, wide fluctuations in temperatures, depletion of natural resources like water and nutritional status of soil. Hence, there is a need to reorient our research programmes to meet these challenges particularly in horticultural crops since many are perennial in nature. There is also an urgent need to upgrade our technologies for storage, processing, handling and export of horticultural produce to meet the international standards.

Agro-Climatic Zones:

The cropped area in Andhra Pradesh is divided into five zones based on the Agro-climatic conditions. The classification mainly concentrates on the range of rainfall received, type and topography of the soils. The districts covered by the different zones and their Agro-climatic characteristics are given below:

Agro Climatic Zones in Andhra Pradesh

Name of the Zone	Districts	Average Rainfall	Temperature	Soil type	Crops grown
Krishna-Godavari Zone	East Godavari Part, West Godavari, Krishna, Guntur, and contiguous areas of Prakasam	South West Monsoon : 800-1100 mm.	Max. 32-36°C & Min. 23-24°C	Deltaic alluvium, Red soils with clay, B.C. Soils, Red Loams, Coastal sands & saline soils.	Paddy, Groundnut, Jowar, Bajra, Tobacco, cotton, chillies, Sugarcane and Horticultural Crops.
North	Srikakulam,	South	Max. 33-36°C	Red soils	Paddy,

Coastal Zone	Vizianagaram, Visakhapatnam and uplands of East Godavari dist.	West Monsoon : 1000-1100 mm.	& Min. 26-27°C	with clay base,Pockets of acidic Soils, laterite soils, Soils with pH 4-5.	Groundnut, Jowar, Bajra, Mesta, Jute, Sunhemp, Sesamum, Blackgram and Horticultural Crops.
Southern Zone	Nellore, Chittoor, Southern parts of Prakasam and Cuddapah and Eastern parts of anantapur	South West Monsoon : 700-1100 mm	Max. 33-46°C & Min. 23-25 °C	Red loamy soils, Shallow to moderately deep	Paddy, Groundnut, cotton, Sugarcane. Millets and Horticultural Crops.
High Altitude & Tribal Zone	Northern borders of Srikakulam, Vizianagaram and Visakhapatnam and East Godavari	South West Monsoon : >1400 mm		Hill slopes, Undulating transported soils	Horticultural Crops, Millets, Pulses Chillies, Turmeric and Pepper.
Scarce Rain Fall Zone	Kurnool, Anantapur, Prakasam (western parts), Cuddapah (Northern part).	South West Monsoon : 500-750 mm	Max. 32-36°C & Min. 24-30 °C	Red earths with loamy soils (Chalkas), Red sandy soils and B.C. Soils in pockets.	Cotton, Korra, Sorghum, Millets, Groundnut, Pulses, Paddy. Horticultural Crops

WEATHER CONDITIONS:

South West Monsoon Period (01.06.2015 to 30.09.2015): The rainfall received during south west monsoon period for 2015-16 was 522.4 mm. as against the normal rainfall of 556 mm. recording a deficit of 6 %. The south west monsoon has been withdrawn from the state on 19.10.2015.

North East Monsoon period (01.10.2015 to 31.12.2015): During the north east monsoon period from 1st October to 17th December, the average rainfall received in the state is 287.1 mm as against the normal of 296.3 mm which is deficient of 3 per cent.

From 1st June to 17th December, 2015, Deficient rainfall recorded in the state. i.e. more than the normal rainfall in Visakhapatnam district, normal in the districts of Srikakulam, Vizianagaram, East Godavari, West Godavari, Krishna, Guntur, Prakasam, Nellore, Kadapa and Ananthapuramu and deficit in Chittoor (27%) and Kurnool (23%) districts. The overall state

average rainfall received in Andhra Pradesh from 1st June to 17th December, 2014 is 817.7 mm as against Normal of 888.6 mm which is deficient by

-8%

Region-wise rainfall:

Excess (20% & Above): Nellore (23.8%), Chittoor (26.5%) and Kadapa (20.3%)

Normal (+19% to – 19%): Vizianagaram (-8.0%),Visakhapatnam (-1.5%), East Godavari (102%), West Godavari (16.4%), Krishna (16.3%) and Ananthapuramu (3.7%).

Deficit (-20% to – 59%): Srikakulam (-29.6%), Guntur (-20.8%), Prakasam (-26.2%) and Kurnool (-33.1%),

Scanty (-60% to -99%): NIL

No Rain (-100%): -NIL-

Crop performance

Performance of fruit crops, tapioca, betelvine and medicinal plants was satisfactory at Venkataramannagudem. Chilli crop at HRS, Lam Nursery sowings were taken up in the month of July. Suffered with severe drought during flowering and fruit development stage from December, 2015. Crop condition was good and received good yields in cashew at HRS, Bapatla. Incidence of pests like leaf and blossom webber, apple and nut borer were noticed at below ETL.

In acid lime at HRS, Petlur, canker and greasy spot severity was high due to continuous rains and damp conditions. Among pests psylla, mealy bug and leaf miner infestation was severe in all acid lime orchard.

In Sweet due to prolonged rainy period during Nov- Dec, 2015 flowering was delayed and extended up to February-March, 2016. High to severe green and rust mite infestations were recorded from March to August, while mite damage was low in II FN of August to October, January and February months. Among the other pests thrips infestation was found to be high on both leaves (40-50%) and fruits (30-40%) during January-March, and August-October 40%) months. Psylla incidence was also high during the reporting period. Citrus canker and stem end rot recorded highest in the month of December and March respectively. Diplodia gummosis incidence was high immediately after prolonged rainy days. Dry root rot recorded maximum in the month of March- April.

At CRS, Tirupari, in acid lime leaf miner damage was found to be high during Sept- Oct and Jan -Feb and butterfly during Oct-Jan months. Thrips damage was found high during December-March months. Scales infestation was found medium during the months of Mar-May. Among the diseases, due to prolonged dry periods and irregular rains the incidence of greasy spot was high during summer. Twig blight incidence was high during February.

In Anantapuramu, growth and development of pomegranate, ber, aonla, tamarind and custard apple was impaired due to dry spells during the year. The rains coupled with high temperatures

during August, September and October months resulted in incidence of bacterial blight in pomegranate. Incidence of fruit sucking moth in pomegranate was also observed during *Hasta bahar* crop but, the incidence was at low EBB.

Salient achievements

Chilli: Resistant sources for various biotic and abiotic stresses and other important traits have been identified. Fourteen varieties of chilli viz., G1, G2, G3, Bhagya laxmi (G4), Andhra Jyothi (G5), Sindhur (CA-960), Kiran (LCA-200), Aparna (CA-1068), Bhaskar (LCA-235), Prakash (LCA-206), LCA-305, LCA-334(Lam 334), LCA-353 (Lam-353) and LCA-620 were developed through selection and hybridization and released for cultivation.

- Among the fourteen released chilli varieties, seven varieties *viz*. G4 (Bhagyalaxmi), G5 (Andhra Jyothi), LCA-235 (Bhaskar), LCA-206 (Prakash), LCA-334 (Prasanth), LCA-353 (Lam 353) and LCA-620 were released as **"National varieties"** by the Central Varietal Release Committee.

- Release proposal of LCA-625, a newly evolved hot pepper variety is submitted to state varietal release committee. Two more promising entries of Hot pepper viz., LCA-639, LCA-655 and one hybrid LCH-111 are under coordinated testing/minikit testing.

- In addition to hot pepper research, paprika research is also being carried out and two varieties LCA-424 and LCA-436 are proposed for release.

Coriander: Five varieties of coriander viz., Sadhana (CS-4), Swathi (CS-6), Sindhu (CS-2) Sudha (LCC-128), APHU Dhania-1 (LCC-170) have been released so far. Two varieties viz., LCC-236 and LCC-234 (leaf type) have been approved for release as national varieties and a drought tolerant line LCC-200 has been identified.

Fenugreek: 124 accessions are being maintained. Lam Selection -1 has been released and Lam Mehi-2 (LFC-84) has been proposed for release. The variety LFC-103 has been approved for state release.

Ajowan: Lam selection-1 & 2 have been identified for cultivation. The variety Lam Ajowan-2 (LTA-26) is proposed for release.

Citrus: Out of 110 accessions of Rutaceae family, 20 sweet orange, 6 sour orange, 25 rough lemon, 7 grape fruit, 3 pumello, 7 Rangapur lime, 9 acid lime, 2 lemons, 8 mandarin types, 15 miscellaneous species, 5 genera other than citrus and 10 hybrids performing well in these agro-climatic conditions of Nellore Dt.

Mango: 18 varieties/hybrids are performing well and among these varieties/hybrids flowering initiation and fruit setting found as usually in all varieties/hybrids except Allipasand and Royal Special, Neelum exhibited precocity of flowering & fruiting in both the seasons like, summer and kharif where as Allipasand & Royal special both exhibited flowering and fruiting during kharif.

Aonla: Flowering and fruit set was observed to be less in the months of February and March. The varieties viz., NA-6 (Amrit) and NA-10 (Balwant) recorded an average fruit yield of 121.90 kg tree^{-1} and 84.50 kg tree^{-1} respectively.

Ber: Flowering and fruit set occurred during June-July months after receipt of rainfall. No incidence of lac insect and powdery mildew were observed during the year. The varieties recorded highest yields were Gangaregu (100.73 kg tree^{-1}), followed by Umran (98.95 kg tree^{-1}) and Mundia (90.27 kg tree^{-1}).

Custard apple: Flowering was delayed by 20-25 days. The highest fruit yield per plant was recorded in Yengalampalli S.No.14 (15.69 kg plant^{-1}) followed by Mutravaripalli S.No.2 (13.48 kg plant^{-1}).

Pomegranate: Plants were allowed to flower and fruit during *Hasta Bahar* and maximum yields were recorded in Bhagwa (15.31 kg plant^{-1}) followed by Ganesh (13.52 kg plant^{-1}) and Mridula (10.79 kg plant^{-1}).

Tamarind: Flowering and fruiting observed in majority of the germplasm lines due to favourable environment. Pratistan, ATPS-2, ATPS-1 and Vellore-29 were the high yielders with 41.60, 34.30, 30.60 and 30.30 kg pod yield per plant.

A.CROP IMPROVEMENT

FRUITS

MANGO

Mango Research Station, Nuzvid

Evaluation of mango varieties

Among different varieties tested, significantly higher number of fruits per tree was recorded in Neeleshan (218.71). Mallika recorded maximum fruit weight (433.67 g) which was significantly superior to rest of the varieties/ hybrids. Totapuri recorded significantly highest yield (68.77 kg/tree) under high density planting.

Horticultural Research Station, Pandirimamidi

Observation trail on the performance and quality in Mango var. Alphonso in the coastal districts of A.P

The fruit samples collected from HRS, Pandirimamidi recorded less than one percent of spongy tissue. Fruits treated with 500 ppm ethephon showed good percent of color development than others. The pulp color was golden yellow with a TSS of 18^0 Brix. The spongy tissue was less in early pickings than later pickings. Fruits harvested at the end of May recorded higher percent of spongy tissue (43%)

Studies on effect of interstock on performance and fruit quality in Mango var. Alphonso

Among the ten interstocks of mango grafted with Alphanso, the overall flowering of 44.2 percent was observed. The fruit setting was 1.34 percent in single panicles and 0.74 per cent in branched panicles. There was significant growth difference in interstocks i.e plant height was highest (6.0 m) in interstock H-13 and lowest in (4.2 m) in interstock panchadara kalasa. Graft joint circumference was highest in interstock Ratibanginapalli (54 cm) followed by Peddarasam (53 cm) and lowest (27 cm) in Alampur baneshan. Plant spread was highest in H-13 (EW 8.1 m & NS 8.1 m). Yield per plant was highest in Ratibanginapalli (69 kg/plant) followed by H-10 (62 kg/plant), H-13 (60 kg/plant) whereas lowest in Manjeera (32 kg/plant). Among the interstocks no spongy tissue was recorded in fruits except Panchadarakalasa and Suvarnarekha and Prabha Sankar (1 per cent).

Citrus Research Station, Petlur

Performance of Mango varieites/hybrids

Among 18 varieties/hybrids of Mango, maximum tree height was recorded in Peddarasam (6.96 m) followed by Hamlet (6.95 m), maximum tree girth in Baneshan (1.33 m), Pulihora (1.33 m), Royal Special (1.33 m), maximum tree canopy was observed in Banglora (196.02 m^3) followed by Baneshan (188.24 m^3), more number of fruits/tree was recorded in Swarna Jahangir (323.32) followed by Banglora (311.24) and maximum fruit yield/tree was recorded in Neeleshan (147.61 Kg) followed by Banglora (119.18 Kg).

Among 18 varieties/hybrids of Mango, maximum fruit weight was recorded in Hamlet (781.40 g) followed by Jahangir (661.85 g), maximum fruit length was recorded in Hamlet (15.70 cm) followed by Banglora (15.06 cm) maximum fruit diameter in Hamlet (9.30 cm),

maximum fruit rind thickness was observed in Khader (1.33 mm) followed by KMH-1 (0.17 mm), more fruit rind percentage was observed in Pulihora (18.31 %) followed by Khader (16.2 %), more fruit pulp was exhibited in A.U. Rumani (80.53 %) followed by Jahangir (79.88 %), more stone percentage was recorded in Peddarasam (37.95 %) followed by Baneshan (22.21 %).

SAPOTA

Horticultural Research Station, Venkataramannagudem

Total of forty varieties/germplasm lines of Sapota are being maintained including six new collections added to the germplasm collection during 2015 which were evaluated for their performance. Among different accessions planted, maximum canopy volume was recorded in DHS-2 (475.58 m^3) while, higher fruits $tree^{-1}$ (3847.67) and fruit yield (274.99 kg $tree^{-1}$ and 27.49 tha^{-1}) in Virudhnagar. However, fruit weight was highest in Columbian Sapota (246.23 g).

To create wide genetic base in Pala Sapota, selfing was done in Pala variety of Sapota and halfsibs were raised and plated the seedlings at 2x2 m distance during *kharif* season of 2014 and evaluation is in progress to select superior types or variations in pala seedlings but as of now no variations were observed.

JACK FRUIT

Horticultural Research Station, Venkataramannagudem

A total of thirty varieties were collected and planted for evaluation. Data revealed that maximum plant height was recorded in Monkey jack (10.8 m), while canopy volume was highest in Ainipala (537.76 m^3). Number of fruits and yield was highest in Boduluru selection-1 (18 and 137.57 kg per tree). However, average fruit weight (13.05 kg) was highest in Singapore.

Varietal trial on jackfruit indicated that maximum plant height (7.05 m) was recorded in Burliar-1 and maximum canopy volume (309.98 m^3) was recorded in Singapore. Yield was maximum in Muttam Varikka (114.46 kg fruits/tree). However, average fruit weight (9.48 kg) was highest in GumlessJack.

Studies on evaluation of different rootstocks for Jackfruit revealed that minimum plant height (4.2 m) and canopy volume (80.10 m3) were recorded in Palur-1 on Jack and Singapore on Aininipala. Similarly, plant spread in NS and EW was least in Singapore on Ainipala. Yield obtained was highest from Singapore on Jack (50.55 kg per tree).

BANANA

Horticultural Research Station, Kovvur

Collection, conservation, characterization and maintenance of banana germplasm

Out of 118 accessions, characterization for 102 accessions as per descriptors developed by IPGRI-INIBAP/CIRAD for banana in plant and ratoon crops was completed. Total number of accessions maintained at HRS, Kovvur increased to 118. Among different genomic groups, in ratoon germplasm, Matti (AA) (14.29 kg), Valiakunnan (AB) (21.25 kg), *Musa bulbisiana* (BB) (14.37 kg), KBS-8 (AAA) (36.00 kg), Sugandam (AAB) (23.20 kg), KBS-5 (ABB) (24.12 kg), FHIA-17 (AAAA) (17.56 kg), FHIA-03 (AABB) (15.63 kg) and FHIA-01 (AAAB) (12.36 kg) recorded highest yields in their respective genomic groups.

Clonal selection in commercial banana varieties

Tella Chekkara Keli clone collected from farmer field recorded higher average bunch weight of 18.00 kg than local check (11.75 kg). However, under field evaluation it has recorded lower bunch weight (15.17 kg) than original clone.

Evaluation of promising clones of banana

The clones collected from different centres under various genomic groups were evaluated. Among the Cavendish group, KBS-8 (AAA) has recorded highest bunch weight (22.17 Kg) than local check. In Poovan Group (AAB), local check (KC Keli) recorded higher bunch weight (20.60 Kg) than H-531. Under Plantain group (AAB), Manjeera Nendran-II (11.88 kg/bunch) has given more yield than local check. Regarding the Monthan group (ABB), NRCB-08 has recorded highest yield than local check. Similarly, under Pisangawak group (ABB), BCB-1 has recorded better yield than local check.

Studies on stage wise (sub cultures) proliferation efficiency of different banana cultivars (AAA, AAB and ABB) in micro propagation

Among different cultivars kept for initiation, Grand Naine and Dwarf Cavendish, started proliferation at C_1 subculture stage, whereas in Martaman and KC Keli proliferation was noticed from C_3 subculture stage and highest proliferation (mean) was observed in Grand naine (2.28) followed by Dwarf Cavendish (2.17).

Macropropagation technique for banana

Minimum number of days for bud initiation was recorded in TC Keli (14.75 days) and KC Keli (18.81) in T_6 (Sawdust + VAM (30 g) + BAP (4 ml) + *Bacillus substillis* (30 g)) whereas in Grand Naine minimum number of days for bud initiation (15.30) was recorded in T_1 (Sawdust + VAM (30 g). All the three cultivars i.e., Grand Naine, Tella Chekkarakeli and Karpura Chekkarakeli produced highest plantlets/corm in T_6 through macro-propagation technique.

POMEGRANATE

Horticultural Research Station, Ananthapuramu

Collection, evaluation and maintenance of pomegranate germplasm

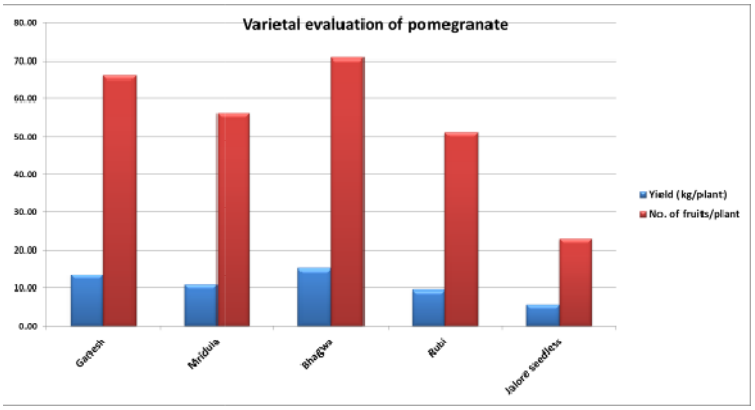
Twenty pomegranate germplasm lines in pre-bearing age were evaluated for growth parameters. The data indicated that plant height was more in Alan (1.91 m) followed by Muscat (1.88 m) and Jalore Seedless (1.87 m). Maximum plant spread was recorded in Jalore Seedless (1.31 m EW – 1.35 m NS), Alan (1.38 m EW – 1.26 m NS) and Ruby (1.36 m EW – 1.25 m NS) while, it was minimum in Kalisherin (0.61 m EW – 0.65 m NS) and Dorasut Malagi (0.86 m EW – 0.94 m NS). The number of branches per plant was more in Virupakshi (10.0) followed by Jodhpur Red (8.80) and Suner Anar (8.67) and less in Ganesh (3.40) followed by Bedana Sedana (3.50) and Phule Bhagwa Super (4.20). Bacterial blight disease incidence and severity on leaf and stem was more in Jalore Seedless.

Varietal trial on pomegranate

Five pomegranate varieties viz., Ganesh, Mridula, Bhagwa, Ruby and Jalore Seedless (check) were evaluated for growth, yield and quality parameters during hasta bahar of 2015.

Jalore Seedless (check) recorded maximum plant height (2.86 m) whereas, Ruby recorded minimum plant height (1.71 m). Number of branches per plant was high in Jalore Seedless as well as Bhagwa (4.88) and less in Ruby (2.75). The plant spread was more in Ganesh (1.94 m EW-2.01 m NS) and Jalore Seedless (1.87 m EW – 1.86 m NS) while, it was less in Mridula (1.23 m EW – 1.27 m NS). Number of fruits and yield per plant were more in Bhagwa (70.89 and 15.31 kg) followed by Ganesh (66.0 and 13.52 kg).

With regard to fruit quality parameters, maximum fruit weight (267.64 g), aril weight (184.92 g) and 100 aril weight (36.90 g) were recorded in Bhagwa compared to other varieties. The pH content in arils was more in Ruby (3.80) followed by Bhagwa (3.77) and Ganesh (3.77). High TSS was recorded in Bhagwa (17.16 °brix) followed by Ganesh (16.12 °brix). Acidity content was more in Jalore Seedless (0.68 %) whereas, anthocyanin content was high in Bhagwa (4.04 Abs) followed by Mridula (3.00 Abs).



MUSKMELON

Horticultural Research Station, Anantharajupeta

Evaluation of Musk Melon germplasm

Among the 50 accessions evaluated, vine length varied from 130 cm in Trisha-2 to 374.0 cm in KSP-1060. Number of branches ranged from 2.67 (Allanagaram) to 5.33 (Sharbathe-e-nar). Days to 50% flowering ranged from 29 days (Muskan) to 38 days (Papayee (S-1).

Number of fruits per vine was minimum in Muskan (2.00) and maximum was recorded in IC321371 (7.56). Maximum fruit weight was observed in KSP-1060 (4111.0g) and minimum in IC321342 (556.2g). Fruit length ranged from 9.7 cm (IC 321342) to 21.9 cm (IC321380). Fruit width varied from 10.7 cm (IC321333) to 23.2 cm (KSP 1060). Cavity length ranged from 5.6 cm (IC315312) to 14.9 cm (Papasa). Cavity width ranged from 5.6 cm in Bobby to 13.4 cm in IC321338. Pulp thickness ranged from 18.83 mm in IC321333 to 52.05 mm in Muskan. TSS ranged from 5.8 ^{0}Brix (IC321342, IC321324 & IC321379) to 13.3 ^{0}Brix in Muskan.

SHARABATHE-ENARA

KSP-1060

NHMM-24

PAPAYEE

ALPUR (1)

PAPASA

IC-321371

IC-321380

IC-321333

IC-315312

PAPAYA

Horticultural Research Station, Anantharajupeta

Evaluation of promising varieties of papaya

Papaya varieties i.e. TFCP-2, TFCP-3, TFCP-4 and Red Lady were planted during 2nd fortnight of December. As the TFCP-1 was not available the variety Co-8 was planted as one more check during first fortnight of February. Among them lowest plant height (169.33 cm) was observed in TFCP-3 followed by Red Lady (171.66 cm). Collar diameter was more in TFCP-2 (25.10 cm) followed by Red Lady (23.81 cm). Number of days taken for flowering was less in Red Lady (123.75) followed by TFCP-3 (126.00). Height at first flowering was less in TFCP-3 (63.36 cm) followed by Red Lady (66.23 cm). Incidence of PRSV was less in TFCP-2 (9.67 %) followed by TFCP-4 (17.85 %) where as incidence of PRSV was more in Red Lady (41.23 %).TFCP-2 and TFCP-4 were dioecious types where as TFCP-3 and Red lady were gynodioecious types.




Red lady TFCP – 2 TFCP – 3 TFCP – 4

Horticultural College and Research Institute, Anantharajupeta

Evaluation of papaya (*Carica papaya*) varieties

The yield characters revealed that maximum yield (98.68 kg/plant) was obtained in control i.e the Red Lady variety where as the minimum was with Arka Surya. The quality parameters like TSS (14.21 ^{0}Brix), Ascorbic acid (215.37 mg/100g) and total sugars (13.15 %) were predominant in Red lady, but Arka Surya also produced better quality fruits competent with Red lady.

CUSTARD APPLE

Horticultural Research Station, Ananthapuramu

Germplasm repository and improvement in Custard apple.

Seventy three Custard apple germplasm collections were evaluated for growth and yield parameters during 2015. The plant height, number of branches per plant, stem girth and plant spread ranged from 1.77 m (Nallaldadi S.No.8) to 3.38m (Molakalmur S.No.10), 2.20 (Jambugumpala S.No.5) to 8.0 (Kadiri-169), 4.40 cm (Kokkanti -307) to 77.0 cm (Molakalmur S.No.7) and 1.30 m EW – 1.80 NS (Yengalampalli S.No.8) to 3.46 m EW – 3.38 m NS (Kadiri S.No.169) respectively. Total number of fruits per plant, number of harvestable fruits per plant and fruit yield per plant ranged from 3.0 (Nallaldadi S.No.3) to 92.0 (SK-4), 3.0 (Nallaldadi S.No.3) to 62.57 (Mutravanipalli S.No.2) and 0.56 kg (Nallaldadi S.No.3) to 15.69 kg (Yengalampalli S.No.14) respectively.

With regard to quality parameters, mean values for fruit weight, pulp weight, number of seeds per fruit, seed weight and TSS varied from 91.51 g (Jambugumpala S.No.7) to 315.63 g (Arka Sahan), 44.17 g (Yengalampalli S.No.8) to 172.59 g (Arka Sahan), 6.71 (Kokkanti) to 56.50 (Jambugumpala S.No.5), 4.35 g (Pythota S.No.2) to 19.61 g (Molakalmur S.No.10) and 17.50 °brix (Atemoya × Balanagar) to 28.00 °brix (Jambugumpala S.No.6) respectively.

Among Custard apple germplasm that were planted in 2005, the mean values for growth and yield characters ranged from 2.16 m (APK-1) to 2.73 m (DC-3) for plant height, 36.40 cm (SK-3) to 55.67 cm (SK-2) for stem girth, 3.00 (DC-2 & SK-3) to 5.00 (SK-4) for no. of branches per plant, 1.88 m EW – 2.01 m NS (APK-1) to 2.51 m EW – 2.50 m NS (SK-4) for plant spread, 29.25 (DC-2) to 92.0 (SK-4) for total no. of fruits per plant, 20.25 (DC-2) to

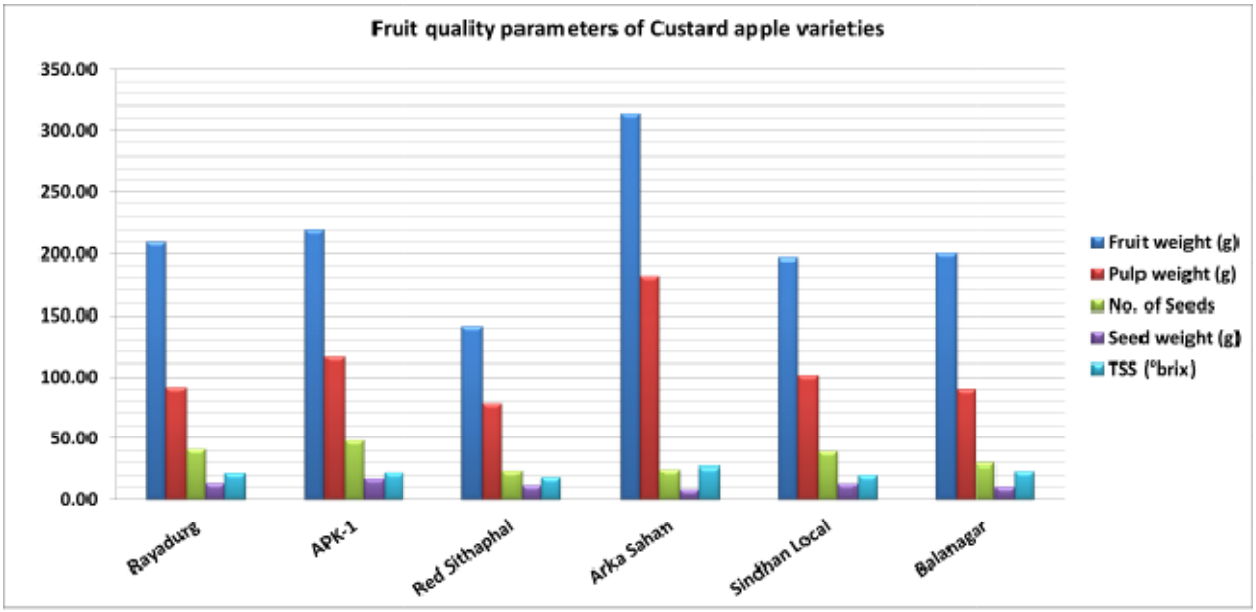
60.42 (SK-4) for no. of harvestable fruits and 4.89 kg (DC-2) to 15.17 kg (SK-4) for fruit yield per plant.

IC numbers for the following germplasm collections were obtained from NBPGR, New Delhi.

Name of the crop	No. of germplasm lines for which IC numbers obtained	IC numbers
Custard apple	18	IC-0598637 to IC-0.598654

Varietal trial of custard apple

Six Custard apple varieties viz., Rayadurg, APK (Ca-1), Red Sithaphal, Arka Sahan, Sindhan Local and Balanagar (check) were evaluated for growth, yield and quality parameters. APK (Ca-1) recorded highest plant height (2.89 m) closely followed by Sindhan Local (2.70 m). Stem girth was more in APK (Ca-1) (47.75 cm) followed by Balanagar (44.13 cm) and Sindhan Local (44.00 cm) and it was less in Arka Sahan (35.80 cm). Number of fruits per plant and fruit yield per plant was significantly high in Rayadurg (39.50 and 7.80 kg) and APK (Ca-1) (31.25 and 6.82 kg) compared to Balanagar. Arka Sahan was found superior over other varieties interms of fruit weight (314.16 g), pulp weight (181.95 g) and TSS (27.12 °brix). APK (Ca-1) was next best to Arka Sahan with a fruit weight of 219.83 g, pulp weight of 116.21 g and TSS of 22.80 ° brix. Less seed weight was observed in Arka Sahan (8.33 g).



BER

Horticultural Research Station, Ananthapuramu

Collection, evaluation and maintenance of ber germplasm

Six ber collections viz., Gola, Seb, Umran, Mundia, Kaithili and Gangaregu were evaluated for growth, yield and quality parameter. Data on growth characters showed that, Kaithili recorded maximum plant height (2.76 m) followed by Gola (2.29 m), Gangaregu (2.01

m) and Seb (2.01 m). Number of branches per plant was more in Gola (5.20) followed by Kaithili (4.94). Stem girth was observed maximum in Umran (81.86 cm), Gola (76.73 cm) and Gangaregu (76.44 cm) whereas plant spread was more in Kaithili (3.26 m EW – 3.36 m NS) and Umran (3.26 m EW – 2.95 m NS). Mundia was less vigorous interms of growth characters. With regard to yield and quality parameters, highest per plant yield was recorded in Gangaregu (100.73 kg) closely followed by Umran (98.85 kg). The fruit weight (38.04 g and 33.79 g) and pulp weight (35.54 g and 31.40 g) were maximum in Umran and Gola varieties respectively. The stone weight was less in Kaithili (1.83 g) and Gangaregu (1.83 g) whereas, it was more in Seb (2.42 g) and Umran (2.39 g). High TSS content was observed in Umran (13.78 °brix) followed by Gola (13.35 °brix) and Seb (13.00 °brix).

Fruits of Gangaregu

Fruit and seed characters

AONLA

Horticultural Research Station, Ananthapuramu

Collection, evaluation and maintenance of aonla germplasm

Eleven germplasm lines of Aonla were evaluated for growth and yield characters. The mean values for plant height, number of branches per plant, stem girth, plant spread and fruit yield per plant ranged from 2.12 m (Chakaiya) to 7.06 m (Local), 4.25 (Chakaiya) to 7.25 (Local), 45.0 cm (Chakaiya) to 118.75 cm (Local), 2.37 m EW – 2.96 m NS (Neelam) to 6.75 m EW – 6.69 m NS (Local) and 17.62 kg (Local) to 121.90 kg (Amrit) respectively. Among all germplasm lines, Local was more vigorous and Chakaiya was less vigorous interms of growth characters.

With respect to quality parameters, the mean values for fruit volume ranged from 6.34 ml (Local) to 34.80 ml (Chakaiya), fruit weight from 4.58 g (Local) to 38.48 g (Chakaiya), Pulp weight from 3.47 g (Local) to 34.79 g (Balwant), seed weight from 0.98 g (Local) to 2.67 g (Chakaiya), pulp/stone ratio from 3.53 (Local) to 26.53 (Amrit), TSS from 9.54 °brix (Kanchan) to 13.62 °brix (Local) and acidity from 1.81 % (Kanchan) to 2.89 % (Local).

The pooled data (2003-2015) of yield and quality parameters revealed that NA-10 (Balwant) was the highest yielder (71.42 kg/plant) followed by NA-7 (Neelam) (55.08 kg/plant). Pulp to stone ratio was highest in Lucknow (21.67) whereas TSS was more in BSR-1 (15.17 °brix). Local recorded highest per cent acidity (2.12 %).

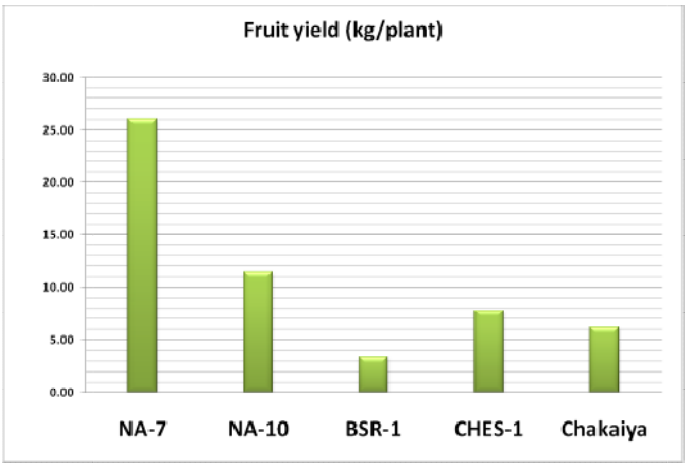
ATPS-1 – Aonla variety

ATPS-2 – Aonla variey

Varietal trial of Aonla

Five Aonla varieties viz., NA-7 (Neelam), NA-10 (Balwant), BSR-1, CHES-1 and Chakaiya were evaluated for growth, yield and quality parameters during the year. There were no significant differences among varieties for all the growth characters of plant height, stem girth, number of branches per plant and plant spread. With regard to fruit yield per plant, significantly highest per plant fruit yield was recorded in NA-7 (Neelam) (26.08 kg) followed by NA-10 (Balwant) (11.49 kg).

With respect to quality parameters, significant differences were observed among varieties for all the characters except, seed weight. Fruit volume (20.90 ml), fruit weight (25.32 g) and pulp weight (22.94 g) were more in NA-10 (Balwant) compared to other varieties. The seed weight was high in CHES-1 (2.12 g) and NA-10 (Balwant) (2.10 g) whereas, it was less in BSR-1 (1.14 g). The TSS content was more in BSR-1 (14.05 °brix) and less in CHES-1 (4.63 °brix).



JAMUN

Citrus Research Station, Petlur

Evaluation of Jamun germplasm

Among 29 clones of Jamun, maximum plant height was exhibited by PJS-3 (6.89 m) followed by PJS-14 (6.48 m), maximum plant girth was observed in PJS-3 (9.56 cm) followed by PJS -1 (9.26 cm), maximum plant spread (E-W) was found in PJS-2 (12.48 m) followed by PJS-14 (8.3 m) and maximum plant spread (N-S) was recorded in PJS – 28 (8.16 m) followed by RJS -15 (8.12 m).

WOOD APPLE

Citrus Research Station, Petlur

Evaluation of Wood apple germplasm

Among 10 selections of Wood apple, maximum plant height was recorded in PWAS-4 (6.83 m) followed by PWAS-3 (6.76 m), maximum plant girth was observed in PWAS-1 (7.6 m) followed by PWAS-6 (7.22 cm), maximum plant spread (E-W) was exhibited by PWAS-8 (7.89m) followed by PWAS-6 (7.18 m) and maximum plant spread (N-S) was recorded in PWAS-8 (8.12 m) followed by PWAS-6 (7.64 m).

RAMBUTAN

Horticultural Research Station, Venkataramannagudem

Rambutan varieties, CHES-1 and CHES-2 (grafts) were collected from CHES, Chettalli to evaluate the performance of rambutan under coastal districts (West Godavari conditions) of Andhra Pradesh and were planted during 2014. Growth data indicated that plant height was 4.21 m in seedling population (2009-10 planting) while, grafts have recorded a plant height of 0.66 m and 0.59 m in CHES-1 and CHES-2 respectively.

ACID LIME

Citrus Research Station, Petlur

Acid lime varietal trial

Among 17 varieties of Acid lime, maximum plant height was recorded in RHRL – 124 (3.68 m), maximum plant girth in TAL – 94-14 (5.98 cm), maximum plant spread (E-W) in TAL-94-14 (4.30 m) followed by RHRL -124 (4.16 m). Maximum plant spread (N-S) was found in TAL-94-14 (4.46 m) followed by Tenali (4.51 m) and maximum yield in Tenali (10.80 kg / plant) followed by RHRL – 159 (10.10 kg / plant).

Among 17 varieties of acid lime, maximum fruit weight was recorded in Punjab lime (50.00 g) followed by TAL – 94 -14 (48.00 g), maximum fruit rind thickness in TAL – 94-14 (3.0 mm) followed by PKM-1 (2.0 mm) and Balaji (2.0 mm). Juice content was maximum in TAL – 94-2 (25.0 ml) followed by TAL-94-4 (22.0 ml), more number of seeds in TAL-94-2 (12.0) followed by RHRL – 94 (10.0) and maximum TSS was recorded in PKM -1, TAL-94-14 and RHRL – 49 (13 ^{0}Brix) followed by Pramalini, Balaji, TAL-94-3, TAL – 94-2 and RHRL – 159 (12 ^{0} Brix) etc.

VEGETABLES

DRUMSTICK

Horticultural Research Station, Anantharajupeta

Heavy rains received during the month of November, affected all drumstick varieties and resulted in defoliation of entire tree. Plants again put fourth vegetative growth after cessation of rains hence flowering was delayed in this region. Incidence of leaf webber and exudation of gum from trunk and incidence of stem borer was severe on three year old annual drumstick cultivars. In 1st ratoon crop of annual drumstick cultivars, it was observed that number of days taken for flowering was less in PKM-1 (109.60 days after pruning) followed by PKM-2. Numbers of pods per plant (114.30), yield per plant (5.39 kg) were maximum in PKM-1 followed by PKM-2. Individual pod characters *viz.,* pod weight (147.45 g), pod length (82.88 cm) and pod girth (18.87 mm) was maximum in PKM-2 followed by PKM-1. From the cumulative yield data of annual drumstick cultivars evaluated, it can be inferred that maximum number of pods per plant and yield per plant were recorded in PKM-1 which was found suitable for southern zone of Andhra Pradesh.

Severe stem borer (*Batocera rufomaculata*) incidence in different Moringa varieties and among them highest damage was observed in Bhaghya variety (56.61 percent damage) followed by PKM-2 which had 52.92 % damage and lower damage of 44.48 percent was observed in PKM-1. Gum oozing, chewed stem powder fallen near the base of the plant and death of emerged side shoots are some of the symptoms observed in moringa due to stem borer damage. Early and later instar grubs of stem borer were observed in the secondary and main branches of moringa.

Horticultural Research Station, Darsi

Performance of Drumstick varieties under Prakasam district conditions

Three varieties of moringa *viz*., PKM-1, PKM-2 and Bhagya seedlings were planted in the month of January, 2014 and among the PKM-1 recorded the highest yield of 31.50 kg per plant followed by PKM-2.

YARDLONG BEAN

Horticultural Research Station, Lam

In IET, five yard long bean varieties were evaluated against one check Lola. Among the entries tested, the highest yield was recorded in 2015/COPBVAR-6 (29.10 q/ha) which was on par with 2015/COPBVAR-4 (27.90 q/ha).

COWPEA

Horticultural Research Station, Lam

In AVT-1, five Cowpea varieties were evaluated against 3 checks (Kasi Kanchan, Arka Garima and Local). Among the entries tested, the highest yield was recorded in 2014/COPBVAR-4 (84.30 qha^{-1}) which was on par with 2014/COPBVAR-1 (78.50 qha^{-1}).

BHENDI

Horticultural Research Station, Lam

In AVT-1, six hybrids were evaluated against three resistant checks (HOK-152, NBH-180 and Arka Anamika). The highest yield was recorded in 2014/ OKHYB – 6 (148 qha^{-1}) followed by 14/OKHYB-4 (142 qha^{-1}) and 14/OKHYB-5 (135 qha^{-1}) which were significantly superior to the checks tested except, NBH-180 (143 qha^{-1}).

In AVT-11, nine hybrids were evaluated against two resistant checks (HOK-152 and Arka Anamika). Among the hybrids, significantly highest yield was recorded by 13/ OKHYB – 4 (177 qha^{-1}) being on par with 13/ OKHYB –6 (172 qha^{-1}), 13/ OKHYB – 1 (167 qha^{-1}) and 2013/ OKHYB –5 (163 qha^{-1}).

ONION

Horticultural Research Station, Mahanandi

Collection, evaluation and maintenance of onion germplasm

Among the 26 varieties/germplasm and one check, Bhima Super recorded more plant height (51.20 cm), more polar (5.65 cm) and equatorial (6.06 cm) diameter, more fresh weight of bulb (119.27 g), dry weight of bulb (89.45 g) and yield (29.82 tha^{-1}) followed by Arka Lalima (28.08 tha^{-1}) and Argifound Light Red (27.13 tha^{-1}).

FLOWERS

GLADIOLUS

Horticultural Research Station, Anantharajupeta

A total of 32 accessions were tested and among them 18 exotic and indigenous gladiolus accessions were collected and added to the existing cultivars during the period under report. Among the accessions tested, very early flowering (47.5 days) was observed in Priscillia and Pink Lady and delayed flowering in Mascagani, BTS and GS-1(72.5 days). Plant height at flowering ranged from 48.08 cm (Kum Kum) to 99.90 cm (Swarnima). Number of leaves per plant ranged from 6.5 in American Beauty to 10.67 in Swarnima. Maximum leaf length was recorded in Mexican (68.45 cm) and minimum was recorded in Kum Kum (34.05 cm). Regarding leaf width, it ranged from 1.65 cm (Jessica) to 3.65 cm (BTS). Number of tillers per plant ranged from 0.67 (HRS Red) to 2.85 (BTS).

Regarding spike characters, spike length ranged from 73.17 cm in Sadabahar to Bindiya (136.05 cm), rachis length varied from 26.0 cm (Arka Naveen) to 47.54 cm (Bindiya) spike girth from 5.36 mm (Deeraj) to 11.74 mm (HRS Red). Number of flowers per spike was lowest in Arka Naveen (6.0) and highest in Arka Amar (15.33). Regarding size of the floret, diameter of

2nd floret ranged from 7.64 cm (Kajol) to 17.97 cm (Sadhabahar). Shelf life of the flower spike ranged from 4 days in Arka Naveen to 8.5 days in Urmi and Gold field.

ARKA AMAR

AC.NO.7

ARKA NAVEEN

DEERAJ

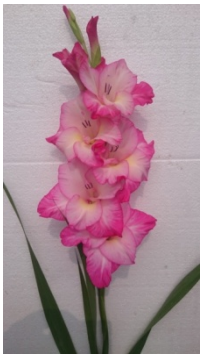
GOLD FIELD

JESSICA

PRISCILIA

PUNJAB DAWN

PURPLE FLORA



PINK FRIENSHIP

MEXICAN

URMI


GOLD FIELD


GOLDENGODDESS


HRS – CREAM


HRS- RED


KUM KUM


SUCHITRA


KAJOL


BTS

Horticultural College and Research Institute, Anantharajupeta

Evaluation of gladiolus cultivars under open field conditions for growth, yield and vase life in Southern Zone of Andhra Pradesh

Gladiolus cultivars Bindya, Swarnima, Arka Amar, Arka Gold and Ac.No.7 were found superior with regard to growth and flower yield.

CHRYSANTHEMUM

Horticultural Research Station, Anantharajupeta

Among sixty Chrysanthemum germplasm lines evaluated, days to 50 % flowering was early in Suganda white and Suganda yellow (65.0 days) and delayed in Big Red, Freedom and Meera (115 days) with an average of 95.48 days. Number of flower heads per plant ranged from 20 in HYDC-21 to 263 in Local Button accession. Least spray length was recorded in PAU.B.01 (10.33 cm), whereas maximum in Selection-5 (44.17 cm). Number of flowers per spray was maximum in Yellow Star (51.67) and minimum in Neelima (4.33). Maximum flower diameter was recorded in Firtation (95.3 mm) and minimum in Selection-6 (21.99 mm). Hundred flower weight of different chrysanthemum accessions varied from 37.0 g (Selection-3) to 499.48 g (Firtation).

SUGAND YELLOW

SUGANDA WHITE

MEERA

BIG RED

NEELIMA

HYDC- 19

MOTHER TERESA

PAU.B.01

SELECTION-5

YELLOW STAR

SELECTION-3

FIRTATION

TUBEROSE

Horticultural Research Station, Pandirimamidi

Studies on the performance of different single and double type tuberose varieties in agency tracts of East Godavari district

Among single type varieties, plant height was highest in Prajwal (94.57 cm) and the least weight was recorded in Phule Rajani (79.42 cm). Yield per plot and loose flower yield (11258 kg/ha) was highest in Prajwal. Among the double types, maximum plant height was recorded in Suvasini (90.25 cm) and the least in Hyderabad double. Highest yield per plot and loose flower yield (16580 kg/ ha) was recorded in Suvasini.

Horticultural Research Station, Anantharajupeta

Among different single and double tuberose cultivars evaluated for three years, the results revealed that average number of flower spikes per plant was maximum in Calcutta Single (3.08) followed by Hyderabad Single (2.55). Average yield per plant and yield per hectare was recorded maximum in Calcutta Single (81.87 g/p & 89.85 q/ha) followed by Hyderabad Single (77.21 g/plant & 85.78q/ha) and Prajwal (61.62 g/plant & 68.46 q/ha). Average flower weight (1.44 g) and flower size was maximum in Prajwal. From this it can be inferred that Calcutta Single followed by Hyderabad Single and Prajwal have performed well and are suitable single tuberose cultivars for southern zone of Andhra Pradesh.

Among double tuberose type cultivars, from the three year yield data recorded, it was observed that Hyderabad Double produced maximum number of flower spikes per plant (1.14) and spikes per hectare (1,26,817.53) followed by Calcutta Double (1.04 per plant & 1,15,226.29 per hectare). Maximum spike length was recorded in Hyderabad Double (72.71 cm) followed by

Calcutta Double (69.59 cm). Number of florets per spike was maximum in Suvasini (40.04) followed by Hyderabad Double (38.88). Hyderabad Double followed by Calcutta Double performed well and are found suitable among double tuberose cultivars for cut flower production in southern zone of Andhra Pradesh.

SIKKIM SELECTION

SRINGAR

CALCUTTA SINGLE

GKTC-4

PRJWAL

HYDERABAD SINGLE

RAJITH REKHA

ARKANIRANTAR

SUVASINI

VAIBHAV

HYDERABAD DOUBLE

CALCUTTA DOUBLE

HELICONIA, GINGER LILLY & BIRD OF PARADISE

HELICONIUM

Horticultural Research Station, Pandirimamidi

Observational trail on performance of *Heliconium* species in the agency areas of East Godavari district

Heliconia varieties which flowered 150 days after planting are Golden torch, *H. pistacorum* L.F. cv. Lady Di, *H. Pistacorum* "Rubra", *H.pistacorum* "Parakeet" and heliconia which flowered after 180 days after planting are *H. densiflora* , H.Orange by gyro , *H.Latispatha* (C), H. Alan Carle, *H.latispotha* big and Heliconia X Nickeriensis Mass c de Rooij, and the species which flowered at 240 DAP are Heliconia Bihai " Lobster Claw one, Heliconia bihai " Lobster Claw two, Cinnamon Twist, Eden pink, H. rostrata , Richmond red Wagenaria Peterson. Heliconia species which never flowered are *H.margineta* and *H.sticta* bucky.

Horticultural Research Station, Anantharajupeta

Among 22 types of Heliconia accessions collected only 14 accessions came to flowering under the shade of Red sanders tree. H.Cinnamonan twist, H.sexy pink, H.pink, H.drawfed, H.latispatha yellow, H.peterson, H.Latispatha A/C, H.densiflora and H.Rostrata accessions are still in vegetative stage. Plant height ranged from 65.0 cm (H.mars de loose) to 229.00 cm in H.latispatha. Number of leaves at the time of flowering per plant ranged from 4.67 (H.mars de loose) to 10.00 (H.wagnirina). Number of flower spikes per clump ranged from 6.00 (H.orange) to 14.33 in H.golden torch. Days to flowering ranged from 62 (H.golden torch & H.rubra) to 597 DAP in H.wagnirina. Red zinger took 369 DAP for flower initiation and 31.67 flower spikes per clump was observed.

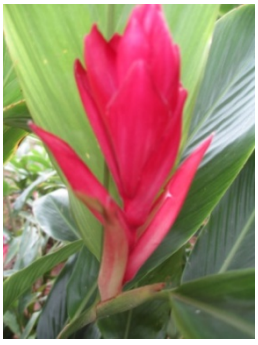
LABSTER CLAW RED

LADY DI

LATIS PATHA

LABSTER CLAW

CLAW-II



GOLDEN TORCH

HELICONIA ORANGE

JASMINE

Horticultural Research Station, Anantharajupeta

Survey, collection, maintenance and evaluation of jasmine germplasm

Collected two lines of *Jasminium sambac* (Gundu Malli) and one line of *Jasminum grandiflorum* (Centu malli) from Kadiam and one line of *Jasminum sambac* (Gundu Malli) and one line of *Jasminum auriculatum* (Kaagadalu) from Railway Kodur area. One wild Jasmine cultivar was collected from Kovvur. Plants are in vegetative stage.

CROSSANDRA

Horticultural Research Station, Anantharajupeta

Survey, collection, maintenance and evaluation of crossandra germplasm

Collected three lines of crossandra germplasm, i.e. Ratan aboli (light orange), Pishi aboli (yellow), Ratan aboli (orange) from ICAR-Central Coastal Agricultural Research Institute, Goa and similarly eight local selections from Pakala, B.N.Kandrika, Nagiri, Bynapalli, Perur, Bynapalli and Obulapalli and one green coloured wild type from Railway Kodur region and three selections (Orange, Yellow, Green) from Kadiam in the trial. Among them maximum number of flowers / spike was observed in ACS- 9 (28 flowers) and ACS-12 (28 flowers). Flower stalk length was highest in ACS-6 (3.13 cm) followed by ACS-13 (3.07 cm). Maximum flower width was more in Ratan aboli (3.43 cm), Pishi Aboli (3.43 cm) and ACS-7 (3.43 cm). Hundred flower weight was maximum in ACS-10 (7.3 g) and ACS-7 (6.83 g).


RATAN ABOLI


ACS-1


ACS-2


ACS-3


ACS-4


ACS-5


ACS-6


ACS-7


ACS-8


ACS-9


ACS-10


ACS-11


ACS-12


ACS-13


PISHI ABOLI

TUBER CROPS

CASSAVA

Horticultural Research Station, Venkataramannagudem

IET on K efficient lines at Venkataramannagudem was continued during 2015-16 with 10 entries. Pooled data over 2 years revealed that there is significant difference between the treatments for different parameters. Maximum tuber yield per hectare was recorded in TCa14-8 (47.4 t/ha) which was on par with TCa14-3 (43.3 t/ha) and Sree Athulya (41.3 t/ha). Highest starch content was observed in Sree Athulya (28.7 %) which was on par with TCa14-2 and Local. Minimum amount of HCN was recorded in TCa14-1 (92.2 ppm).

URT on short duration lines at Venkataramannagudem was continued with 8 entries. Pooled analysis over two years revealed significant differences between the treatments. Maximum tuber yield per hectare was recorded in TCa12-9 (46.5 t/ha) followed by Sree Jaya (35.0 t/ha) which was on par with TCa12-7 and TCa12-5. Highest starch content was observed in Sree Jaya (28.3 %) followed by Local (27.1 %). Minimum amount of HCN was recorded in TCa-12-10 (72.6 ppm).

Under MLT on Cassava mosaic resistant lines, 4 entries with 3 checks were evaluated in 5 locations during *Kharif*, 2015-16. The entries viz., TCMS 5 and TCMS 7 recorded maximum tuber yield (45.2, 39.3 t/ha) with starch content of 24.9 % and 25.9 % respectively.

ELEPHANT FOOT YAM

Horticultural Research Station, Kovvur

A total of 42 elephant foot yam accessions are being maintained at Kovvur. Among the 26 non acrid lines of elephant foot yam, H-75 has recorded highest yield of 34.50 t ha^{-1}, whereas, the lowest yield was recorded in AC -13 (12.75 t ha^{-1}). Among 16 acrid germplasm lines, highest yield was recorded in AC 28/1 (26.13 t ha^{-1}), whereas, AC -32 (4.50 t ha^{-1}) has recorded the lowest yield.

Collection, conservation, cataloguing and evaluation of genetic resources of colocasia

A total of 101 Colocasia lines are being maintained. Among the short duration group, KCS 3 has recorded the highest cormel yield of 47.33 t ha^{-1} followed by CA 16 (42 t ha^{-1}). In the medium duration group, Sreepallavi has recorded the highest cormel yield of 31.05 t ha^{-1}, while among long duration group, CA 56 has recorded highest cormel yield of 38.03 t ha^{-1}followed by Bhavapuri (KCS-2) (36.23 t ha^{-1}).

Collection, conservation, cataloguing and evaluation of Genetic resources of dioscorea

Among the 27 greater yam germplasm lines, Sreepriya has recorded highest tuber yield of 60.64 t ha^{-1} followed by D2 with 49.85 t ha^{-1}.

URT on greater yam (2012 First year)

Among the six entries tested under URT in greater yam, TGY-12-3 has recorded highest tuber yield (51.85 t ha^{-1}) followed by Sree karthika (34.16 t ha^{-1}).

IET on greater yam (2014) (1st year)

Among the 14 entries under evaluation, highest yield was recorded in the entry, TGY-14-11(62.12 t ha^{-1}) followed by Sree karthika (40.62 t ha^{-1}).

In vitro propagation in elephant foot yam

Callus produced in all the callus induction and maintenance media. Only MS media supplemented with NAA (1.5 mg/lt) and BA (2.0 mg/lt) produced green protocorms. However, these protocorms were unable to regenerate in to shoots in all the 6 regeneration media under study.

Observational trial on the performance of open pollinated seed of *Amorphophallus paeoniifolius.*

Out of 65 accessions evaluated during 2015-16, 28 accessions were selected for further evaluation.

SPICES

CHILLIES

Horticultural Research Station, Lam

HOT PEPPER:

A total of 165 germplasm lines *i.e.,* lines collected over the years were evaluated. The selections were made within lines and the selected plants were selfed and multiplied for evaluation during 2016-17.

In Advanced Hybrid yield trial, 23 superior combinations selected (fertile x fertile) were seed produced in 2014-15 and were evaluated in 2015-16 for yield and yield components along with a check Indam-5. Among the hybrids, LCH 08-64 (LCH-111) recorded highest dry pod yield (7280 kg/ha) followed by LCH 10-9 (7074 kg/ha), LCH 10-5 (6956 kg/ha), LCH 08-59 (6843 kg/ha) and LCH 09-9 (6803) over the check Indam-5 (6055kg/ha).

Single plants were selected from segregating material of F_2, F_3, F_5 and F_6 for further generation advancement and evaluation. Promising single plants selected in F_6 generation will be evaluated in observational yield trial and used in hybridization.

Generation	No. of crosses grown	No. of plants/ progenies in each cross	No. of single Plants selected
F_2	33	150 per progeny	92
F_3	29	80 per progeny	45
F_5	15	80 per progeny	18
F_6	25	80 per progeny	30

In Replicated Row Yield Trial, 22 entries were evaluated against check, LCA-334. Among the entries tested, the entry RRYT–T 18 recorded significantly highest dry pod yield (5980 kg/ha) followed by RRYT -T 12 (4648 kg/ha) and RRYT -T 21 (4546 g/plant) over the check LCA-334 (3950 kg/ha).

In Preliminary Yield Trial, 15 entries were evaluated against check variety, LCA 334. The entry LCA- 686 recorded significantly highest dry pod yield (6875 kg/ha) followed by LCA-675 (6375kg/ha), LCA-647 (6292 kg/ha) over the check LCA -334 (4960 kg/ha).

In Preliminary yield trial for green chilli, 16 entries were evaluated against check variety CA 960. The entry LCA- 655 recorded significantly highest green pod yield (32167 kg/ha) followed by LCA-616 (31575 kg/ha) and LCA-643 (30417 kg/ha) over the check CA-960 (25167 kg/ha). Whereas LCA-655 recorded significantly highest dry pod yield (6584 kg/ha)

followed by LCA- 505 (6250 kg/ha) and LCA-643 (6000 kg/ha) over check CA 960 (5350 kg/ha). It shows the suitability of LCA-655 for dual purpose.

In Advanced Yield Trial, 15 entries were evaluated against check, LCA-334. The entry LCA- 639 recorded significantly highest dry pod yield of 7146 kg/ha with 395 pod per plant, followed by LCA-657 (6875 kg/ha), LCA-617 (6625 kg/ha) and LCA-613 (6621 kg/ha) over the check, LCA -334 (5887 kg/ha).

LCH-08-64/LCH-111. High yielding chilli hybrid

LCA-655 : A high yielding dual purpose chilli variety

PAPRIKA

In Paprika chilli, 40 germplasm lines were collected over the years and were evaluated. The selections were made within lines and the selected plants were selfed and multiplied for evaluation during 2016-17. The lines which shown variability during 2015-16 will be re-evaluated as per the descriptive blank keeping LCA- 436 as a check.

In Preliminary Yield Trial, 16 entries along with check entry LCA 436 were evaluated. The entry LCA- 482 recorded significantly highest dry pod yield of 5683 kg/ha followed by LCA-466 (5442 kg/ha) and LCA-472 (5233 kg/ha) over the check LCA-436 (4550 kg/ha).

In Advanced Yield Trial, 16 entries along with check LCA 436 were evaluated. The entry LCA- 442 recorded highest dry pod yield (5458 kg/ha) followed by LCA-470 (5317 kg/ha) and LCA-450 (5275 kg/ha) over the check LCA -436 (4250 kg/ha).

LCA-616. A high yielding exclusive green chilli variety

AICRP (VEGETABLE CROPS)

VARIETAL TRIALS

In AVT-1, ten entries were evaluated against two national checks *viz.,* Kasi Anmol and LCA-334. Among these entries, 2014/CHIVAR-6 recorded significantly highest ripe and dry chilli yield (129.4 and 46.4 q/ha) which was on par with 2014/CHIVAR-2 (115.0 and 41.1 q/ha).

In AVT-II, four entries were evaluated against two national checks, KA-2 and LCA- 334. Among these entries tested, 2013/CHIVAR-2 recorded highest ripe chilli yield (118.8 q/ha) followed by 2013/CHIVAR-4 (95.4 q/ha).

HYBRID TRIALS

CHILLI

In IET, seven hybrids were evaluated against one check Kasi Anmol. 2015/CHIHYB – 4 recorded significantly maximum ripe and dry chilli yield (135.2 q/ha) being on par with 2015/ CHIHYB –2 (127.7 q/ha, 41.7 q/ha respectively) and CHIHYB –1 (115.2, 38.2 q/ha respectively q/ha).

In AVT-1, among seven hybrids evaluated against two checks *viz;* ARCH-228 and Kasi Anmol, 2014/CHIHYB-7 recorded highest ripe chilli yield (147.9 q/ha) being on par with 2014/CHIHYB – 1 (131.1 q/ha).

In AVT-II, among seven hybrids evaluated against two checks *viz;* ARCH-228 and Kasi Anmol, the entry 2013/CHIHYB-3 recorded maximum ripe and dry chilli yield (131.1 and 40.9 q/ha respectively) being on par with check ARCH-228 (127.4 and 38.9 q/ha respectively).

CORIANDER

Horticultural Research Station, Lam

Thirty five germplasm lines were evaluated in Augmented Block Design with six checks. Among the entries evaluated, LCC-328 (1.31 g plant^{-1}), LCC-322 (1.06 g plant^{-1}), LCC-325 (1.06 g plant^{-1}) were found significantly superior in yield over the best check Suguna (0.79 g plant^{-1})

Among forty coriander germplasm lines received from six different coordinated centres RD-365 (1.24 g plant^{-1}), NDC-111 (1.16 g plant^{-1}), NDC-118 (1.10 g plant^{-1}), DH-283 (1.00 g plant^{-1}), DH-279 (1.00 g plant^{-1}) and RD-417 (1.00 g plant^{-1}) were found significantly superior in yield over the best check Suguna (0.84 g plant^{-1}).

In IET, among 10 entries were evaluated, LCS-12-6 recorded highest yield of (895.5 kg ha^{-1}) followed by LCS-12-9 (862.4 kg ha^{-1}) and LCS-12-7 (837.4 kg ha^{-1}) which were significantly superior to the best check Suguna (732.1 kg ha^{-1}).

In IET on coriander (leaf), among ten entries tested, LCC-310 recorded highest herb yield (10.43 t ha^{-1}) followed by LCC-309 (10.37 t ha^{-1}) which were significantly superior to the best check Suguna (9.1 t ha^{-1})

Among the 21 entries tested in CVT, COR-108 (1191.1 kg ha^{-1}), COR-107 (1182.2 kg ha^{-1}) and COR-104 (1142.2 kg ha^{-1}) recorded significantly higher yields than all other entries including best check AD-1 (825.2 kg ha^{-1}).

In mutation breeding, 96 lines (mutant and F_4 lines) along with 6 checks were evaluated in Augmented Block Design. Among the material evaluated, S-15-96 (2.30 g pl^{-1}), S-15-38 (2.25 g pl^{-1}), S-15-63 (2.14 g pl^{-1}), S-15-9 (2.05 g pl^{-1}) and S-15-54 (2.05 g pl^{-1}) were promising.

Horticultural Research Station, Mahanandi

Collection, evaluation and maintenance of coriander Germplasm

Among 279 germplasm entries and 2 checks, LCC-291 recorded more plant height (49.60 cm), more number of primary branches (5.94), secondary branches (12.24), more number of umbels per plant (21.00) and seed yield (3.40 g/plant) followed by LCC-304 (3.15 g/plant) and LCC-282 (3.10 g/plant).

FENUGREEK

Horticultural Research Station, Lam

In fenugreek, 124 germplasm lines along with four checks were evaluated. Among the entries evaluated, LFC-51 (1.77 g plant^{-1}), LFC-74 (1.37 g plant^{-1}), LFC-66 1.34 g plant^{-1}) and LFC-67 (1.33 g plant^{-1}) were significantly superior to the best check APHU Methi-1 (1.10 g plant^{-1}).

Seventeen genotypes of fenugreek from different coordinating centres were evaluated in CVT and results showed that none of the entries were found significantly better than the best check AM-1. However, the entries FGK-86 (433.6 kg ha^{-1}) and FGK-85 (422.5 kg ha^{-1}) recorded significantly higher yield over national check, Rmt-361 (347.1 kg ha^{-1})

AJOWAN

Horticultural Research Station, Lam

In Ajowan, IC Numbers were obtained for twenty germplasm lines i.e. LTa-40 to LTa-59. Among 114 lines evaluated, S-15 (19.39 g plant^{-1}) and Lta-51 (18.9 g plant^{-1}) recorded the highest yield.

In IET, 10 promising selections along with two checks were evaluated and found that among the entries evaluated LS-14-3 (746.4 kg ha^{-1}), LS-14-8 (736.7 kg ha^{-1}), LS-14-6 (729.8 kg

ha^{-1}), LS-14-7 (726.5 kg ha^{-1}) and LS-14-5 (704.7 kg ha^{-1}) were found promising and significantly superior to the best check LS-1 (571.3 kg ha^{-1}).

Horticultural Research Station, Mahanandi

Collection, evaluation and maintenance of ajowan germplasm

Among the 65 germplasm entries and 1 check, AA 36 recorded more plant height (91.60 cm), more number of primary branches (17.60), secondary branches (115.80), more number of umbels per plant (121.40) and seed yield (3.91 g/plant) followed by AA 12 (3.81 g/plant) and AA 41 (3.53 g/plant).

CINNAMON

Horticultural Research Station, Pandirimamidi

Identification of cinnamon varieties suitable for rainfed conditions of agency tract of East Godavari Dist.

Among four varieties of cinnamon tested, SL- 44 has recorded the highest mean bark yield of 3.87 kg per plant.

TURMERIC

Horticultural Research Station, Kovvur

Characterization of turmeric genotypes using morphological and molecular markers

Among 83 accessions studied, CLL-335 performed well with high growth and yield, whereas, T. Sundar possessed high curcumin content. High heritability coupled with high genetic advance in per cent mean was recorded for curcumin content, number of secondary rhizomes and number of tillers per plant suggesting additive gene action to be exploited for improvement of genotypes in turmeric. SSR markers were able to identify the duplicates in the germplasm whereas RAPD markers could identify only closely related ones.

Horticultural Research Station, Lam

One hundred and seventy two germplasm lines and varieties Prathibha, Prabha, IISR Kedaram, IISR Alleppey Supreme, Rajendra Sonia, Suranjana, Roma, BSR-2, Salem, Tekurpet, Mydukur and Duggirala Red were collected and maintained at HRS, Lam.

Among the three varieties evaluated, Prathibha was found to be vigorous in growth and recorded highest fresh rhizome weight (312.56 g plant^{-1}) and significantly superior to all other varieties evaluated.

Horticultural Research Station, Mahanandi

Among different medium duration turmeric varieties, KTS-6 recorded more plant height (97.20 cm), more number of leaves (18.80), leaf length (49.90 cm), more weight of the primary (283.27 g) and secondary (78.34 g) fingers and more fresh rhizome yield (443.15 g/plant) followed by BSR-2.

Among different long duration turmeric varieties, Sugandham (Local Variety) recorded more plant height (104.20cm), more number. of leaves (18.40), leaf length (50.20 cm), more weight of the primary (322.50 g) and secondary (87.67 g) fingers and more fresh rhizome yield (498.02 g/plant) followed by Mydukur.

Horticultural Research Station, Darsi

Testing of turmeric varieties suitable to Guntur and Prakasam District conditions

Eleven varieties of turmeric were planted in July, 2015. Among different cultivars, Salem recorded highest fresh rhizome yield (31.67 t/ha) followed by Tekurpeta (28.0 t/ha).

MEDICINAL & AROMATIC PLANTS

BETELVINE

Horticultural Research Station, Venkataramannagudem

Among twenty nine accessions of *Acorus calamus* evaluated APAc-3 (66.20 cm) recorded highest plant height followed by APAc-2 (66.67 cm). Number of leaves per plant was highest in APAc-4 followed by APAc-20. Leaf length was highest in APAc-7 (47.20cm) and leaf width was highest in APAc-5 (2.45 cm). Highest rhizome yield recorded in APSn-18 followed by APSn-7.

Forty five accessions of *Solanum nigrum* are being maintained and were evaluated for their morphological, agronomical traits, flower and fruit characters. TNSn-50 exhibited purple streak in flower corolla, the character as reported by TNAU was found stable under multi location testing. Distinct characters like plants bearing red berries with erect growing habit and streak in flower petal were identified and recorded with Accession APSn-25, collected from Shankarghat, UP. Taxonomic identification of the accessions of *Solanum nigrum* was conducted with the help of BSI, Coimbatore. Stem pigmentation at nodes, leaf characteristics as colour, serration, shape and floral characteristics such as flower size, style position, pollen size and pollen viability were studied.

- **Flower** is regular (Actinomorphic), white to pale purple.
- **Corolla** is white, wheel shaped, 5 lobed, 6-4 mm, wide.
- **Calyx** is fused, companulate, deeply 5 lobed.
- **Stamens** consists 5 anthers in a conical group.
- **Gynoecium** is composed of 2 fused carpels.
- **Inflorescence** is 3-8 flowered cyme and pedunculate.
- **Anthesis time** is between 5.00 am to 6.00 am.
- **During anthesis period ie., between 5.00 am to 6.00 am the relative humidity was 53% and temperature was 26^{0}c**.(Recorded during second week of April,2016)
- **Pollen** is released for 2 days from anthesis.
- Flower remains as visual flag for 10 days to the pollinators.
- **Pollinators** are small bees and syrphid flies.

Among forty five accessions, highest plant height was recorded in APSn-11 (97.32 cm) followed by ApSn-20 (96.31 cm). Number of branches was highest in APSn-23 (22.44) followed

by APSn-12 (22.00). Highest stem girth recorded in APSn-18 (4.50cm) followed by APSn-16 (4.33cm). Leaf length was highest in APSn-26 (6.01cm) followed by APSn– 23 (5.95cm) and Leaf breadth was highest in APSn-26 (4.66cm) followed by APSn-23 (3.50cm).APSn-23 recorded highest herbage yield (9.13 kg/plot) followed by APSn-26 (8.95 kg/plot). TNSn-31 recorded the lowest yield (2.29 kg/plot).

Among thirteen hybrids of betelvine, Tellaku Ponnuru recorded highest plant height (174.00 cm) followed by Swarna Kapoori (164.61 cm) and GN Hybrid (160.12 cm). GN Hybrid recorded the highest yield (37.85 leaves per plant) followed by Swarna Kapoori (34.19 leaves per plant). Leaf length and width were also highest in GN Hybrid (14.32 cm and 12.71 cm).

Sixty one betelvine clones collected from different states were evaluated for growth and yield parameters. In general, the leaf yield was high in male clones (Kapoori) than female clones (Bangla) and poor in case of Meetha pan. Among all the genotypes under study, Tellaku Ponnuru recorded highest leaf yield (44.13 leaves per plant). Among hybrids GN Hybrid recorded highest leaf yield (47.40 leaves per plant).

PLANTATION CROPS

CASHEW

Cashew Research Station, Bapatla

Multi-location trial-III (2002) in cashew

In the MLT-III, the variety BPP-8 has recorded maximum annual nut yield and cumulative nut yield per tree (8.16 kg and 54.32 kg) for eight annual harvests.

Hybridization and selection

Among the 11 hybrids planted during 1997, the hybrid H-36 has recorded maximum annual nut yield per tree (12.0 kg) whereas cumulative nut yield was maximum in H-67 (160.85 kg per tree) for 13 annual harvests. Among the hybrids planted during 1998, the mean nut weight and cumulative nut yield per tree was found maximum in H-94 (6.30 g and 43.45 kg) for six annual harvests. Among the different hybrids planted during 1999, the mean annual nut yield was recorded highest in H-165 (4.45 kg/tree). The cumulative nut yield per tree was maximum in H-168 (50.705 kg) for 6 annual harvests.

Among the different hybrids planted in 2000, the annual nut yield and cumulative nut yield per tree was found highest in H-218 (8.00kg and 58.45 kg) for six annual harvests. Among the different hybrids planted during 2001, the mean annual nut yield per tree was recorded maximum in H-230 (4.60 kg).The cumulative nut yield per tree was found maximum in H-239 (67.42 kg/tree) for 6 annual harvests.

Characterization of germplasm for cashew apple

Among the 13 genotypes evaluated, with respect to the screening of germplasm for cashew apple the accession Priyanka recorded highest TSS (12.70) and lowest tannin content (3.14 mg/100 g). Also recorded highest vitamin 'C' content (124.8 mg/100 mg) and acidity content (0.48%).

PALMYRAH

Horticultural Research Station, Pandirimamidi

Survey, collection and evaluation of palmyrah germplasm

Survey and collection of palmyrah germplasm to identify dwarf and superior palmyrah genotypes for high neera and nungu yield was taken up in Medinipur district of West Bengal. A preliminary survey was taken up during the last week of April, 2015. The entire district was explored to identify the potential palmyrah growing areas for the collection of fruits after full maturity. The collection of germplasm was taken up during 17th to 22nd August, 2015. Five germplasm accessions were collected and were planted at Horticultural Research Station, Pandirimamidi.

OIL PALM

Horticultural Research Station, Vijayarai

Evaluation of new cross combinations in oil palm (Gen-8C)

Significantly highest fresh fruit bunch yield of 190.23 kg was recorded in NRCOP-4 followed by NRCOP-8 which yielded 151.70 kg per palm per year. Among the ten crosses highest FFB yield of 27.20 t ha^{-1} was recorded in NRCOP-4 followed by NRCOP-8 which recorded 21.60 t ha^{-1} yields per year. Average bunch weight was highest in NRCOP-4 (14.18 kg) followed by NRCOP-8 (13.58 kg).

Evaluation of new cross combinations in Oil Palm (Gen-8D SET I)

All the crosses recorded on par number of bunches per palm. Fresh fruit bunch yield of 93.36 kg per palm was recorded highest in NRCOP-32 followed by NRCOP-35 (88.79 kg per palm per year). Average bunch weight of 10.22 kg was recorded highest in NRCOP-33 followed by NRCOP-35 (8.42 kg). Highest bunch dry weight was recorded on NRCOP-32 (49.25 kg). Among the ten crosses significantly highest FFB yield of 13.35 t ha^{-1} was recorded in NRCOP-32 followed by NRCOP-35 (12.70 t ha^{-1} yields per year).

Evaluation of DXP hybrids for dwarfness and yield in oil palm (Gen 8D II)

Specific leaf varied significantly among the crosses and highest was recorded in NRCOP-44 (5.78). No significant difference was observed for all other parameters among the hybrids evaluated.

Multi location trial (MLT) of cocoa clones under palms

Maximum plant height was recorded in VTLCH-3 (320.31 cm). Plant spread in North-South direction varied among the clones. VTLC-36 recorded highest spread of 363.65 cm.

COCONUT

Horticultural Research Station, Ambajipeta

Conservation and evaluation of coconut genetic resources in different agro-climatic regions.

Collection, conservation and evaluation of local specific germplasm

A total of 13 local elite germplasm accessions collected from traditional coconut growing districts *viz* Srikakulam, East Godavari and West Godavari districts of AP are being evaluated. Five accessions *viz* Pillalakodi green (CRP 745), Pillalakodi brown (CRP 746), Jonnalarasi brown (CRP 748), ECT green (CRP 750) and Gang Bondam (CRP 749) were planted in RBD with 4 replications @ 4 palms/replication in February, 2013 and remaining eight accessions viz. Jonnalarasi green (CRP 747), ECT Brown (CRP 751), Itikulagunta ECT Big (CRP 754), Itikulagunta ECT Small, Saradapuram ECT (CRP 753), Srikakulam ECT (CRP 752), Vemulapalli ECT Big and Vemulapalli ECT Small were planted as an observational trial @ 6 palms per accession and are in vegetative stage.

Significant differences were noticed among different germplasm accessions for petiole length, number of leaflets on right side and left side and leaflet length. Significantly highest petiole length (124.10 cm) was observed in Pillalakodi brown. Maximum number of leaflets on right side (60.62), left side (61.25) and leaflet length (88.75 cm) was recorded in Pillalakodi green.

Evaluation of selections from germplasm

Inter se crossed seednuts of six entries i.e., Veri kobbari tall, St.Vincent tall, Guam-II tall, Zinzibar tall, Straits, Kenya tall were received from CPCRI, Kasaragod during May 2014 and the seedlings were raised in polypots. The experiment was planted in March, 2016 in RBD with seven entries including East Coast Tall as local check replicated thrice and it is in establishment stage.

Evaluation of coconut hybrids in different agro climatic regions

Production and evaluation of new cross combinations in coconut

The trial was laid out during 1985 with six cross combinations (ECT x MGD, GBGD x ECT, GBGD x FJT, GBGD X PHOT, GBGD x LCOT and ECT x GBGD (Check) in randomised block design.

The experimental results revealed that significant differences were observed among the hybrids evaluated. Significantly maximum nut yield (134.0/palm/year) was recorded in GBGD X LCOT. Significantly highest number of bunches (14.0 per palm), copra content (188.75 g/nut) copra output (23.65 kg/palm) and oil yield (16.22 kg/palm) was recorded in GBGD X PHOT cross combination. GBGD X LCOT was on par with GBGD X PHOT regarding copra output (22.09 kg/palm) and oil yield (15.00 kg/palm).

Evaluation of new coconut hybrids of location specific cross combinations

Six cross combinations *viz*., CRP 509 X Kalpa Pratibha, Gauthami ganga X Kalpa Pratibha, CRP 509 X Double Century, Gauthami ganga X Double Century, Double Century X Gauthami ganga and CRP 509 X Gauthami ganga were planted in June 2011. Gap filling was done during February 2014 and the experiment is in establishment stage and the seedling growth is satisfactory.

The observations revealed that the cross CRP 509 X Double Century recorded highest plant height (485.02 cm) and leaf length (263.72 cm). However, total number of leaves were highest (22.53) in Double Century X Gauthami ganga cross combination.

Evaluation of released varieties in coconut

The experiment was planted in 2002 to evaluate nine released coconut varieties in randomized block design with three replications. The Maximum nut yield of 170.33 nuts per palm palm was recorded in Godavari Ganga followed by Chandrasankara (155.77nuts/palm). Significant differences were observed for palm height, girth, length of 10 internodes, leaf length, weight and breadth of tender nut, husked fruit weight with water and copra content. With regard to nut characters, highest tender nut weight (2412.66 g) was recorded in Double Century and it was on par with VHC-II (1878 g).

Evaluation of Tall x Tall coconut hybrids

Six cross combinations viz., WCT x TPT, LCOT x ADOT, BGR x ADOT, ADOT x ECT, ECT x LCOT of CPCRI along with ECT x ECT as check are being evaluated since 2011.

Significant differences were observed with regard to plant height, total number of leaves, leaf length, petiole length, number of leaflets on right side and left side and leaflet length (Table-7). WCT x TPT recorded significantly highest plant height (490.2 cm), leaf length (269.38 cm), petiole length (132.84 cm), number of leaflets on right side (65.28), number of leaflets on left side (64.84) and is on par with LCOT x ADOT in plant height (437.24 cm), leaf length (235.24 cm), petiole length (124.65 cm), number of leaflets on right side (64.22),number of leaflets on left side (64.24)respectively. WCT x TPT also recorded maximum significant leaflet length (93.74cm).

Evaluation of location specific Tall x Tall coconut hybrids

Eight cross combinations viz., Java Tall x ECT, PHOT x ECT, Fiji Tall x ECT, Laccadive Ordinary x ECT, ECT x PHOT, Cochin China x ECT, ECT x Fiji Tall of CPCRI were planted in August 2011 and are being evaluated. Observations on growth attributing traits showed non significant effect among TxT hybrids except leaflet breadth (Table-33).

Evaluation of Dwarf x Dwarf coconut hybrids in different agro climatic Conditions

The experiment was planted in 2011 with six cross combinations in RBD with 4 replications @ 6 palms per replication. The D x D hybrids have shown significant differences for plant height, total number of leaves, leaf length, petiole length, leaflet length and leaflet breadth. COD x MGD recorded highest plant height (426.5cm), leaf length (230.26cm), petiole length (112.45cm), leaflet length (89.2cm) and leaflet breadth (4.91cm). CGDx MGD recorded highest number of leaves (21.64).

Evaluation of released coconut varieties in different agro-climatic regions.

During 2015-16, observations revealed that, Konkan Bhatye hybrid-1 recorded maximum plant height (678.5 cm), total number of leaves (30.7), functional leaves(20.3) leaf length (320.8 cm), number of leaflets on right side (85.6) number of leaflets on left side(86.0) leaflet length (106.6 cm) and leaflet breadth (5.2 cm). Maximum petiole length (137.2cm) was recorded in Kerabastar.

FOREST PRODUCE

TAMARIND

Horticultural Research Station, Anantapuramu

Collection, evaluation and maintenance of Tamarind germplasm

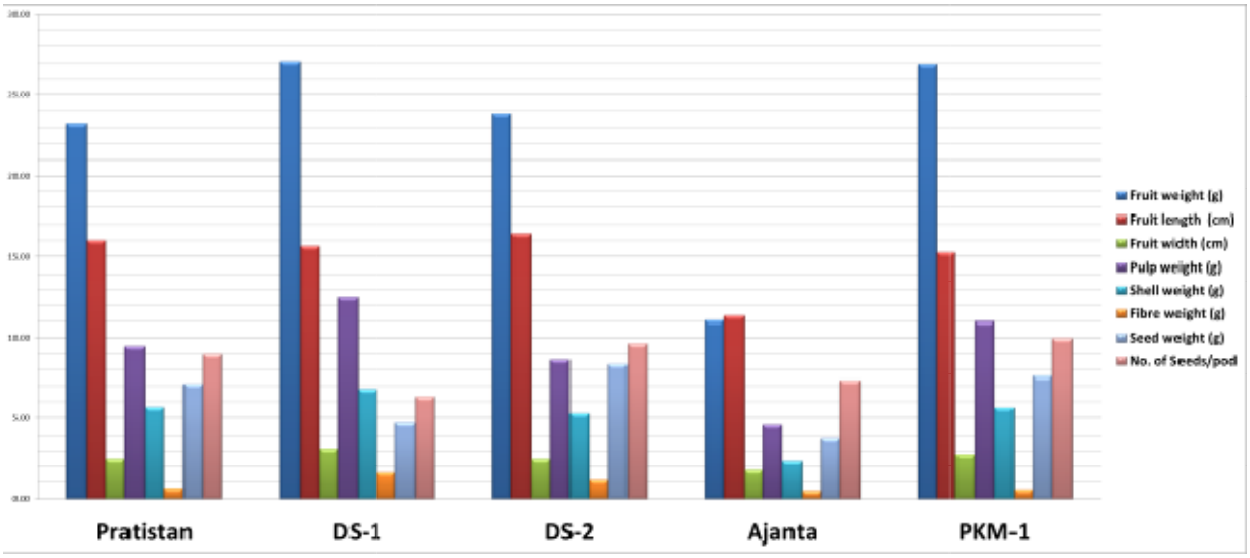
Forty one tamarind germplasm lines were evaluated for growth and yield parameters. Plant height ranged from 1.30 m (PU-27) to 5.37m (Salem-102), stem girth ranged from 35.50 cm (PU-27) to 102.33 cm (Pollachi-11), plant spread from 1.90 m EW – 2.10 m SW (PU-27) to 6.98 m EW – 7.13 NS (PKM-1) and number of branches from 1.00 (PU-27) to 9.00 (Pollachi-11).

Pod yield per plant ranged from 9.62 Kg (PU-24) to 41.60 Kg (Pratistan) whereas, pod weight ranged from 9.63 g (PU-24) to 26.97 g (PU-15). Pod width and pod length ranged from 1.77 cm (Vellore-29) to 3.10 cm (PU-15 and PU-21) and 10.30 cm (Salem-102) to 17.97 cm (PU-4), respectively. Pulp weight was lowest in Vellore-29 (3.34 g) and highest in PU-15 (14.5 g) whereas, shell weight was lowest in Salem-102 (2.77 g) and highest in PU-4 (8.88 g). Fibre weight ranged from 0.23 g (Hosur-77) to 1.09 g (Vellore-2) and seed weight ranged from 2.23 g (Salem-102) to 7.44 g (PU-26). The number of seeds /pod ranged from 5.67 (PU-11) to 10.33 (ATPS-1).

Varietal trial of tamarind

Among five tamarind varieties evaluated for growth and yield characters, Dharwad Sel.1 was found highly vigorous which recorded higher values for plant height (3.59 m), number of branches per plant (5.50) and plant spread (4.05 m EW – 4.19 m NS) closely followed by PKM-1 (check). Ajantha was dwarf in nature which recorded lower values for plant height (2.59 m), number of branches per plant (3.75) and plant spread (2.56 m EW – 2.62 m NS). With regard to stem girth, PKM-1 (check) attained maximum girth (57.25 cm) closely followed by Pratistan (55.13 cm) and Dharwad Sel.1 (54.38 cm).

Highest pod yield per plant was recorded in Dharwad Sel-2 (20.10 kg) followed by Ajanta (18.03 kg). Pod weight and pulp weight were maximum in Dharwad Sel-1 (27.13 g and 12.51 g) followed by PKM-1 (check) (26.95 g and 11.02 g). Pod length was more in Dharwad Sel.2 (16.43 cm) followed by Pratistan (16.03 cm) whereas, pod width was more in Dharwad Sel.1 (3.13 cm) followed by PKM-1 (check) (2.77 cm). Number of seeds/pod was less in Dharwad Sel.1 (6.33) while, seed weight was low in Ajanta (3.82 g).



B.CROP PRODUCTION

FRUITS

MANGO

Mango Research Station, Nuzvid

In mango var. Baneshan, highest number of fruits/tree (59.81) and highest yield (24.37 kg/tree) was recorded when trees were centre opened and lightly pruned upto 2nd node followed by clipping of fruit stalks after harvest. It also recorded the significantly lowest incidence of thrips (2.09 thrips/panicle) and hoppers (2.16 hoppers/panicle) and anthracnose (12.87).

Spraying of K_2SO_4 @ 2%, 30 days before harvest of mango fruits in cv Kesar recorded highest fruit weight after 5 (216.38 g), 10 (200.35 g) and 15 (188.75 g) days after harvest and lowest physiological loss of weight at 5 (3.97 %), 10 (11.11 %) and 15 (16.15 %) days after harvest and recorded lowest anthracnose incidence of 11.11 % at 15 DAH. In terms of qualitative characters, significantly highest percent of total soluble sugars of 21.27, total sugars of 15.32, reducing sugars of 3.96 and non reducing sugars of 11.36 was recorded in 2% K_2SO_4 spray. Significantly low titrable acidity of 0.25 % and significantly high ascorbic acid content of 35.55 mg /100 g was recorded in 2 % K_2SO_4 spray.

Spraying of 2% K_2SO_4 thrice starting from peanut stage followed by spraying at 15 days interval in Baneshan variety of mango recorded significantly higher number of fruits/tree (59.83), fruit weight (278.64 g), yield (16.31 kg/tree) and TSS (20.59). In respect of quality parameters, total sugars and non-reducing sugars were found to be non-significant, whereas significantly high reducing sugars (3.26%) and low titratable acidity (0.08 %) was found in 2% K_2S0_4 and high ascorbic acid (17.50) in 0.5 % K_2S0_4

Data on using low temperature to enhance shelf life in mango revealed that significantly highest initial fruit weight (297.98 g), fruit weight at 10 DAH (288.78 g), TSS (19.17 ^{0}B), total sugars (8.64%), reducing sugars (1.38%), non-reducing sugars (7.32%), ascorbic acid (316.44 mg/100 g) were recorded when fruits were harvested at maturity (control) grown under organic farming condition. Significantly highest number of days for degreening (22.74 days) was recorded in organically grown fruits harvested at 8-9^0 Brix.

Horticultural College and Research Institute, Anantarajupeta

Standardization of stage wise irrigation schedules in Mango cv. Baneshan

Yield data revealed that significant differences were noticed in fruit parameters. The drip schedule T_5 recorded maximum for all parameters *viz.,* number of fruits per plant (134.67), average fruit weight (268.67 g), fruit yield per plant (36.22 kg) and fruit yield (21.75 Q/acre) followed by T_1. T_5 was found to be significantly superior over all other treatments followed by T_1. T_5 (23.25 ^{o}Brix) was found to be significantly superior over all other treatments followed by T_6 (22.55 ^{o}Brix) with regard to quality of the fruits in terms of TSS.

SWEET ORANGE

Citrus Research Station, Tirupati

Nutrient management under high density planting in sweet orange

Significantly highest fruit yield (248 fruits/ plant, 41.07 kg/plant, 17.08 t/ha) and highest benefit cost ratio (4.25) were noticed when plants were spaced at 6x4m with 100% inorganic fertilizers (1500g N: 350g P_2 O_5: 400 g K_2 O/ plant/year) followed by treatment (T_7) with spacing of 6x4m and 75% N (inorganic source) along with 25% N (organic source: FYM) and 2.2 kg SSP and 0.75 kg MOP per plant per year (246 fruits/plant, 40.8 kg/plant, 16.99 t/ha).

Studies on residual and cumulative effects of nutrients in sweet orange

Individual nutrient levels (A part) on growth parameters of five year old Sathgudi sweet orange plants were non significant. No significant differences were observed for different nutrient doses (B part) as well as their interaction effects (AXB), as B part of the experiment will be implemented from sixth year onwards.

Standardization of stage wise requirement of nutrients in sweet orange:

Stage wise application of nutrients significantly influenced both plant growth and fruit yield in seven years old sweet orange plants (Table 5). The treatment 0:0:0, 30:40:0, 30:35:0, 40:25:30, 0:0:35, 0:0:35 percent RDF of N:P_2O_5: K_2O for stages I to VI, respectively, recorded significantly maximum stem girth (47.53 cm), highest number of fruits (224 fruits/plant) and yield (41.62 kg/plant) with highest benefit cost ratio (2.5), followed by control.

Table-5: Effect of stage wise application of nutrients on growth and yield of sweet orange at Tirupati (2015-16)

Treatment	Plant height (m)	Stem girth (cm)	Canopy spread (m)		Canopy volume (m^3)	Fruits /plant	Fruit weight (g)	Yield (kg/tree)	Yield (t/ha)	BC ratio
			E-W	N-S						
T_1	2.49	45.73	3.15	3.28	13.71	185.20	197.06	36.85	6.83	1.83
T_2	2.59	43.03	3.06	3.20	13.83	153.82	192.44	34.58	5.32	1.43
T_3	2.65	**47.53**	3.25	3.38	15.35	**224.00**	204.02	**41.62**	**9.33**	**2.50**
T_4	2.44	47.47	3.15	3.22	13.22	201.00	199.04	38.91	7.82	2.22
CD@5%	NS	3.35	NS	NS	NS	10.14	NS	2.22	0.70	--
SE(m)±	0.06	1.08	0.15	0.11	1.09	3.38	3.14	0.74	0.23	--

Treatment	Plant height (m)	Stem girth (cm)	Canopy spread (m)		Canopy volume (m^3)	Fruits /plant	Fruit weight (g)	Yield (kg/tree)	Yield (t/ha)	BC ratio
			E-W	N-S						
CV%	5.13	5.24	10.28	7.37	17.34	3.85	3.55	4.23	6.97	--
T_1 = 0:0:0, 40:50:0,40:50:0,20:0:50,0:0:25,0:0:25 T_2= 0:0:0,30:40:10,30:35:10, 20:25:30, 10:0:25,10:0:25 T_3=0:0:0,30:40:0,30:35:0,40:25:30,0:0:35,0:0:35 Percent RDF T_4= Control RDF (1500 N:350 P_2O_5 : 400 K_2O g/plant)										

Fruit weight and quality parameters at all the stages were found non significant. While, maximum TSS (10.5^0 Brix), juice (41.40 %) and low acidity (0.64) were recorded in the treatment 0:0:0, 30:40:0,30:35:0,40:25:30,0:0:35,0:0:35 percent RDF of N:P_2O_5: K_2O for stages I to VI.

Organic production of sweet orange

The results (Table 7) revealed that non significant differences for different organic packages with respect to growth parameters of 4 year old Sathgudi sweet orange budlings. Precocity of bearing was noticed in T_3 and T_4 treatments.

Table-7: Effect of organic manures and bioagents on plant growth of Sweet orange at Tirupati (2015-16)

Treatments	Plant height(m)	Scion girth (cm)	Canopy Spread (m)		Canopy volume (m^3)
			EW	NS	
T_1	1.49	24.33	1.61	1.77	2.35
T_2	1.54	24.83	1.67	1.65	2.45
T_3	1.41	25.42	1.61	1.70	2.29
T_4	1.50	25.50	1.72	1.67	2.34
T_5	1.56	26.08	1.65	1.78	2.48
CD@5%	NS	NS	NS	NS	NS
SE(m)±	0.09	1.83	0.09	0.12	0.40
CV%	11.42	14.49	11.42	14.44	33.36
T_1: Control (750N: 350P_2O_5:400 g K_2O + 40 Kg FYM + 8 kg Neem cake /plant/year) + Inorganic plant protection. T_2: 100 % Vermicompost (On N-equivalent basis of RDF). T_3: 75 % Vermicompost (On N-equivalent basis of RDF) + *Trichoderma harzianum* (30 - 40 ml / plant) + Azadirachtin (1 % at 3 - 4 ml / litre as spray). T_4: T_3+ *Pseudomonas fluorescence* (30 - 40 ml / plant). T_5: 50 % Vermicompost (On N-equivalent basis of RDF) + *Trichoderma harzianum* (30 - 40 ml / plant) + Azadirachtin (1 % at 3 - 4 ml / litre as spray) + *Pseudomonas fluorescence* (30 - 40 ml / plant) + *Azotobacter chroococcum* (30 - 40 ml / plant).					

Native isolate counts were as follows

Azotobacter chroococcum: $6x10^6$ (cfu/ml)
Pseudomonas flourescens: $98x10^6$(cfu/ml)
Trichoderma harzianum: $12x10^6$(cfu/ml)

Identification of critical stage of water requirement in sweet orange

The irrigation schedules has influenced plant growth and yield of eight years old sweet orange cv. Sathgudi. The treatment T_4 with irrigation at 80-80-30-80-80-80% ER from stage I (Sep-Oct) to stage VI (July-Aug) recorded significantly more plant height (2.92 m) and maximum number of fruits (188 fruits/plant) and fruit yield (4.88 t/ha). Whereas, significantly

highest canopy volume was noticed in treatment T_5 with irrigation at 80-80-80-80-30-80 % ER from stage I (Sep-Oct) to stage VI (July-Aug). The best quality fruits (0.55% acidity and 13.17 ^{0} Brix) were noticed in treatment T_7 (80-80-80-80-80-80% ER) followed by treatment T_4 (0.54% acidity and 12.17 ^{0} Brix).

Standardization of stage wise water requirement in sweet orange

Stage wise water requirement has not influenced the growth and yield parameters of eight years old sweet orange at Tirupati (Table 10). However, highest plant height (2.78 m) was noticed in treatment T_2 (40-60-40-60-40-60% ER). Irrigation at 80% ER (T_4) for all the six stages has recorded maximum fruit yield (150 fruits/plant, 7.07 t/ha) with good quality parameters (Juice 42.75 %, TSS 12.5^o Brix with minimum acidity 0.63 %) and completely free from dry root rot incidence followed by treatment T_3 (60-80-60-80-60-80% ER). The reduction in irrigation from 80 % ER to 30 % ER during any stage resulted in reduction in yield.

Table-10: Effect of stage wise application of irrigation water on growth, yield and quality of sweet orange at Tirupati (2015-16)

Treatments	Plant height (m)	Scion girth (cm)	Canopy spread(m)		Canopy volume (m^3)	Fruits /tree	Fruit weight (g)	Fruit yield (kg/tree)	Fruit yield (t/ha)	% Dry root rot incidence
			EW	NS						
T_1	2.31	41.88	2.99	3.29	12.45	123.75	157.15	20.50	5.68	25.00
T_2	**2.78**	48.42	3.65	3.60	19.67	135.75	158.92	20.25	5.61	16.67
T_3	2.50	46.46	3.34	3.49	16.41	138.25	154.04	22.25	6.16	8.33
T_4	2.35	45.58	3.21	3.33	13.83	**149.75**	170.29	**25.50**	**7.07**	**0.00**
T_5	2.70	45.67	3.16	2.99	14.50	131.00	156.61	17.50	4.85	16.67
CD @ 5%	0.31	NS	NS	NS	NS	7.76	NS	2.03	0.56	--
SE(m)±	0.10	2.59	0.17	0.21	1.91	2.57	8.04	0.68	0.19	--
CV%	7.84	11.34	10.19	12.55	24.83	3.71	10.09	6.23	6.22	--
$T_1$30-40-30-40-30-40 % ER **T_2** 40-60-40-60-40-60% ER **T_3** 60-80-60-80-60-80% ER **T_4** 80-80-80-80-80-80 % ER **T_5**30-30-30-30-30-30% ER										

Studies on integrated nutrient and water management in Sweet orange

Interaction effect of irrigation and nutrition in 8 year old sweet orange plants (Table 12) has not influenced the plant growth significantly during third year after imposing treatments. Irrigation at 90 % ER and fertigation at 80 % RDF has given significantly more number of fruits (214 fruits /plant), fruit yield (9.98 t/ha) with high juice (44.07 %) and TSS content (13.47 ^{o} Brix) followed by irrigation at 70 % ER and fertigation at 70 % RDF (206 fruits/ plant, 9.14 t/ha fruit yield). Whereas, application of 80 % ER and fertigation with 70 % RDF recorded significantly highest fruit weight (188.12 g).

Table-12: Effect of irrigation schedule and fertigation on growth and yield of sweet orange at Tirupati (2015-16)

Treat Ments	Plant height (m)	Scion girth (cm)	Canopy spread(m)		Canopy volume (m^3)	Fruits/ tree	Fruit weight (g)	Fruit yield (kg/tree)	Fruit yield (t/ha)
			EW	NS					
T_1-I_1F_1	2.33	43.67	3.06	3.19	12.67	194.00	166.52	32.33	8.96

Treat Ments	Plant height (m)	Scion girth (cm)	Canopy spread(m)		Canopy volume (m^3)	Fruits/ tree	Fruit weight (g)	Fruit yield (kg/tree)	Fruit yield (t/ha)
			EW	NS					
T_2- I_1F_2	2.69	45.25	3.25	3.14	14.83	206.00	160.24	33.00	9.14
T_3- I_1F_3	2.26	42.42	3.11	3.14	12.18	172.67	167.98	29.00	8.03
T_4- I_2F_1	2.37	43.25	3.06	3.19	12.41	151.00	163.36	24.67	6.84
T_5- I_2F_2	2.45	45.25	3.22	3.39	14.45	170.33	**188.12**	32.00	8.86
T_6- I_2F_3	2.40	46.89	3.32	3.29	13.83	168.33	168.70	28.33	7.85
T_7- I_3F_1	2.61	49.44	3.62	3.67	19.01	194.33	168.10	32.67	9.05
T_8- I_3F_2	2.50	45.72	3.30	3.43	15.08	178.33	170.05	30.33	8.40
T_9- I_3F_3	2.39	44.50	3.19	3.24	13.12	**213.67**	168.62	**36.00**	**9.98**
CD@5%	NS	NS	NS	NS	NS	13.50	13.47	2.85	0.79
SE(m)±	0.10	2.67	0.15	0.16	1.68	4.5	4.49	0.95	0.26
CV%	6.99	0.24	7.78	8.34	20.53	4.26	4.60	5.32	5.32
I1, I2, I3= Drip Irrigation 70%, 80% and 90% ER						**F1, F2,F3= 60%, 70% and 80% RDF**			

SAPOTA

Horticultural Research Station, Venkataramannagudem

Studies on integrated nutrient management of sapota revealed that there were no significant differences in growth characters for all the treatments while, the plants receiving 10 kg vermicompost alone recorded maximum number of fruits (3127) and yield (267.47 kg and 26.75 t/ha). Maximum fruit weight was recorded in plants receiving 40 kg FYM alone. Pooled data analysis for the past three years (2013-16) revealed that higher number of fruits per tree, yield per tree and yield per ha were recorded in trees applied with 40 kg FYM + 500g N/plant (T_4) and 10 kg vermicompost + 500g N/ plant (T_9).

Fertigation studies on sapota revealed that highest fruit number (2171.15) and yield (212.98 kg/tree and 21.3 t/ha) was recorded in plants receiving 100 % recommended dose of N & K_2O ie 400g N +450g K through fertigation and P_2O_5 @ 200 g plant $year^{-1}$ through soil application. Pooled data analysis for the past three years (2013-16) revealed that higher fruit number (1422.05), yield/tree (116.59 kg) and yield/ha (11.65 t/ha) were recorded in trees given 100 % RDF (400g N+450g K through fertigation and P_2O_5 @ 200 g plant $year^{-1}$ through soil application).

Residual and cumulative effect of nutrients in sapota showed that the highest plant height was recorded (3.79 m) in T_3 treatment (Application of 1/12 RDF for 1 to 12 years + Application 60% of RDF after 12/10/8 years) and canopy volume (43.78 m^3) in T_8 treatment (Application of 1/8 of RDF for 1 to 8 years+ Application of 80% of RDF after 12/10/8 years).

Studies on stagewise supply of nutrients revealed that canopy volume was significantly higher in plants receiving 100 % RDF, 50 % N, 100 % P_2O_5 and 40 % K_2O during June, 25 % N and 30 % K_20 during August remaining 25 %N and 30 % K_2O during October application (T_2 treatment). Similarly, Plants receiving 100 % RDF, 25 % N, 100 % P_2O_5 and 25 % K_2O during June, 50 % N and 50 % K_20 during August, remaining 25 % N and 25 % K_2O during October application recorded maximum number of fruits (2380.89) and yield (227.35 Kg and 22.73 t/ha). Pooled data analysis of three years (2013-16) revealed that non significant differences for number of fruits/tree and average weight of the fruit were observed among the treatments.

However, trees receiving 100 % RDF, (25 % N,100 % P_2O_5 & 25% K_2O during June, 50 % N and 50 % K_20 during August remaining 25 % N and 25 % K_2O during October application) recorded an yield of 137.11 Kg/tree and 13.71 t/ha.

POMEGRANATE

Horticultural Research Stations, Ananthapuramu

Effect of different nitrogen and water regimes on nitrogen use efficiency and water saving in pomegranate cv. Bhagwa

The effect of water regimes, nitrogen levels and their interaction effects on growth parameters of pomegranate cv. Bhagwa were found non-significant. Highest plant height and plant spread were recorded in control (2.10 m and 1.83 m EW – 1.95 m NS) followed by 0.2 CPE at 75 % of RDN (2.06 m and 1.83 m EW – 1.82 m NS) respectively. Number of stems per plant was more at 0.3 CPE at 75 % of RDN (5.22) followed by 0.1 CPE at 50 % of RDN (5.11).

The effect of water regimes and nitrogen levels on number of maketable fruits per plant and yield per plant were found significant. Highest number of fruits per plant was recorded in control (58.33) followed by 0.1 CPE (47.56). Fruit yield per plant was more in control (10.82 kg) followed by 0.1 CPE (9.38 kg). Maximum NUE (kg fruit yield /kg N applied) was recorded in control (8.61) followed by 0.1 CPE (6.30).

Month-wise quantity of water applied to pomegranate at different water regimes

S. No.	Month & year	Quantity of water applied (litres)		
		0.1 CPE	0.2 CPE	0.3 CPE
1.	September, 2015	237.0	474.1	711.1
2.	October, 2015	320.3	640.6	961.0
3.	November, 2015	262.4	524.8	787.2
4.	December, 2015	393.8	787.6	1181.4
5.	January, 2016	388.5	777.0	1165.4
6.	February, 2016	433.0	865.9	1298.9
	TOTAL:	**2034.9**	**4070.0**	**6105.0**

Table-15: Effect of different water regimes and Nitrogen levels on growth and yield parameters of pomegranate (cv. Bhagwa) during 2015

Treatments		Growth Parameters				No. of fruits/ plant	Yield per plant	NUE* (kg fruit yield/kg N applied)
CPE[y]	% of RDN[z]	Plant height (m)	Plant spread (m)		No. of stems			
			North-South	East-West				
0.1	100	1.86	1.48	1.52	4.67	47.56	9.38	6.30
	75	1.70	1.46	1.54	3.67	42.89	8.32	4.61
	50	1.98	1.68	1.70	5.11	42.22	8.09	4.24
0.2	100	1.79	1.65	1.73	4.22	37.33	7.22	2.85
	75	2.06	1.83	1.82	4.78	31.33	5.93	0.79
	50	1.78	1.58	1.58	3.56	35.56	6.73	2.07
0.3	100	1.85	1.66	1.72	4.33	33.89	6.48	1.66
	75	1.98	1.73	1.78	5.22	38.44	7.14	2.73
	50	1.64	1.58	1.62	4.33	30.56	5.63	0.31

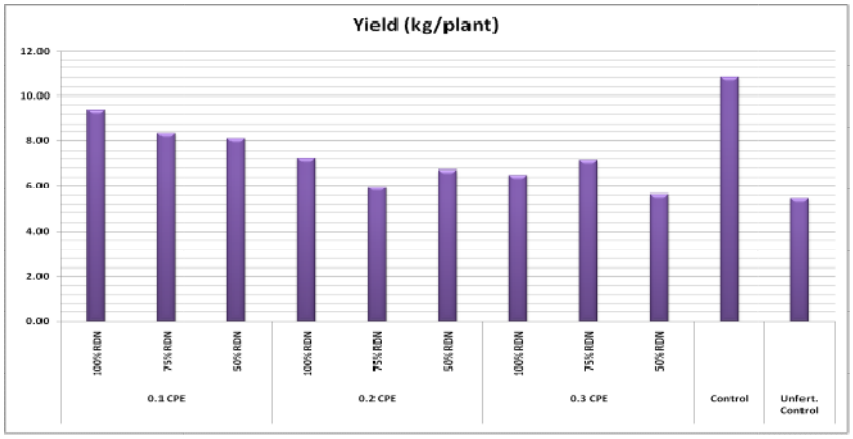
Control		2.10	1.83	1.95	4.33	58.33	10.82	8.61
Unfertilized (N) control		1.86	1.46	1.59	4.56	30.67	5.44	0.0
CPE	S.E (m)	1.49	1.39	1.15	0.97	1.42	0.26	
	CD	NS	NS	NS	NS	4.13*	0.77**	
% of RDN	S.E (m)	1.72	1.60	1.37	1.12	1.84	0.34	
	CD	NS	NS	NS	NS	5.33***	0.99***	
Interaction	S.E (m)	2.97	2.78	2.3	1.94	3.19	0.59	
	CD	NS	NS	NS	NS	NS	NS	

[y] Irrigation regimes based on Cumulative Pan Evaporation

[z] RDN indicates Recommended Dose of Nitrogen (625 g/plant)

NS indicates non-significant

* NUE is Nitrogen Use Efficiency (NUE=(Yield of fertilizers-Yield of unfertilized plants)/kg of N applied



Effect of different mulching material on growth and yield of pomegranate (Cv. Bhagwa)

The data presented in Table-16 indicated that the treatment differences were significant for all the growth and yield characters. The maximum plant height was recorded in T_3 (100 microns polythene mulch-black colour) (1.30 m) closely followed by T_2 (100 microns polythene mulch-silver colour) (1.29 m). Whereas, number of branches per plant (3.69) and plant spread (1.28 m EW – 1.14 m NS) were high in T_2 (100 microns polythene mulch-silver colour). The weed density was lowest (5.48 plant/m^2) in T_4 (organic mulch -groundnut shells) which was on par with T_3 (100 microns polythene mulch-silver colour) (6.65 plant/m^2) and T_2 (100 microns polythene mulch-silver colour) (6.55 plant/m^2). Number of fruits per plant (41.76) and yield per plant (9.03 kg) were found maximum in T_1 (200 microns woven polypropylene ground cover) which was on par with T_4 (Organic mulch - groundnut shells) (41.35 fruits per plant and 8.71 kg per plant). In general B-grade fruits were more in number than A-grade fruits. However, in T_4 and T_1, A & B-grade fruits were almost equal in number. The Cost : Benefit ratio was high in T_4 (1:2.39) followed by T_1 (1:1.93).

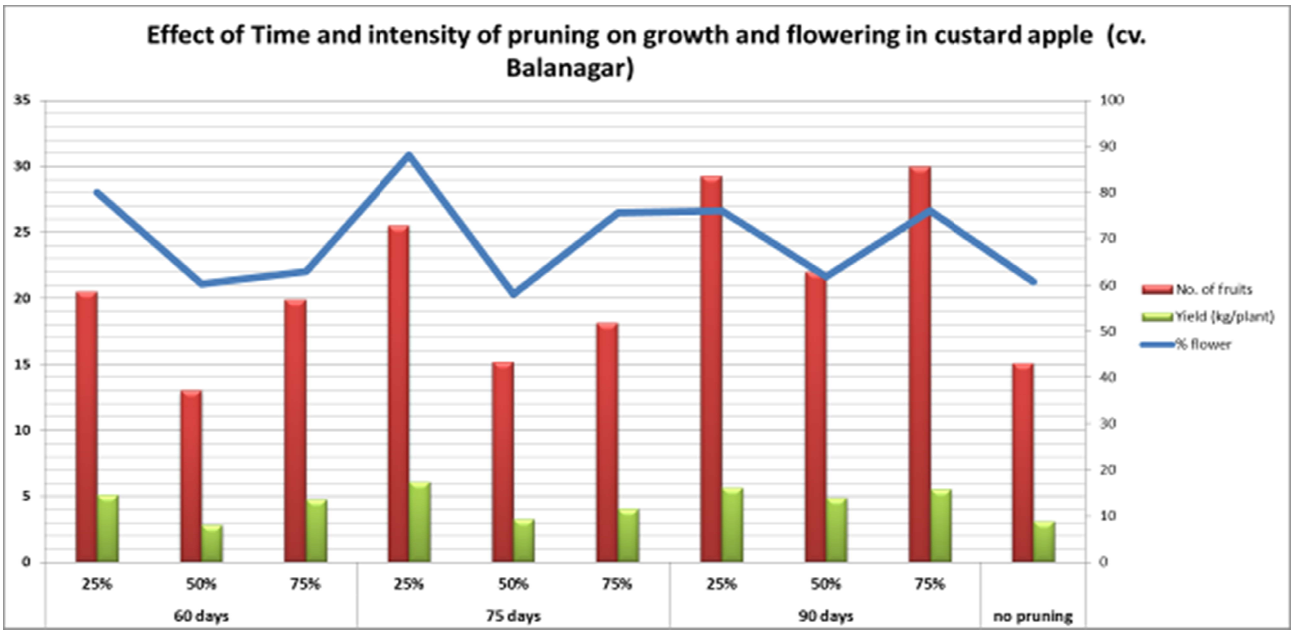
CUSTARD APPLE

Horticultural Research Stations, Ananthapuramu

Standardization of pruning technology in custard apple cv. Balanagar

The results of the experiment revealed that pruning time, intensity and their interaction showed non-significant effect for plant spread, stem girth, number of branches per plant and number of fruits per plant whereas, significant effect was found for number of shoots, number of flowered shoots and fruit yield per plant. Pruning intensity significantly affected per cent flowered shoots and plant height (Table-17).

Significantly higher number of shoots and flowered shoots were recorded with 25 % pruning intensity at 75 days after harvest of crop (5.47 and 4.83) followed by 75 % pruning intensity at 75 days after harvest of crop (5.32 and 4.02). The per cent flowered shoots was also high (88.25) with 25 % pruning intensity at 75 days after harvest of crop. With regard to fruit yield, significantly highest fruit yield (6.09 kg plant^{-1}) was recorded with 25 % pruning intensity at 75 days after harvest of crop followed by 25 % pruning intensity at 90 days after harvest of crop (5.61 kg plant^{-1}).



Flowering on new shoots emerged from pruned branches

Flowering On New Shoots Emerged From Pruned Branches

BANANA

Horticultural Research Station, Kovvur

Standardization of organic nutrient schedule in banana cv. Grand Naine

Among all the treatments, inorganic treatment T_{11} has recorded maximum fingers/bunch (133.33), bunch weight (16.50 kg) and yield (45.83 t/ha) which was on par with organic treatments T_7 (AM @ 25 g/plant, Azospirillum, @ 50 g/plant, PSB @50 g/plant and *T. harzianum* @ 50 g/plant) and T_{10} (NPK @ 200:87.5:200 g/plant + triple green manuring with sunhemp for saline soils & dhaincha for acidic soils, cowpea as intercrop + AM @ 25 g/plant, *Azospirillum* @ 50 g/plant, PSB @ 50 g/plant and *T. harzianum* @50g/plant). However, organic treatment T_6 (Triple green manuring) recorded highest B: C ratio (4.10:1) than inorganic treatment (300g N + 100g P_2O_5 + 300g K_2O per plant as inorganic). Regarding quality parameters, organic treatment T_7 (Bio-fertilizers- AM @25g/plant, Azospirillum, @50g/plant, PSB @50g/plant and *T. harzianum* @50 g/plant) recorded maximum TSS (21.0 ^oBrix) and it was on par with T_4 (300 g N, 131.25 g P, 300 g K), T_9 (200 g N, 87.5 g P_2O_5, 200 g K_2O per plant + Biofertilizers) and T_{11} (300g N + 100g P_2O_5 + 300g K_2O per plant as inorganic) treatments.

Precision farming in banana

Early shooting (160.83 days) and harvest (250.15 days) was recorded in treatment T_1 (Drip irrigation + Fertigation (Based on STCR equations developed at NRCB-75 % of worked out NPK) with 80 % ER + Micro nutrient foliar spray (Banana Shakti-formulated by NRCB-2 % spray at 4, 5 and 6 MAP) + Bunch spray of SOP (2 %) + Polythene mulching) compared to control i.e., T_5 (soil application of region specific RDF + Flood irrigation). Whereas, maximum fingers/bunch (143.13), bunch weight (23.22 kg) and yield/ha (61.52t) were recorded in T_1 which is on par with T_2 (Drip irrigation + Fertigation (Based on STCR equations developed at NRCB-75 % of worked out NPK) with 80 % ER + Micro nutrient foliar spray (Banana Shakti-formulated by NRCB-2 % spray at 4, 5 and 6 MAP) + Bunch spray of SOP (2 %).

However, T_4 treatment (Drip irrigation + Fertigation (Based on STCR equations developed at NRCB-75 % of worked out NPK) with 80% ER + Bunch spray of SOP (2 %) recorded highest B: C ratio (1.64:1) followed by T_2 (1.63:1).

Influence of crop cycle and age of sucker on productivity of tissue culture banana cv.Grand Naine (Ratoon crop)

Tissue culture plants raised from different age of suckers (1, 2, 3, 4, 5 and 6 months old) of crop cycles (Plant or ratoon crop) were evaluated under field conditions. Tissue culture plants developed by the explant collected from 3rd month old sucker of plant crop recorded maximum hands/bunch, 2nd hand fruits, total fruits, bunch weight and yield/ha (50.27 tonnes).

Assessment of post harvest losses in banana

The post-harvest losses in banana at different levels *viz*., Farm level, Market level, Storage and ripening level and Retailing level were 9.19 %, 9.66 %, 9.15 %, and 15.94 % respectively. The cumulative PHL of banana at all the four levels in East and West Godavari districts of Andhra Pradesh was 43.94 %.

Standardization of potting media for bio-hardening of invitro banana plantlets cv Tellachekkerakeli.

Among growth parameters, plant height, number of photosynthetically active leaves, leaf length and leaf width were maximum in P_6 treatment (Red soil: coir pith: FYM (1:1:1) + Azotobacter, PSB &VAM). Whereas pseudostem girth, number of photosynthetically active leaves, number of primary roots and fresh weight of root mass were maximum in P_8 treatment (Red soil: coir pith: FYM (1:2:1) + Azotobacter, PSB &VAM). Percent survival was more in P_6 treatment (Red soil: coir pith: FYM (1:1:1) +Azotobacter, PSB &VAM) which was on par with P_8, P_4 (Red soil: coir pith: FYM (1:2:1)) and P_1 (Red soil: sand: FYM (1:1:1).

GUAVA

Horticultural Research Station, Darsi

During 2015-16, highest fruit yield was recorded in H_2 M_3 (Plant height is 150 cm and pruning of 50 % current growth in the month of June and November) (21.84 t/ha and 18.20 kg/plant) followed by H_2 M_1 (Plant height is 150 cm and pruning of 50 % current growth in the month of May) (19.58 t/ha & 16.31 kg/plant) and lowest yield was observed in control (2.50 t/ha & 11.50 kg/plant).

ACID LIME

Citrus Research Station, Tirupati

Effect of different spacing and nutrient levels on plant growth of acid lime cv. Balaji

Among individual effects, spacing has significantly influenced the plant growth and fruit yield in four year old acid lime cv. Balaji (Table 18). The interaction effect of spacing and nutrition, indicated that the treatment 6x6 m spacing with 50% RDF (750g N: 300.5g P_2 O_5: 300 g K_2 O/plant/year) has recorded significantly highest stem girth (28.42cm) and canopy volume (4.94 m^3) followed by control treatment 6x6 m spacing with 100 % RDF (1500g N: 600g P_2 O_5: 600 g K_2 O/plant/year). However, highest plant height (1.90m) was recorded with 6x6m spacing and 75 % RDF (1125g N: 450.5g P_2 O_5: 450 g K_2 O/plant/year).

Standardization of stage wise water requirement in acid lime

Stage wise water application on 6 year old trees of acid lime seedlings (Balaji), has significantly influenced fruit yield parameters. Maximum number of fruits (696 fruits/plant) and fruit yield (9.22 t/ha) and maximum acidity (6.95 %) were noticed in treatment T_2 (40-60-40-60-40-60 % ER) followed by treatment T_4 (80 % ER at all the stages). Highest fruit juice (53.25 %) and medium acidity (6.95 %) were recorded in treatment T_4 (80% ER at all the stages) followed by treatment T_3 (60-80-60-80-60-80% ER). The irrigation treatment T_5 (30-30-30-30-30-30 PER) from stage I to VI respectively has recorded minimum growth parameters.

FLOWERS

GLADIOLUS

Horticultural Research Station, Anantharajupeta

Effect of planting time and chemicals on growth, flowering and yield of gladiolus cv. Arka Amar

Highest plant height (60.49 cm), maximum spike length (75.59 cm) and more number of leaves per plant (8.67), more number of florets per spike (15.89) and more number of spikes per plant (3.0) were observed in P1 C3 i.e treating the corms with GA_3 @ 150 ppm and planted during 20th October, 2015. More number of corms (1.81), highest corm weight (60.20 g), more number of cormels (5.15) and more weight of cormels per plant (7.08 g) was observed in P1 C3 *i.e* treating the corms with GA_3 @ 150 ppm and planted during 20th October, 2015. The same trend was observed in 2014-15 with the gladiolus cultivar Urmi.

TUBER CROPS

Elephant foot yam

Horticultural Research Station, Kovvur

Phenology of elephant foot yam in relation to climate change

Under phenology of elephant foot yam cv. Gajendra and local cultivar, Gajendra has sprouted 5 days earlier as compared to local cultivar. Also it has taken less number of days (50) for tuber initiation when compared to local cultivar. As the growth proceeded pseudostem girth, leaf area index, yield per plant and yield per hectare were maximum in Gajendra.

Phenology of greater yam in relation to climate change

In greater yam, local cultivar sprouted 4 days early compared to Sreekeerthi. Yield and yield attributing characters were higher in local cultivar than Sreekeerthi.

Intercropping in greater yam

Among all the treatments, T_8 (Greater yam sole (90 cm x 90 cm) staking individual plants) has recorded the highest yield (33.14 t ha^{-1}) when compared to all the other treatments after converting into yam equivalent yields followed by T_6 (Greater yam + Maize (1:3) additive). However, considering the benefit cost ratio, it can be concluded that T_6 (Greater yam + Maize (1:3) additive) was found to be beneficial with more benefit cost ratio. Hence growing of maize as intercrop in greater yam for staking purpose will be profitable than growing of yams by staking with bamboo poles.

CASSAVA

Horticultural Research Station, Venkataramannagudem

Studies on pheonology of cassava (cv. Vijaya and H-226) in relation to climate change were conducted at Venkataramannagudem. Tuber data at monthly intervals and vegetative data at bimonthly intervals were recorded. Tuber initiation in Sree Vijaya and H-226 was observed at 46

days after 50 % sprouting. Growth of Sree Vijaya at initial months was rapid when compared to H-226. Maximum tuber weight was accumulated in 4th and 5th month after tuber initiation in both the cases.

In micronutrient studies on cassava maximum tuber yield per hectare was recorded in T_7 (30.2 t/ha) which was on par with T_6 (29.0 t/ha) followed by T_1 (26.1 t/ha). Highest starch content was observed in T_7 (28.6 %) which was on par with T_5 (27.5 %) followed by T_3 (26.7 %).

VEGETABLES

ONION

Horticultural Research Station, Mahanandi

Effect of different herbicides on growth and yield of onion cv. Agrifound Light Red

Among different herbicides sprays and hand weeding practices at 20, 40 and 60 DAT, hand weeding practice at 20, 40 and 60 DAT recorded more plant height (42.15 cm), polar (5.34 cm) and equatorial diameter (7.48 cm), more fresh weight of bulb (85.00 g), less weed density (49.00 per m^2), more yield (23.60 t/ha), more TSS (12.41 %) and highest cost benefit ratio (2.07) followed by herbicidal treatment combinations of Oxyfluorfen Ethyl @ 0.25 kg a.i. ha^{-1}(PE) + Quizalofop Ethyl @ 50 g a.i.ha^{-1} (POE) at 20 DAT + Propoquizafop @ 62.5 g a.i.ha^{-1} (POE) at 40 DAT + HW at 60 DAT whuch recorded a plant height of 40.15 cm, equatorial diameter of 7.12 cm, fresh weight of bulb of 71.34 g, less weed density of 53.33 No/m^2, yield of 22.00 t/ha, TSS of 12.20 ^{0} Brix and Cost Benefit Ratio of 2.61.

Effect of spacing and fertilizer dose on growth and yield of onion cv. Agrifound Rose

Among the different fertilizer doses and spacing, 87.5 kg N + 100 kg P + 100 kg K ha^{-1} with a spacing of 20 cm X 7.5 cm recorded more plant height (42.53 cm), polar diameter of the bulb (2.55 cm), equatorial diameter of the bulb (5.91 cm), fresh weight of the bulb (32.20 g), dry weight of the bulb (25.76 g), more plot yield (12.32 kg.), more marketable yield (10.27 t/ha) and TSS (12.76 ^{0}Brix) followed by fertilizer dose of 150 kg N + 80 kg P + 80 kg K ha^{-1} with a spacing of 25 cm X 10 cm which recorded a yield of 10.25 t/ha.

Horticultural College and Research Institute, Anantharajupeta

Testing the suitability of onion varieties for early and late kharif seasons

From the study, it was observed that though the growth of Agrifound Dark Red was significantly high, the bulb yield was maximum in Arka Kirthiman (26.78 t/ha) sown during second fortnight of June. But in late kharif it was found that Agrifound Dark Red sown during second fortnight of August produced significantly maximum crop growth as well as yield (23.37 t/ha). It was also observed that maximum TSS was recorded in Agrifound Dark Red (13.05°brix) when sown during both seasons.

CAPSICUM

Horticultural Research Station, Pandirimamidi

Studies on the effect of training on capsicum for higher yields under polyhouse conditions

Among the treatments plant height was highest (185 cm) in T_5 (four branches with a spacing of 60 cm between rows and 50 cm within the row) and lowest (149 cm) in T_6 (four branches with a spacing of 60 cm between rows and 40 cm within the row) which were significantly different. Fruit yield was highest (2.9 kg/plant) in T_5 followed by T_1 (2.3 kg/plnat) and lowest (1.5 kg/plant) in T_6.

SPICES

TURMERIC

Horticultural Research Station, Pandirimamidi

Effect of manures on growth and yield of turmeric in the agency areas of East Godavari district

Among the treatments, plant height was highest (106 cm) in sheep manure (T_3) and also FYM (T_1). Number of tillers per plant was highest (2.8) in (T_1) followed by (2.3) in (T_6) treatment and lowest (1.4) in (T_7). Highest (1367 g) yield per plant was recorded in (T_6) followed by (T_1) (1267 g) and lowest (800 g) in (T_8). Highest (29.3 kg) yield per plot was recorded in (T_6) followed by (T_1) (26.8 kg) and lowest (15.0 kg) in (T_8).

CHILLIES

Horticultural Research Station, Lam

Chilli seeds treated with Carbendazim @ 2g/kg seed + Imidacloprid @ 2 ml/kg seed + Diammonium phosphate @ 30 g/Kg seed+ Micronutrient mixture @ 20 g/kg seed recorded highest germination (79.3 %), root length (5.5cm), shoot length (98 cm) and seedling vigour index (1210).

Pendimethalin as pre-emergence spray @ 0.75 a.i/ha + Pendimethalin as soil application at 25 and 50 DAS recorded significantly highest yield (3255 kg/ha) with highest weed control efficiency (82.79 %) and Weed Index (32.8 %).

In INM of chilli, maximum yield (125.2 q/ha) was recorded in the treatment with 75% RDF+25 % NPK as Biofertilizers (Azospirillum+PSB+K solubilizing bacteria each @ 2kg/acre) + *Trichoderma viride* @ 2 kg/acre + *Mycorrhiza* (VAM) @ 5kg/acre as basal application followed by 75% RDF + 25% NPK as biofertilizers (*Azospirillum* + PSB + K solubilizing bacteria each @ 2kg /acre) as basal application.

In IWM of chilli, the treatment mulching with black polythene sheet was found to be effective in terms of yield (104 q/ha), number of fruits (162.30), number of seeds per pod (86.40) and seed yield (97.40 gm) followed by treatment with straw mulch.

PLANTATION CROPS

CASHEW

Cashew Research Station, Bapatla

Intercropping in cashew

Among the different intercrops studied during the initial years of cashew the treatment T_1 (Cashew + Marigold) recorded higher net profit of Rs. 76,265/- with B:C ratio of 1.62.

Varietal screening of cashew apple for preparation of RTS and JAM

The organoleptic evaluation of RTS of different varieties of cashew apple showed higher scores for cashew variety BPP-8 with respect to colour, flavour, appearance, sweetness and overall acceptability

OIL PALM

Horticultural Research Station, Vijayarai

Inter cropping of vegetables in young oil palm

Results achieved so far

Among the four vegetables grown as inter crops in two year old oil palm, ridge gourd recorded an average yield of 6.67 t ha^{-1} with B:C ratio of 3.35, bottle gourd recorded an average yield of 21 t ha^{-1} with B:C ratio of 4.42, bitter gourd recorded an average yield of 4.86 t ha^{-1} with B:C ratio of 3.36, cucumber recorded an average yield of 4.70 t ha^{-1} with B:C ratio of 2.35

PALMYRAH

Horticultural Research Station, Pandirimamidi

Phllotaxy studies in palmyrah with emphasis on sex determination of palms based on leaf whorl arrangement

In both the age groups of palmyrah, the leaves are produced one after another and this leaf arrangement is termed as alternate. All the palms displayed spiral phyllotaxy i. e., two consecutive leaves are placed on the stem at different heights with an angular deflection of less than 180 degrees. Palms with alternate phyllotaxy produced five leaves before completing two complete revolutions. This system is referred to as 2/5 phyllotaxis. The angle of deflection for any two consecutive leaves studied in different age grousp of palmyrah palms is less than 180 degrees and measured approximately between 138 to 142 degrees. Starting from one leaf the sixth leaf reaches a position almost above the first leaf after two complete rounds of the stem. The leaves are so arranged on the crown that each leaf gets the maximum amount of light. It is known as Fibonacci phyllotaxis which gives optimum illumination to the photosynthetic surface of the plants since the leaves overlap least.

Studies on use of growth inhibiting substances for induction of early flowering in Palmyrah (*Borassus flabellifer L.)* through dwarfening mechanism.

The existing on farm trees of four, six and eight years old were selected and the three chemicals namely Chlormequat chloride, Mepiquat chloride and Triacontanol were given to the selected plants by pouring on the apical bud as well as by root feeding according to the treatmental requirements. The application of chemicals was done at three months interval. Data on all biometrical observations were recorded before starting the application of chemicals. After two years from the initiation of the project, observations on different growth and yield related parameters will be recorded and results will be presented.

POST HARVEST TECHNOLOGY

FRUITS

CITRUS

Post Harvest Technology Research Station, Venkataramannagudem

Effect of post harvest treatments with plant growth regulators with different packing material on shelf life of acid lime (*Citrus aurantifolia* Swingle).

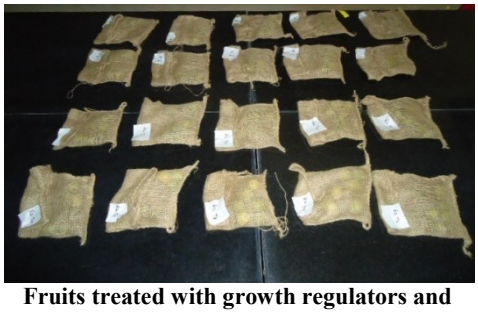
The three growth regulators namely GA_3 at 100, 200 and 300 ppm, BA at 50, 100 and 200 ppm and Cytokinin at 10, 20 and 30 ppm concentrations were applied at full maturity stage of lime and stored in packing material namely LDPE bags, Gunny bags and Poly net bags at room temperature.

Among different treatments, the lowest physiological loss of weight of 22.44 % was recorded in the fruits treated with BA @ 200 ppm followed by BA @ 100 ppm (23.69 %) where as the maximum shelf life of fruits 17.83 days and juice content of 53.17 % was recorded in fruits treated with BA @ 200 ppm . However, the LDPE bags showed less PLW, highest juice content and long shelf life of fruits when compared to other methods of packing.

The maximum acidity of 7.27 % and fruit colour score of 2.45 was recorded in limes treated with BA @ 200 ppm followed by BA @ 100 ppm (7.04 %) and (3.02) respectively where as the minimum 6.75 º Brix of Total Soluble Solids was recorded. Among the different packing materials the LDPE bags showed better results when compared to other methods of packing.

The percentage of spoilage was less in fruits treated with BA @ 200 ppm (27.78 %) followed by BA @ 100 ppm treatment where as the disease occurrence was more in acid lime fruits packed in LDPE bags but in other packings the fruits mutilated and dried and turn to brown at very early days after treatment in storage.

Fruits treated with growth regulators and stored in LDPE bags



Fruits treated with growth regulators and stored in gunny cloth bags

Fruits treated with BA 200 ppm stored in LDPE bags

Citrus Research Station, Petlur

Post harvest lossess in acid lime and its management.

The survey results during 2015-16 revealed that the post harvest losses were more at retail level (12.5 % to 29.5 %). Among different post harvest diseases, sour rot was the major disease recorded upto 23.5 % at retail level. The losses were more in December and January harvested fruits. Boric acid (1 %) treated fruits recorded the low incidence of sour rot (10.25 %) and black mold rot (23.97 %) and next best chemicals were sodium salicylate (1 %) and EDTA (1 %).

MANGO

Post Harvest Technology Research Station, Venkataramannagudem

Effect of chitosan and packaging on shelf life and quality of mango(*Mangifera indica* L.)

An observational trial was conducted to increase the shelf life of mango with chitosan treatment @ 0.5 % to 5% and wrapping with polyethylene. The treatment of Chitosan @1.5% + Polyethylene wrapping recorded highest shelf life of 16 days at ambient temperature and 28 days at cold storage conditions without any change in the quality of fruits.

Ambient condition

T3= Chitosan 1.5%+ Polyethylene wrapping

T8= control

T3= Chitosan 1.5%+ Polyethylene wrapping

T8= control

Study on the preparation of mango leather by using "EZIDRY" equipment for its quality and shelf life with certain non-commercial varieties of Mango (*Mangifera indica* L.)

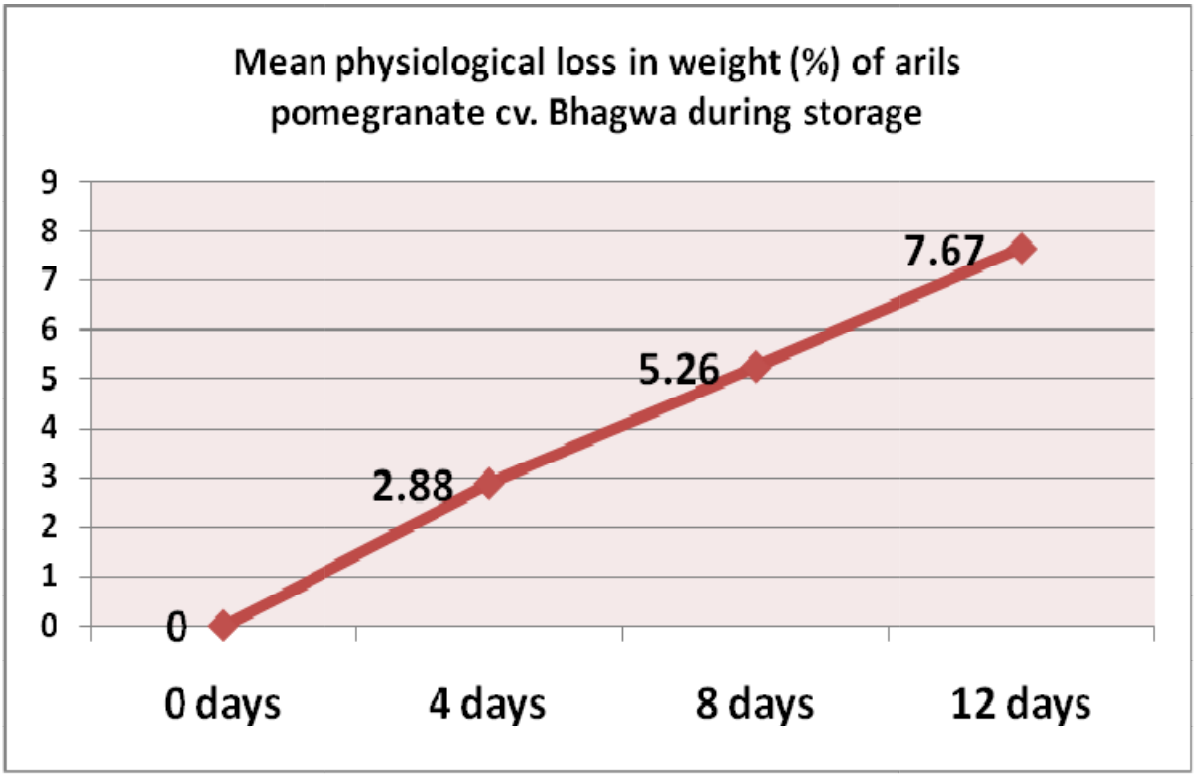
An observation trial was conducted on the quality and product recovery of mango leather with eight non-commercial varieties of mango and the highest product recovery (%) was recorded in Hyder (39.24 %) followed by Kothapalli kobbari variety (32.29 %) by using EZIDRY equipment.

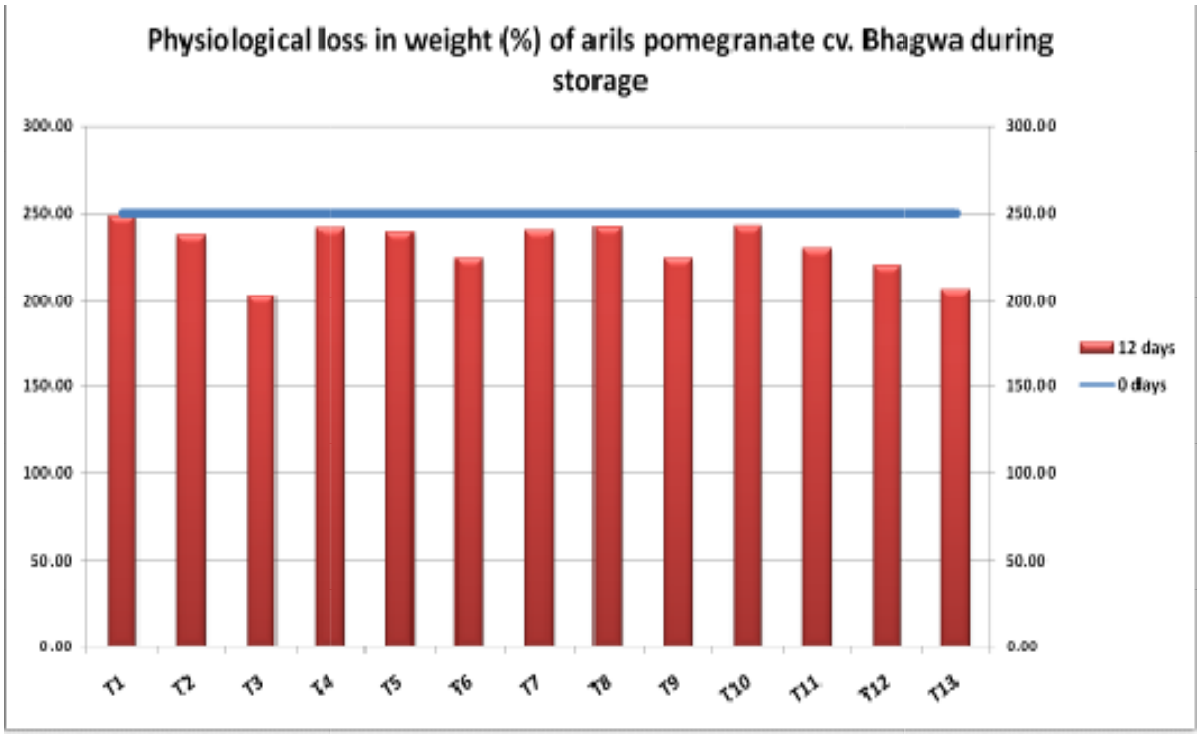
POMEGRANATE

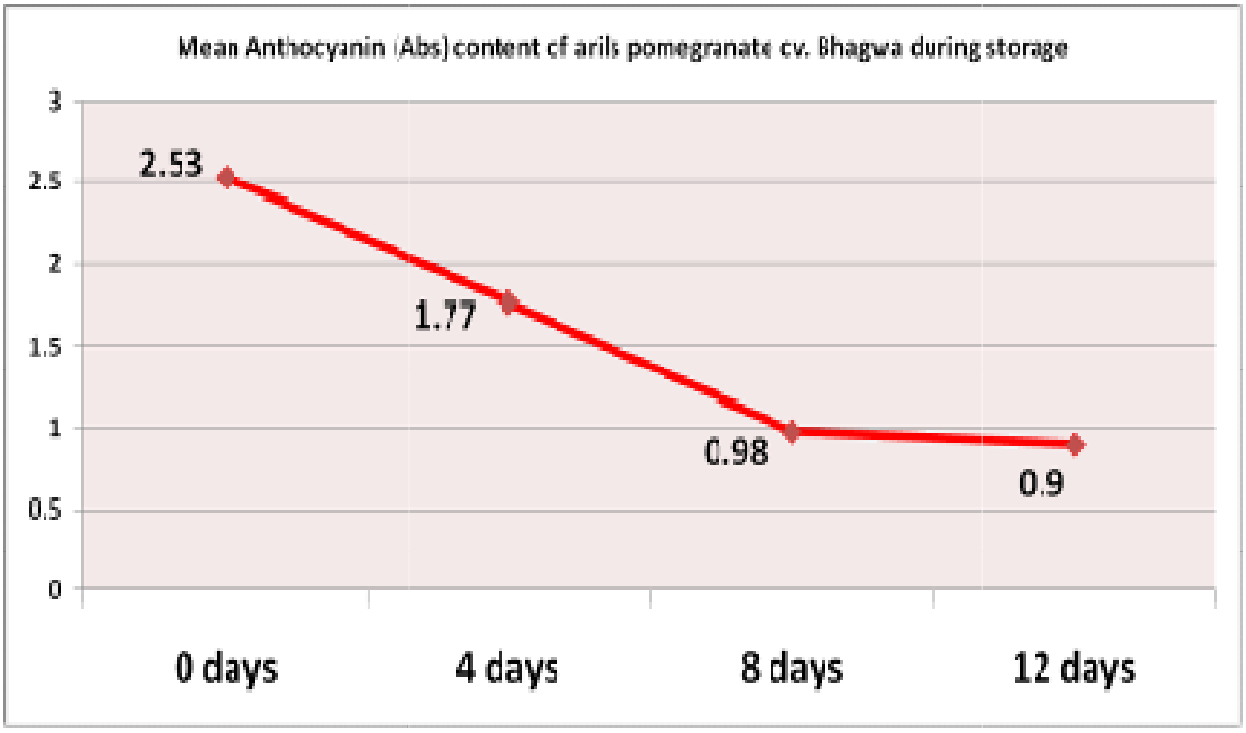
Horticultural Research Station, Anantapuramu

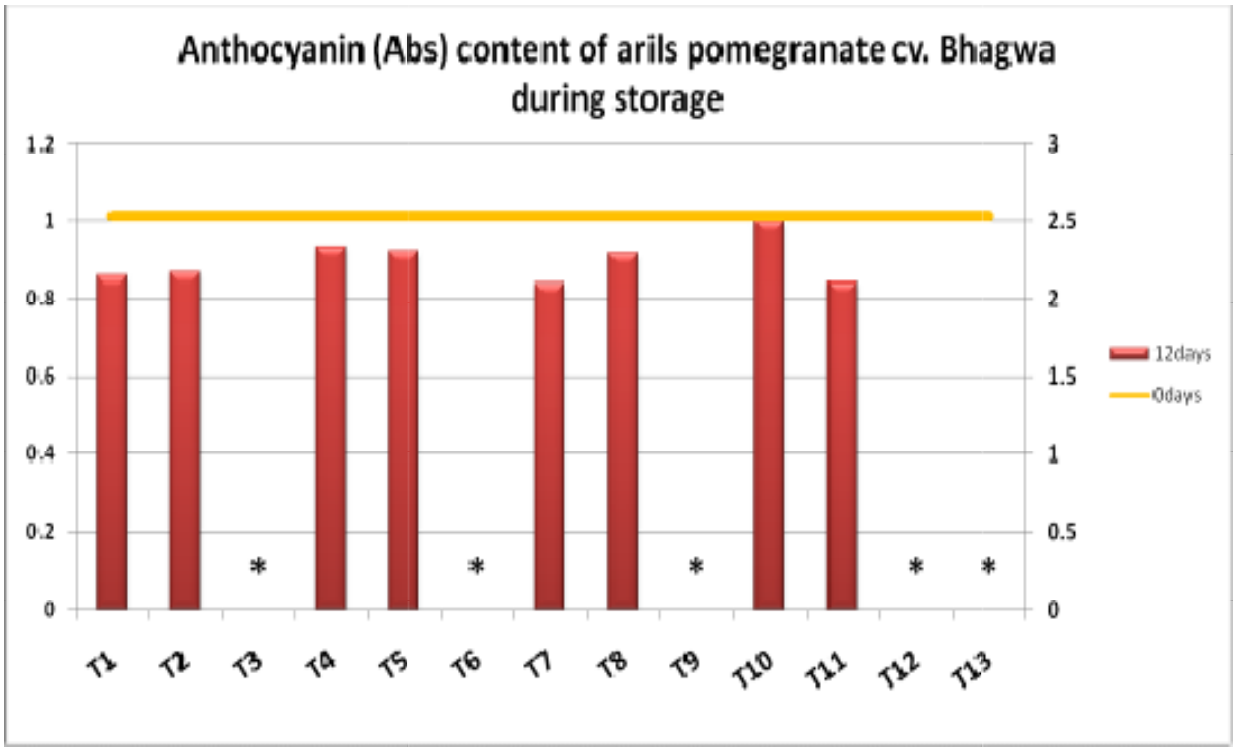
Effect of different packaging methods and storage temperatures on shelf life of pomegranate arils

Effect of different packaging material and storage temperatures on shelf life of pomegranate arils was studied during 2015. The results of the study revealed that the physiological loss in weight of arils was minimum (0.66 %) when arils were packed in polythene standing pouches (400 gauge) with 1 % vent and stored at 0°C which was followed by pouches with 5 % vent and stored at 0°C (2.90 %) and punnets with 1 % vent and stored at 7-8°C (3.11 %) during 12 days of storage period. TSS of arils decreased during storage. whereas, pH of arils slightly increased during storage. Titratable acidity and anthocyanin (Abs) content decreased during storage. The fungal count was more in stored arils than bacterial count. The overall acceptability of arils was highest in treatments where arils were packed in pouches with 1% vent and stored at 7-8°C.


Mean physiological loss in weight (%) of arils pomegranate cv. Bhagwa during storage
9
8
7
6
5
4
3
2
1
0
0
2.88
5.26
7.67
0 days
4 days
8 days
12 days


Physiological loss in weight (%) of arils pomegranate cv. Bhagwa during storage
300.00
250.00
200.00
150.00
100.00
50.00
0.00
T1
T2
T3
T4
T5
T6
T7
T8
T9
T10
T11
T12
T13
12 days
0 days


Mean Anthocyanin (Abs) content of arils pomegranate cv. Bhagwa during storage
3
2.5
2
1.5
1
0.5
0
2.53
1.77
0.98
0.9
0 days
4 days
8 days
12 days


Anthocyanin (Abs) content of arils pomegranate cv. Bhagwa during storage
1.2
1
0.8
0.6
0.4
0.2
0
3
2.5
2
1.5
1
0.5
0
12days
0days
T1
T2
T3
T4
T5
T6
T7
T8
T9
T10
T11
T12
T13

Significant differences were observed among treatments for bacterial count during storage of pomegranate arils. The bacterial count increased in stored arils as the period of storage increased. On 4th day, arils were almost free from bacterial contamination when packed in both pouches and punnets with 1% and 5% vent and kept at 0°C. Initial bacterial count on 4th day was maximum in T_{13} (Control) – 2.17 X 10^8 CFU/ml which was on par with T_{12} (punnets with 5% vent at room temperature) – 1.59 X 10^8 CFU/ml. By 8th day, bacterial contamination was observed in all the treatments. Maximum count was recorded in T_{13} (2.95 X 10^8 CFU/ml) and T_{12} (2.88X 10^8 CFU/ml) whereas, minimum contamination was recorded in T_1 (pouches with 1% vent at 0°C) – 0.08 X 10^8 CFU/ml and T_2 (pouches with 1% vent at 7-8°C) and T_4 (pouches with 5% vent at 0°C) – 0.13 X 10^8 CFU/ml). On final day (12 days), the arils stored in T_3 and T_6 pouches (1% and 5% vent) and punnets in T_9 and T_{12} (1% and 5% vent) and kept at room temperature were highly contaminated with bacteria besides control (T_{13}). The minimum contamination was observed in T_1 (pouch with 1% vent at 0°C) – 0.27 X 10^8 CFU/ml and T_2 (pouch with 1% vent at 7-8°C) – 0.33 X 10^8 CFU/ml.

Significant differences were observed among treatments for fungal count during storage of pomegranate arils (Table-20). The fungal count increased in stored arils as the period of storage increased. On 4th day, arils were almost free from fungal contamination when packed in both pouches and punnets with 1% and 5% vent and kept at 0°C. Initial fungal count on 4th day was maximum in T_{13} (Control) – 2.01 X 10^8 CFU/ml which was on par with T_{12} (punnets with 5% vent at room temperature) – 1.31 X 10^8 CFU/ml. By 8th day, fungal contamination was observed in all the treatments. Maximum count was recorded in T_{13} (3.35 X 10^8 CFU/ml), T_{12} (3.21 X 10^8 CFU/ml) and T_9 (2.98 X 10^8 CFU/ml) whereas, minimum contamination was recorded in T_1 (pouches with 1% vent at 0°C) – 0.16 X 10^8 CFU/ml and T4 (pouches with 5% vent at 0°C) – 0.17 X 10^8 CFU/ml). On final day (12 days), the arils stored in T3 and T6 pouches (1% and 5% vent) and punnets in T9 and T12 (1% and 5% vent) and kept at room temperature were highly contaminated with fungi besides control (T13). The minimum contamination was observed in T1 (pouch with 1% vent at 0°C) – 0.38 X 10^8 CFU/ml and T4 (pouch with 5% vent at 0°C) – 0.76 X 10^8 CFU/ml.

Table- 21: Organoleptic Test

Amerine *et al.* 1965

Organoleptic score	Rating
9	Like extremely
8	Like very much
7	Like moderately
6	Like slightly
5	Neither like nor dislike
4	Dislike slightly
3	Dislike moderately
2	Dislike very much
1	Dislike extremely

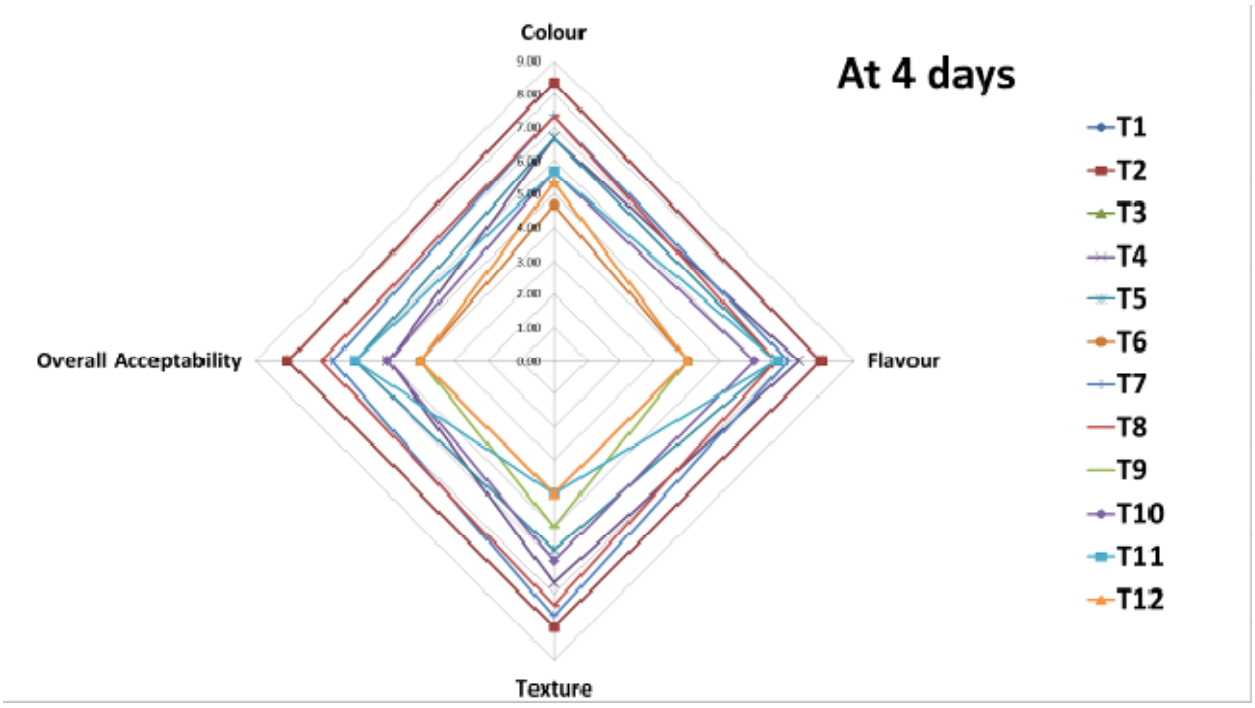
The overall rating was obtained by averaging score of evaluation. The arils with sensory score of 5.5 and above were rated as acceptable.

Table-22: Colour and appearance of arils during storage

Treatments		0 days	4 days	8 days	12 days
T1	Pouch with 1% vent at 0°C	8.67	8.33	5.00	1.67
T2	Pouch with 1% vent at 7-8°C	8.67	8.33	4.00	1.33
T3	Pouch with 1% vent at room temperature	8.67	5.33	3.00	1.00
T4	Pouch with 5% vent at 0°C	8.67	6.67	4.00	2.00
T5	Pouch with 5% vent at 7-8°C	8.67	6.67	4.67	2.00
T6	Pouch with 5% vent at room temperature	8.67	4.67	3.00	1.00
T7	Punnet with 1% vent at 0°C	8.67	7.33	3.67	3.00
T8	Punnet with 1% vent at 7-8°C	8.67	7.33	4.67	2.67
T9	Punnet with 1% vent at room temperature	8.67	5.33	3.00	1.00
T10	Punnet with 5% vent at 0°C	8.67	5.67	3.67	2.33
T11	Punnet with 5% vent at 7-8°C	8.67	5.67	3.33	2.00
T12	Punnet with 5% vent at room temperature	8.67	5.33	3.00	1.00
T13	Control	8.67	4.00	2.00	1.00
Statistics					
	CD at 5%		**0.94**	**0.60**	**0.71**
	SE.m±		**0.32**	**0.21**	**0.24**
	CV (%)		**8.94**	**9.90**	**25.03**

The colour and appearance of arils was rated acceptable upto 4 days during storage in all the treatments. On 8th day of storage, the arils were acceptable in T1 (pouch 1% vent at 7-8°C) only.

Radar plot for sensory score at 4 days



Radar plot for sensory score at 12 days

Pomegranate variety – Bhagwa

Arils packed in pouches

Arils of Bhagwa variety

Pomegranate arils stored at 7-8°C

Arils packed in punnets

Pomegranate arils stored at room temperature

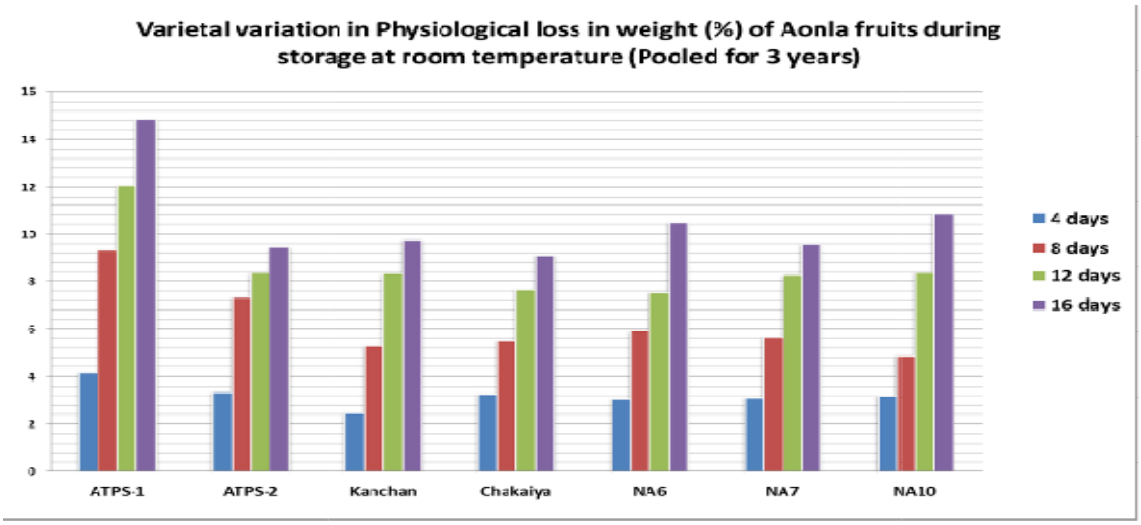
AONLA

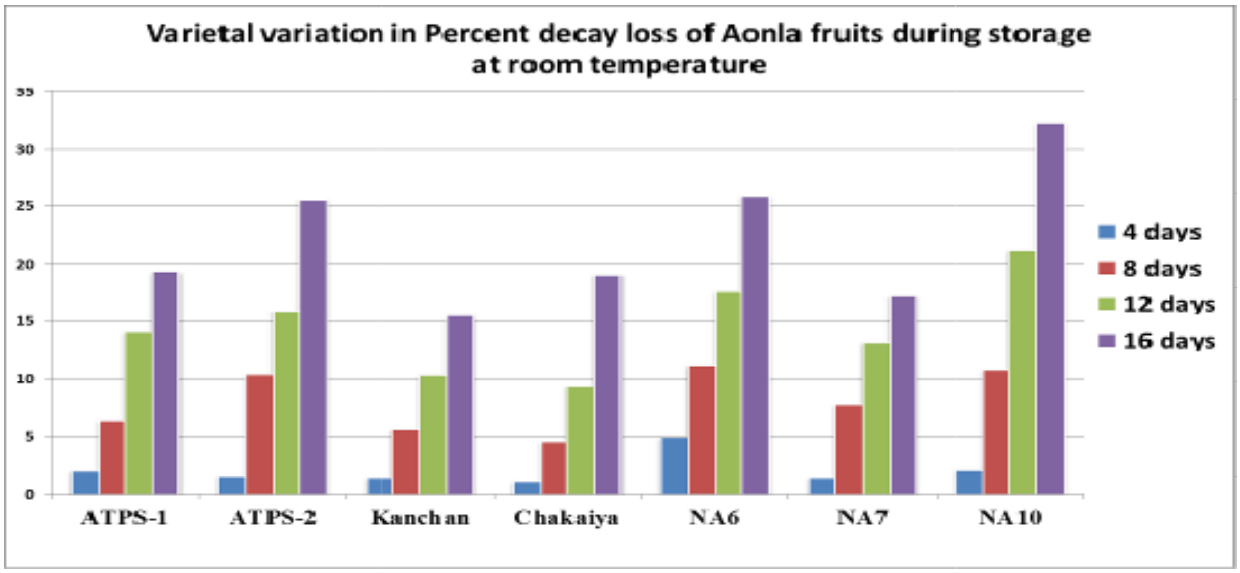
Horticultural Research Station, Anantapuramu

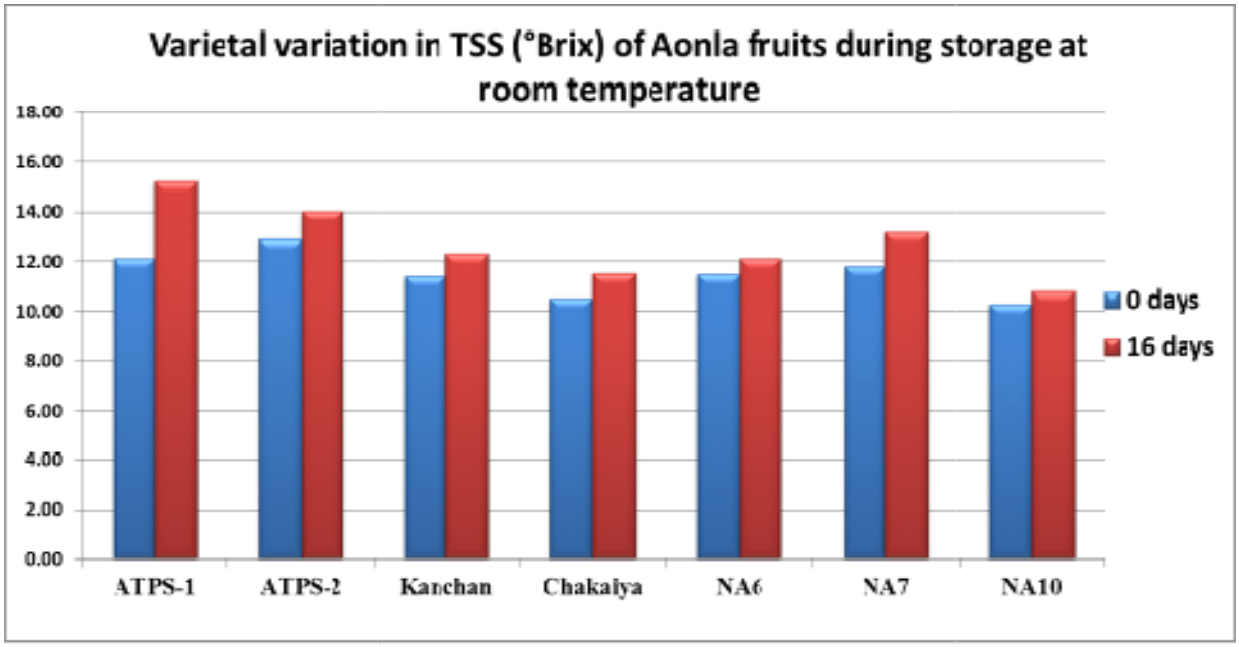
Physiological and physico-chemical changes during storage of aonla fruits.

The physiological loss in weight (PLW) of aonla fruits of all the varieties increased as the storage period increased. The high PLW was recorded in ATPS-1 (14.85 %) followed by NA-10 (10.84 %) and NA-6 (10.49 %) on 16th day of storage. Whereas, minimum PLW was recorded in Chaikaiya (9.14 %) and ATPS-2 (9.47 %). The per cent decay loss also increased with increase in storage period. The highest per cent decay loss was observed in NA-10 (13.27), NA-6 (11.90) and ATPS-2 (10.68) while, lowest decay loss was observed in Kanchan (6.50) and Chaikaiya (6.81).

TSS content of fruits increased upto 4 days of storage irrespective of varieties, thereafter decreased at the end of storage period. The acidity of aonla fruits decreased with increase in storage period. With regard to pH values of aonla fruits, there was increase in pH values of all the varieties upto 8 days and thereafter pH values decreased.







FLOWERS

ROSE

Horticultural College and Research Institute, Anantharajupeta

Comparative study on suitability of commercial cut rose cultivars for dehydration technology

Among all the desiccants tried, minimum dry weight (2.05 g) and maximum moisture loss (85.13 %) along with quick drying of flowers (3.53 days) was observed when the flowers were embedded with silica gel. Among the rose cultivars tried cv. Tajmahal was found to be attractive and found to be best suitable in retaining its original colour when compared to others like First Red, Gold Strike and Avalanche.

PLANTATION CROPS

COCONUT

Horticultural Research Station, Ambajipeta

Study on quality aspects of copra in coconut and reasons for formation of wrinkles

To study the quality aspects of copra in coconut and reasons for formation of wrinkles, two coconut varities (East Coast Tall and Godavari Ganga), three methods of drying (Sun drying, Solar drying and Heat drying), age of the nuts at the time of harvest (10^{th} month, 11^{th} month, 12^{th} month) and season (summer, rainy and winter) were taken in to consideration.

From the results, it was observed that solar drying is better compared to sun drying and heat drying methods. Nuts harvested during 12^{th} month were with less percentage of wrinkles both in East Coast Tall and Godavari Ganga hybrids when compared to nuts harvested in 11^{th} and 10^{th} months.

PALMYRAH

Horticultural Research Station, Pandirimamidi

AICRP on Palms.

Composting technology of palmyrah pith

In heap method of composting the major nutrients has shown significant differences among the different treatments where as micronutrients in all treatments has shown non significant results except for Fe content. Among all the treatments, highest N content as well as significantly highest P and K content was recorded in T_7 i. e., application of Poultry manure(10 kg) + Rock Phosphate (1 kg) + *Trichoderma viride* (1 kg) to 100 kg palmyrah pith. The same treatment has recorded highest values in terms of micronutrients, among them Fe content was significantly highest. In pit method of composting also the composting process was very slow and up to 60 percent decomposition was observed. The analysis of the samples of different treatments revealed that T_7 i. e., application of Poultry manure (10 kg) + Rock Phosphate (1 kg) + *Trichoderma viride* (1 kg) to 100 kg palmyrah pith has recorded significantly highest N, P, K and Fe contents. The Cu, Mn, and Zn contents have shown non significant values.

Standardization and commercialization of inflorescence sap extraction and inflorescence sap based products (Jaggery, Palm Sugar and Candy)

Biochemical analysis of neera of both male and female

Palmyrah sap is rich in sugar, minerals and proteins. It is a rich source of ascorbic acid and carbohydrate with sucrose as the major sugar. The biochemical composition of freshly collected sap through CPCRI method is given in table 34.

Table.34 Biochemical analysis of Palmyrah sap collected through CPCRI Method

100 ml sample*	Sap from male palm		Sap from female palm	
	Range	Average	Range	Average
pH	6.4- 7.0	6.9	6.7-7.0	7.0
Total solids (% brix)	10-14	12.5	9-15	12.0
Total sugar (g)	9.56 -12.80	11.58	10.0- 13.5	11.4
Reducing sugar (g)	0.31-0.42	0.34	0.34-0.43	0.40
Protein (g)	0.12-0.25	0.18	0.16-0.20	0.20
Ash(g)	0.2- 0.45	0.34	0.15-0.4	0.30
Ascorbic acid(mg)	24-32	28	23-34	29
Crude fat(g)	0.0-0.05	Trace	0	0

* Average value of ten samples

The average values of proximate composition of both male and female sap was almost same, but varied with palm to palm and climatic factors.

Process development for palmyrah jaggery powder/palmyrah sugar

The sugar content of sap ranged from 9 - 13 % which means it can yield up to 500 gm sugar per palm per day with an average sap yield of 4 litre per day. Fresh sap collected through CPCRI method was carefully boiled upto 70, 80 and 90 ^{0} brix and cooled to room temperature. The syrup can be used as sweetener and the syrup was dried at low temperature to give palm sugar or jaggery. From the results it was found that the sap concentrated upto 80 and 90 ^{0} brix and cooled gives fine quality of palm sugar or jaggery.

The shelf life studies of palm sugar developed form the above method was carried out during 2015-16 and it was found that the sugar stored under room temperature with multilayer pouch gave the best quality without any changes up to 6 months.

Standardization of tuber flour based food products (Like Pizza, Bakery items, Confectionery, Health mix etc.)

Effect of soaking in water in nutritional values

Fresh palmyrah tuber (apicolon) flour and flour soaked for 8 hours in tap water and dried was analyzed for biochemical analysis. There was slight decrease in fat, ash, fibre, copper and manganese, but protein, iron, zinc and moisture content increased (Table.35). From the data, it was found that the bitterness can be removed by soaking in water and losses due to soaking was minor.

Table.35 Biochemical analysis of palmyrah tuber (apicolon) flour

	Fresh flour	Soaked and dried flour
MC(w.b %)	5.19	5.32
Fat(%)	0.57	0.43
Ash(%)	2.60	1.80
Protien(%)	3.20	3.40
Fibre(%)	10.17	8.80
Copper(ppm)	0.11	0.05
Zinc(ppm)	0.29	0.41
Iron(ppm)	1.16	2.40
Manganese(ppm)	0.26	0.05

Photochemical screening of tuber flour

The ethanolic root extract of *Borossus flabellifer* was subjected to GC-MS analysis at food testing laboratory, IICPT Tanjavur. GC-MS analysis showed the presence of bioactive compounds like n-Hexadecanoic acid, 9,12-Octadecadienoic acid (Z,Z), lactose, 2(3H)-Benzofuranone, hexahydro-4,4,7a-trimethyl, D-Glucose,4-O-α-D-glucopyranosyl, Squalene, 13,16-Octadecadienoic acid, methyl ester, Z-8-Methyl-9-tetradecenoic acid, 9-Tetradecen-1-ol, acetate(E), α-D-Glucopyranoside and O-α-D-glucopyranosyl- (1.fwdarw.3)-α-D-fructofuranosyl.

n-Hexadecanoic acid has various activities like antioxidant, hypocholestrolemic, nematicide, pesticide, lubricant and inhibitor of 5-α reductase. 9, 12-Octadecadienoic acid (Z,Z)- is another major compound which has the property of anti-inflammatory and anti-arthritic activity. Squalene is a natural

antioxidant, serves in skin hydration and has been used as emollient in adjuvant for vaccines. This study has revealed the presence of many bioactive compounds which may be of very important medicinal value and further study including isolation and identification of active compounds. Therefore, the above results confirmed that the palmyrah tuber flour as a new valuable component for food and nutraceutical applications in the promotion of health.

No.	RT	Name of the compound	Moleculra formula	Molecular weight	Peak area %
1.	8.10	D-Glucose, 4-O-α-D-glucopyranosyl-	$C_{12}H_{22}O_{11}$	342	2.23
2.	9.11	Lactose	$C_{12}H_{22}O_{11}$	342	3.67
3.	10.22	α-D-Glucopyranoside,O- α -D-glucopyranosyl-	$C_{18}H_{32}O_2$	504	0.34
4.	12.32	(1.fwdarw.3)- α -D-fructofuranosyl n-Hexadecanoic acid	$C_{16}H_{32}O_2$	256	49.25
5.	14.38	9,12-Octadecadienoic acid (Z,Z)-	$C_{18}H_{32}O_2$	280	37.52
6.	19.21	Cyclopentadecanone, 4-methyl-	$C_{16}H_{30}O$	238	0.48
7.	21.11	9-Tetradecen-1-ol, acetate, (E)-	$C_{16}H_{30}O_2$	254	0.58
8.	22.68	Squalene	$C_{30}H_{50}$	410	1.09
9.	25.59	13,16-Octadecadienoic acid, methyl ester	$C_{19}H_{34}O_2$	294	0.65
10.	25.59	Z-8-Methyl-9-tetradecenoic acid	$C_{15}H_{28}O_2$	240	0.59
11.	28.30	[1,1'-Bicyclopropyl]-2-octanoic acid, 2'-hexyl-, methyl ester	$C_{21}H_{38}O_2$	322	1.26
12.	28.30	2(3H)-Benzofuranone, hexahydro-4,4,7a-trimethyl-	$C_{11}H_{18}O_2$	182	2.34

Utilization of palmyrah plant parts for the extraction of fibre and fuel

Ergonomic study

The motor operated with manual feeding palmyrah fibre separator developed by KVK-CTRI was tested for fibre separation to study the physiological work load and muscular stresses. Results revealed significant reduction in physiological work load and muscular stresses when separator was used compared to hand beating of palmyrah leaf base. A 75 % reduction in time was also observed when separator was used over manual method which was significant.

Comparison of fiber separator with manual extraction and cost economics

The tribal people used to collect the leaf bases from palmyrah palm and separation of fibre with wooden hammer and one person collects on an average 8 kg of wet fibre per day by using 40-50 leaf bases and it will fetch Rs. 22-25 per kg. The fibre separation by using fibre separator developed by CTRI KVK, one person can collects fibre upto 45-50 kg per day of 8 hours.

Standardization of preservation technique for palmyrah tender fruit endosperm

Standardization of medium for preservation of *nungu*

The endosperm of palmyrah tender fruit was extracted and peeled hygienically and immersed in suagr syrup of 40 ^{0} brix and 50 ^{0} brix and without syrup as control and packed in three packing materials i.e Polypropylene (120 micron), Multilayer pouch (120 micron) and Aluminum foil, and stored under ambient and cold conditions. There was a sharp increase in physiological loss in weight of endosperm stored at room

temperature. Whereas, the increase in PLW was found to be very slow when stored at low temperature. The endosperm with 50 ^{0} brix showed very low increase in PLW. This was found to be more effective at high RH and low temperature as compared to room temperature (RT). From the results it was

found that the tender fruit endosperm packed in 50 ^{0} brix sugar syrup with multilayer pouch under refrigerated conditions gives shelf life up to six months.

Design, development and evaluation of tender fruit endosperm extraction machine

At HRS Pandirimamidi, efforts were made to develop a replacement for the traditionally used sickle. The tender fruit opening machine can be used instead of a sickle for separating endosperms from whole tender fruit. This simple hand operated machine is suitable for all sizes of tender fruits and manually placing the fruit in the machine and putting little pressure from top by handle achieves the fruit breaking in to three parts. The machine contains three blades with an angle of 120 degrees between two blades and having sharp edge to cut the hard tender fruit, with no damage to endosperm, but it cuts each endosperm into two pieces and loses water in the endosperm. (as in case of sickle cutting, whole endosperm will be available). With this machine one person can perform the endosperm extraction activity with less stress as compared to the traditional method and useful for value added products. Further development of the machine for whole tender fruit endosperm is in progress.

Non Plan

Studies on clarification of cashew apple juice

The juice clarified with microfiltration and packed was evaluated for physico-chemical and sensory changes during 12 month period at room temperature. The results showed that pH, TSS, acidity, total sugars and colour did not change significantly and sensory score shows that acceptance was same throughout the storage period.

Survey of traditional food and its processing methods at agency area of East Godavari district.

Traditional foods from agency area of East Godavari collected were and analysed for basic properties and food values. The food i.e bamboo shoots, tender stem of palmyrah, copra of palmyrah nut and spongy endosperm were analysed. Palmyrah tender stem contains 4.4 % protein and 4.6 % crude fibre. Palmyrah copra contains 14.6 % crude fibre and 12 % protein, where as dried bamboo shoot contains 14.2 % protein and 11.9 % crude fibre.

Studies on physico-chemical and sorption studies of palmyrah fruit pulp

Fresh pulp contains moisture content of 74.5 %. The ash and fat contents (wet matter basis) were 1.2 % and 0.8 % respectively. The protein content and carbohydrate content were 1.25 % and 22.5 % respectively. The caloric value obtained was 102.83 kcal/100 g. The pH value was 5.5. Water absorption capacity (18 %) and bulk density (0.78 g/cm^3) were recorded for the palmyrah pulp powder. The values for swelling power and foam capacity were 4 % and 2.5 % respectively. The values were significant which can be utilized directly or combined with other pulps for preparation of foods.

D.ENTOMOLOGY

FRUITS

MANGO

Horticultural Research Station, Anantharajupeta

Management of mango hoppers

It was observed that initially i.e. 1 day after spraying, bifenthrin recorded lowest number of hoppers followed by thiamethoxam and thiamethoxam 12.6 %+ lambda cyhalothrin 9.5 ZC compared to control whereas at 7 days after spray, thiamethoxam treated manog trees showed lowest count of hoppers and similar trend of observation was noted at 10 days after spray. The buprofezin treatment recorded lowest number of hoppers per panicle at 15 and 21 days after spray followed by thiamethoxam 12.6 %+ lambda cyhalothrin 9.5 ZC whereas in other treatments there was gradual increase in population of hoppers over the observation period.

Mango Research Station, Nuzvid

Survey was conducted in mango gardens of various mandals of Krishna district for the incidence of different pests during the year. Severe incidence of hoppers and thrips was observed throughout the flowering and fruit development stages. Mango fruit borer incidence was recorded at low to medium level, apart from flower feeding caterpillars causing damage to inflorescence.

Horticultural College and Research Institute, Anantharajupeta

Studies on the management of Leaf Hoppers in mango with certain newer insecticides

Among the new insecticides studied, thiamethoxam 25WG @ 0.005 % was found effective against mango leaf hopper i.e percent reduction of mango leaf hoppers was 84.39%.

GUAVA

Horticultural College and Research Institute, Anantharajupeta

Screening of certain guava varieties against spiralling white fly (*Aleurodicus disperses*) and their management with certain newer insecticides

Among the new insecticides, diafenthiuron 50 wp @ 0.07% was found effective against spiralling white fly *i.e* percent reduction of white fly population was 74.90 %.

MUSKMELON

Horticultural Research Station, Anantharajupeta

Leaf miner management in muskmelon

The results showed that abamectin had lowest number of mined leaves followed by spinosad, cyantranilprole and highest mined leaves was observed in control plot at 1 week after spray and similar trend in results were observed at 14 and 21 days after spray and all the treatments were significantly superior over control at three observations recorded. It can be further revealed that maximum number of fruits per vine (4.00) were observed in fipronil 5SC treatment followed by diafenthiuron 50WP (3.500), fipronil 80WG (3.33), triazophos 40EC (3.167), novaluron 10EC (3.000) and minimum number of fruits were observed in spinosad treated plot. Similarly maximum fruit weight of 1700.75 grams was recorded in fipronil 5SC

treatments followed by spinosad 45SC (1536.750g) and lowest weight was noted in Cyantraniliprole 10 OD sprayed plot and with respect to yield, though fipronil 5SC gave maximum fruit yield of 17.960 tonnes per acre followed diafenthiruon by 50 WP (13.740 tonnes/acre),but the treatments were insignificant. There was no significant difference in treatments with respect to TSS though fruits harvested from diafenthiuron sprayed plot recorded highest TSS of 8.25^0 Brix followed by spinosad 45SC of (7.35^0 Brix) and lowest in fipronil 80WG (5.325 Brix).

The incidence of inflorescence midge was observed coinciding with mango flowering and early bearing varieties i.e. in Pulihora it was recorded. The initiation of this insect pest was observed in Last week of December or if flowering is delayed in early varieties, the infestation was noticed from I week of January. The damage of mango inflorescence continues till second fort night of March. The insect pest and damage disappears after receding of the flowering in mango. The maggots are orange yellowish in colour. The midge infests and damages the crop in three different stages. The typical symptom observed is right angle bending of inflorescence along with drying of sepals and petals. The other damage symptom shows that buds fail to open and drop down, affected inflorescence become stunted and malformed and tender fruits are slowly turned to yellow and finally drop. The heavily infested mango tree fails to set fruit. It was further observed that severe incidence of blossom/Inflorescence midge in mango in all the varieties viz., Alphonso, Neelum, Pulihora, Banglora and Baneshan coinciding with the panicle emergence. In the farmers orchard survey, 100 percent damage was observed in Alphonso cultivar in certain orchards followed by Banglora, Neelum and Baneshan where the damage could be 35-50 percent. The damage was observed in all the varieties ranging from pickle, juicy, table and processing varieties. The most damaging one is the first attack in which the entire inflorescence was destroyed even before flowering and fruiting. The inflorescence shows stunted growth and its axis bends at the entrance point of the larvae. It finally dries up before flowering and fruit setting. Infestation was noticed at bud-burst stage, at fruit set and on tender leaves of new flushes. The midge emergence was coincided with panicle emergence in mango and more number of adults emerged during cooler period when the temperatures were low i.e. 20 to 24^OC and mango is the only host known so far. It was observed that the number of infested buds per panicle were maximum in Neelum, followed by Proddutur avakai, Banglora and Baneshan whereas in other varieties viz., Dasheri (26) Alipasand (20.4), Mallika (13.75), Manjeera (10.3), Prabhasankar (25) was noticed.

Life Cycle

The *P. mangiferae* eggs are deposited in the fold of the sepal and petal of small unopened mango flower buds. The tiny translucent eggs are elongated and cylindrical and are deposited during the daytime. Larvae has 4 instars, the 1^{st} is transparent, the second is whitish while the 3 and 4 larval instars are yellowish – orange and jumping type. The larval period varies from 7-10 days. Before it pupates, the fourth instar larvae orients its head towards the surface of the bud and cuts an exit hole. The larva then spins a cocoon of silken fibers and pupates within the bud. The pupal stage lasts for 4-6 days.

Management of mango hoppers

It was observed that initially i.e. 1 day after spray, bifethrin recorded lowest number of hoppers followed by thiamethoxam and thiamethoxam 12.6%+ Lambda cyhalothrin 9.5 ZC compared to control whereas at 7 days after spray, thiamethoxam treated manog trees showed lowest count of hoppers and similar trend of observation was noted at 10 days after spray. The buprofezin treatment recorded lowest number of hoppers per panicle at 15 and 21 days after spray followed by thiamethoxam 12.6%+ Lambda cyhalothrin 9.5 ZC whereas in other treatments there was gradual increase in the population of hoppers over the observation period.

JACKFRUIT

Horticultural Research Station, Kovvur

Survey for emerging insect pests of jackfruit

Among the pests observed during survey in jack, fruit borer was found to be the major pest and its infestation ranged from 1-15 per cent. Next to fruit borer infestation, mealy bug (0-2 %) was observed at Venkataramannagudem, West Godavari district. Leaf webber infestation was observed in traces.

CITRUS

Citrus Research Station, Tirupati

Status of emerging pests and their natural enemies in citrus

Roving survey

Emerging pests and their status during 2015-16

Name of the pest	Area	Period of infestation	Past average incidence reported	Current status	Remarks
Thrips	Nellore	Dec- Mar	20-30%	40-50% on fruits	Due to repeated spraying with different pesticides.
Snow Scales	West Godavari, Nellore	Aug-Sept, Feb-May	<40%	45-50%	Dense planting (250-400 pl/acre) and poor maintenance.
Psyllids	Kadapa	July-Sept	5-10%	30-40%	May be due to change of climate
Nematodes	Nellore, W. Godavari	Jan- May	10-15%	30-40%	May be due to cultivation in very light red and sandy soils and intercropping with Solanaceous crops.

During this year 42 citrus orchards (20 acid lime and 22 sweet orange) were surveyed in West Godavari (2 mandals), Nellore (4 mandals), Kadapa (2 mandals) and Anantapur (5 mandals) districts and collected the data on intensity of different pests.

Survey results indicated that one new pest, root grub (*Holotrichia* sp.) infestation was observed in Kadapa district. In partially dried plants nearly 8-10 grubs/tree @ 3-5 plants/acre were observed. High psyllid population (30-40 nymphs/5 cm twig) was noticed in Kadapa at new flush emergence during July and August months.

Emerging pests like thrips and scales were observed in Nellore, 40-50% of the marble size fruits were found infested with thrips. Similarly in West Godavari district heavy infestation (>40%) of snow scales and blackfly was noticed in acid lime gardens, due to poor maintenance and high plant density. Soil samples collected from West Godavari, Kadapa, Nellore and Anantapur districts indicated that out of the total 12 samples collected in 6-8 samples nematode population was found moderate to high (Nellore and W. Godavari) and low (Kadapa) in the remaining samples. Natural enemies like spiders (3-5/pl), coccinellids (4-6 adults/pl) and mantids (2-3adults/pl) were observed.

Population dynamics of major insect pests and their natural enemies in citrus

A periodical survey for major pests on sweet orange and acid lime was conducted at fortnightly intervals in a fixed plot at the farm and the results revealed that the incidence of citrus leaf miner was moderate to high from September to February, low during June - August. During the months of May and June no damage was recorded. Butterfly damage started from July II FN onwards. Low infestation was recorded during the months of December to February, during the September- November moderate to high infestation was recorded. High to severe green and rust mite infestations were recorded from March to August, while mite damage was low in II FN of August to October, January and February months. Mite infestation was not observed during November, December months.

Among the other pests, thrips infestation was found to be high on both leaves (40-50%) and fruits (25-30%) during August-October and January-March months. The natural enemies like spiders (*Oxyopus sp, Cceicanthium sp*, *Telemania dimediata* and orb web spiders) were found moderate to high in July-October and December but low in November due to heavy rains. Parasitoids population (*Aphidius sp, Tamaraxia, Distatryx papilionis*) was observed from December onwards.

Correlation analysis between percent pest infestation and weather parameters indicated that, leaf miner infestation has significant positive correlation to relative humidity (RH1) and significant negative correlation to temperature (Max & Min). Similarly butterfly infestation has positive significance with RH2, rainfall and negative significance with maximum temperature and wind velocity. However incase of rust mite, positive correlation with temperature (max & min) and negative significance with relative humidity (RH1 & RH2) and wind velocity was observed.

In acid lime, leaf miner infestation was found to be high during Sept- Oct and Jan -Feb months, lemon butterfly in Oct-Jan months, thrips during Dec-March and leaf cutting ash weevils in December and January.

Evaluation of different spray schedules against leaf miner in citrus (Nursery/young orchards)

The analysis of results indicated that, least incidence of 5.1% citrus leaf miner was recorded in the treatment azadirachtin 10000 ppm @ 5ml/l followed by thiamethoxam (0.041%) and was found significantly superior over control up to 14 days in reducing the leaf miner incidence. The next best treatments proved effective were azadirachtin 10000 ppm @ 5ml/l followed by or profenophos (0.1 %) (8.5 %) or spinosad (0.002 %) (9.01 %). These treatments provided 70-80 % pest control till 14 days after spray.

Management of citrus thrips, aphids and blackfly/whitefly in citrus

Thrips

During 2015-16 the above treatments were imposed against thrips in September, 2015 on leaves and in November, 2015 on fruits. Observations were recorded both on leaves and fruits.

Evaluation of synthetic chemicals and natural products against citrus thrips on fruits during 2015 Leaves

The analysis of results indicated that, least incidence of 8.43 % citrus thrips was recorded in the treatments azadirachtin 10000 ppm @ 5ml/l followed by fipronil (0.01%) or thiamethoxam (0.025 %) and were found significantly superior over control up to 14 days in reducing the thrips infestation. These treatments are providing up to 70 % pest control till 14days after spray.

Fruits

Least thrips damaged fruits were noticed in azadirachtin 10000 ppm @ 5ml/l followed by fiopronil (0.01 %) or thiamethoxam (0.025%) treatments with only 7.5 % and 9.6 % fruit damage as against 28.2 % in control treatment. These treatments has providing nearly 65-70% pest control on fruits till 3 months after spraying and are economical also with highest CB ratio.

Bio-rational management of scales in citrus (sweet orange/acid lime)

The experiment was conducted on acid lime (10 years old) during April, 2016 in a randomized block design with 10 treatments replicated 3 times. Two sprays were given at 10 days interval. Observations on population count at 3, 7 and 14 days after spraying were recorded.

The results indicated that, the treatments *Lecanicillium leccanii* @ 5g/l, buprofezin (0.041 %), imidacloprid (0.005 %) and acetamiprid (0.005%) were found significantly superior over control, providing nearly 70% pest control upto 14DAS. The next best treatments were azadirachtin (1%) (0.04 %) and petroleum spray oil (1%) with > 67 % pest control.

Citrus Research Station, Tirupati

Assessment of phenology, productivity and insect pests and diseases in citrus grown under varying climatic conditions (Sweet orange):

Meteorological data (2015)						
Month	**Temp (^{0}C)**		**Relative Humidity (%)**		**Evaporation (mm)**	**Total Rain fall (mm) & rain days**
	Max	**Min**	**Morning**	**Evening**		
January, 2015	29.61	17.16	83.94	52.97	3.00	0.00
February, 2015	31.99	17.80	81.68	38.54	5.08	0.00
March, 2015	34.02	20.55	86.03	38.55	5.30	0.00
April, 2015	35.50	22.63	84.23	40.73	5.97	100.20(5)
May, 2015	37.48	24.58	60.23	37.65	6.52	44.20(3)
June, 2015	35.88	24.96	71.63	45.63	6.36	102.10(5)
July, 2015	37.15	25.75	75.71	39.39	6.53	40.90(6)
August, 2015	35.12	23.96	78.32	46.16	6.46	105.80(7)
September, 2015	33.03	21.99	82.03	53.63	4.82	202.20(9)
October, 2015	32.68	20.83	82.71	58.81	4.61	276.00(9)
November,2015	28.30	21.8	89.80	78.80	5.00	559.5(17)
December, 2015	29.60	20.10	88.90	66.80	4.10	110.6(3)

The experiment was carried out on 8 years old Sathgudi sweet orange budlings. The observations on month wise weather parameters pest and disease incidence were recorded

Rating	Low	Moderate	High	Severe	Very severe
Leaf miner	1-10%	11-30%	31-50%	51-75%	>75%
Rust mite	1-5%	06-10%	11-15%	20-25%	>30%
Butterfly	1-10%	11-30%	31-50%	51-75%	>75%

***low **medium *** high ****severe**

Crop phenology

First vegetative flush was observed in the last week of February. Flowering was observed from first fortnight of March. Fruit set was optimum and yields were higher and the market price was also higher than previous year.

Weather conditions

During North-East monsoon period 26 % excess rain fall was recieved. Due to prolonged rainy period during Nov- Dec, 2015 flowering was delayed and extended upto February-March, 2016.

Incidence of insect pests and diseases

Sweet orange pest calendar revealed that the incidence of citrus leaf miner was moderate to high from September to February, low during June - August. Butterfly damage started from July II FN onwards. Low infestation was recorded during the months of December to February during the September- November moderate to high infestation was recorded.

High to severe green and rust mite infestations were recorded from March to August, while mite damage was low in II FN of August to October, January and February months. Among the other pests, thrips infestation was found to be high on both leaves (40-50%) and fruits (30-40%) during January-March and August-October (40%) months. Psylla incidence was also high during the reporting period.

Incidence of minor pests during 2015

Pest	Pest Infestation		
	Low	Medium	High
Thrips (*Scirtothrips citri*)	May	April, June, July November, December	January-March, August-October
Ash weevil (*Myllocerus* spp)	March-May, November-December	July, August	--

Correlation of pest incidence with weather parameters (2015)

Pest	T Max	T Min	RH1 (%)	RH2 (%)	WV	RF
Leaf miner	-0.668**	-0.857**	0.475*	0.186	-0.374	-0.043
Lemon butterfly	-0.609**	-0.461*	0.443*	0.654**	-0.467*	0.277
Rust mite	0.727**	0.587**	-0.395*	-0.635**	0.423**	-0.320

** Significant at 0.1**%** level

Correlation analysis between percent pest infestation and weather parameters indicated that, leaf miner infestation has significant positive correlation to relative humidity (RH1) and significant negative correlation to temperature (Max & Min). Similarly butterfly infestation has positive significance with RH2, rainfall and negative significance with maximum temperature and wind velocity. However incase of rust mite has positive correlation with temperature (Max & Min) and negative significance with relative humidity (RH1 & RH2) and wind velocity.

Among the diseases, due to higher rains, incidence of citrus canker and stem end rot recorded highest in the month of December and March respectively. Diplodia gummosis incidence was high immediately after prolonged rainy days. Dry root rot recorded maximum incidence in the month of March- April.

Assessment of phenology, Productivity and insect pests and diseases in citrus grown under varying climatic conditions (Acid lime):

Fruit set was optimum and yields were low and the market price was higher due to good quality.

Weather conditions

During North-East monsoon period 26 % excessive rain fall was received. Due to prolonged rainy period during Nov- Dec, 2015 flowering was erratic and less.

Incidence of insect pests and diseases

In acid lime, leaf miner damage was found to be high during September- October and January –February and butterfly damage during October-Jananuary months. Thrips damage was found high during December- March months. Scales infestation was found medium during the months of March-May.

Seasonal incidence of pests in Acid lime

Pest	Pest Infestation		
	Low	Medium	High
Leaf miner	Mar, June	July, Aug, Nov	Sept- Oct,Jan -Feb
Lemon butterfly	Feb-Mar, June	July- Sept	Oct-Jan
Thrips (*Scirtothrips citri*)	Nov-Dec	Sept-Nov	Dec- Mar
Ash weevil (*Mylloceros* spp)	June, Aug-Sept	July	Dec-Jan
Scales	Feb, June	Mar-May	--
Psylla	Apr-May	June, July,Dec	--

Intensity based on rating

	Low(1)	Moderate (2)	High(3)	Severe (4)	Very severe (5)
Foliage infestation (%)	1-10	11-30	31-50	51-75	>75
Fruit infestation (%)	1-5	6-10	11-15	16-41	>41

Among the diseases, due to prolonged dry periods and irregular rains the incidence of greasy spot was high during summer. Twig blight incidence was high during February.

PAPAYA

Horticultural Research Station, Anantharajupeta

Under new and emerging disease(s) of papaya, farmers fields were surveyed during seedling, vegetative and fruiting stages in different villages of Rly.kodur and Settigunta mandals in Kadapa district and observed that, incidence of root rots was 100 % in young seedlings (< 30 days age) and 15-20 % in grownup seedlings (> 30 days age). On leaves Cercospora leaf spot was observed (10-15% due to continuous rains (837 mm) for 23 days during the month of November. At fruiting stage hundred percent incidence of papaya ring spot virus, *Colletotricum anthracnose* on leaves (10-15 %) and fruits (15 %) were observed in all the surveyed gardens. *Rhizopus* fruit rot was observed as a secondary infection on riped fruits.

Epidemiology of ring spot virus (PRSV) under integrated management was studied and observed that aphid population was increasing from 0 to 32 with the increase in maximum temperature from 25°C to 36.9°C and average relative humidity from 62.5 to 54.5 % which is positively correlated with increase in spread of the PRSV.

Under integrated papaya diseases management, Module I (Integrated package) low incidence (<5%) of foliar diseases and Papaya Ring Spot disease was observed where as in Module II (Farmers practice) 15 % collar rots and 8 % PRSV infected plants were observed.

SPICES

CHILLI

Horticultural Research Station, Lam

Screening of germplasm /cultivars for resistance to thrips, mites, blossom midge and Pod borers

Thirty entries were screened including CA 960 as susceptible check. None of these entries were found to be resistant against thrips.

Population dynamics of chilli pest complex in relation to abiotic and biotic factors

The sucking pest incidence was severe during 2015-16. Thrips population appeared throughout the crop growth period with its peak during 52nd standard week. *Spodoptera litura* appeared during early months after transplanting and later incidence was low. White fly population was also observed up to first week of February and later it was reduced.

Evaluation of certain insecticides against chilli pest complex

Twelve insecticides were evaluated against chilli sucking pest complex and results revealed that lowest thrips population was recorded in treatment with cyantraniliprole 10 % OD which was at par with spinosad 45 SC. Highest yield was recorded in treatment with diafenthiuron 50 % WP which was at par with spiromesifen 240 SC.

Integrated Pest Management on chillies

Dry chilli yield of 1.2 t/ha was recorded in IPM plot whereas 0.6 t/ha was recorded in non IPM plot.

Studies on compatibility of certain new insecticides and fungicides used in chilli

For bio efficacy studies, observations were recorded on thrips, pod borers and fruit rot incidence. The insecticides which are effective against thrips and pod borers were found effective in combination with fungicides also.

PLANTATION CROPS

COCONUT

Horticultural Research Station, Ambajipeta

Survey and monitoring of pest problems in coconut (eriophyid mite,rhinoceros beetle, red palm weevil, black headed caterpillar and other pests).

Roving survey was carried out in East Godavari, West Godavari, Vishakapatnam, Vizianagaram and Srikakulam districts. Rhinoceros beetle, black headed caterpillar and eriophyid mite were the major pests infesting coconut in this region. The incidence of Rhinoceros beetle was 15 and 13 percent in Srikakulam and Vishakapatnam districts respectively, and recorded 10 percent in East Godavari, West Godavari and Vizianagaram districts. The leaf damage by the beetle was 10.80, 13.70, 11.68, 16.45 and 21.81 and spindle damage was 6.25, 8.80, 8.30, 9.70 and 13.00 per cent in East Godavari, West Godavari, Vishakapatnam, Vizianagaram and Srikakulam districts, respectively. No incidence of red palm weevil was observed in survey. The infestation of black headed caterpillar was observed in all the districts except Vizianagaram. The infestation was 62.86, 50.88, 42.82 and 47.06 per cent in East Godavari, West Godavari, Vishakapatnam and Srikakulam districts, respectively. A severe out break of black headed caterpillar was recorded in Allavaram mandal of East Godavari in 675 ha and was successfully managed by inundative release of larval parasitiods *viz., Bracon hebetor* and *Goniozus nephantidis*. The infestation of eriophyid

mite was recorded from all the plantations observed in the surveyed districts and was in the range from 80.64 to 92.61 per cent. Intensity of mite was moderate to high in all the districts surveyed.

In roving survey, the sporadic incidence of slug caterpillar was recorded in the villages of Kothapeta, Ravulapalem, Mummadivaram, I.Polavaram and Thallarevu mandals of East Godavari district of Andhra Pradesh from February 2016 and the pest incidence was high.

Mean Incidence of major coconut pests in important districts of Andhra Pradesh 2015-16 (Roving survey)

District	Black headed caterpillar mean incidence (%)	Rhinoceros beetle			Red palm weevil Mman incidence (%)	Eriophyid mite	
		Incidence (%)	Intensity (%)			Mean incidence (%)	Grade index
			Leaf damage	Spindle damage			
E.Godavari	62.86 ± 4.11	10.10 ± 0.75	10.80 ± 2.47	6.25 ± 1.02	Nil	90.78 ± 1.79	2.48 ± 0.25
W. Godavari	50.88 ± 2.64	10.45 ± 0.92	13.70 ± 1.87	8.80 ± 0.7	Nil	80.64 ± 2.35	2.49 ± 0.18
Visakhapatnam	42.82 ± 2.13	13.70 ± 1.31	11.68 ± 4.07	8.30 ± 1.15	Nil	91.56 ± 2.86	2.11 ± 0.15
Vizianagaram	--	10.45 ± 0.93	16.45 ± 2.36	9.70 ± 1.35	Nil	92.61 ± 4.16	1.75 ± 0.14
Srikakulam	47.06 ± 4.56	15.35 ± 1.57	21.81 ± 2.75	13.00 ± 1.08	Nil	87.78 ± 5.16	2.19 ± 0.20

*Values represent Mean ± Standard error

Fixed plot survey

Fixed plot survey was under taken in Palivela village in Kothapeta mandal and Korlapativaripalem in Ambajipeta mandal of East Godavari district. Low intensity of rhinoceros beetle leaf damage was noticed in both the gardens and it ranged from 17.02 to 18.07 per cent at Korlapativaripalem and 4.35 to 12.78 per cent at Palivela Village. No spindle damage was observed in the fixed plot gardens. Eighty to 90 per cent incidence of eriophyid mite was observed in both the villages. High mite intensity was observed in Korlapativaripalem and moderate intensity of mite was noticed in both the villages. No incidence of red palm weevil and coconut black headed caterpillar was observed in fixed plot survey gardens. Slug (low incidence) was observed in the month of Febraury 2016 in Palivela village.

Extent of infestation by different pests in fixed plot surveys in Andhra Pradesh (2015-16)

Month	Black Headed Caterpillar Incidence (%)	Red Palm Weevil Incidence (%)	Rhinoceros beetle Incidence (%) (Leaf damage)		Eriophyid mite Incidence (%) and intensity	
			Korlapativari Palem	Palivela	Korlapativari Palem	Palivela
July 2015	No incidence was observed		17.02 ± 3.81	12.78 ± 1.89	83.64 ± 2.75 (2.15)* High	82.25 ± 1.58 (2.04) High

October 2015	at the two fixed plot survey villages	17.11 ± 2.19	4.35 ± 1.19	84.17 ± 1.54 (2.35) High	84.93 ± 2.31 (1.85) Moderate
January 2016		18.07 ± 2.86	5.69 ± 1.21	90.29 ± 0.86 (2.17) High	86.6 ± 2.42 (1.46) Moderate

*** values in parenthesis represent grade index**

Management of eriophyid mite in coconut gardens

The trial was conducted in farmers field in Korlapativaripalem village of East Godavari district. The pre treatment observation revealed that the eriophyid mite infestation was 97.02, 97.74 and 98.87 per cent respectively in various treatments. After four months interval, the mite infestation decreased in IPM garden with root feeding *i.e.,* from 97.02 per cent to 87.07 per cent, from 97.74 per cent to 95.37 per cent in treatment T_2 and in control from 98.87 to 92.07 per cent. After eight and twelve months, increase in per cent mite infested nuts was recorded in all the treatments from 65.00 per cent to 90.78 per cent in treatment T_1, from 88.05 per cent to 94.21 per cent in treatment T_2 and in control from 91.10 per cent to 88.06 per cent. Regarding eriophyid mite intensity, the initial MDGI was in the range of 1.15 to 1.70 with scale being moderate. After four and eight month's interval, the grade index in treated plot gradually increased and in control plot it remained around 1.60. The mite intensity in 2015-16 was moderate in all the treated and control plots.

Per cent nut damage and mean damage grade index due to eriophyid mite infestation in experimental plots in East Godavari district (2015-16)

	Pre treatment (March 15)		1st Quarter After 4 months (July,15)		2nd Quarter After 8 months (November,15)		3rd Quarter After 12 months (March,16)	
	Percent infestation of mite	Mean damage grade index	Percent infestation of mite	Mean damage grade index	Percent infestation of mite	Mean damage grade index	Percent infestation of mite	Mean damage grade index
T_1 : IPM garden (With Root feeding)	97.02 (84.27)*	1.15 (1.46)**	87.07 (71.91)	1.56 (1.59)	65.00 (54.26)	1.01 (1.41)	90.78 (74.82)	1.61 (1.61)
T_2 :IPM garden (Without Root feeding)	97.74 (86.87)	1.13 (1.46)	95.37 (81.68)	1.64 (1.62)	88.05 (73.54)	1.46 (1.57)	94.21 (78.46)	1.57 (1.60)
T_3 : Control	98.87 (86.13)	1.70 (1.64)	92.07 (75.29)	1.76 (1.66)	91.10 (75.29)	1.57 (1.59)	88.06 (71.67)	1.60 (1.61)
SEM	1.69	0.03	2.02	0.03	2.41	0.03	2.20	0.03
CD (5%)	NS	NS	5.60	NS	6.68	0.073	NS	NS

*- Figures in parentheses are arcsine transformed values

**-Figures in parentheses are square root transformed values

Studies on field efficacy of commercially available pheromones against coconut pests-viz., rhinoceros beetle and red palm weevil

Studies were conducted with NPM CPCRI lure and PCI lure arranged in two different gardens against rhinoceros beetle. From the data it was found that CPCRI lure has trapped 185 beetles/4 traps with an average of 46.25/trap and in PCI lure, 72 beetles/4 traps with an average of 18.0 beetles/trap during the experimental period. No catches were recorded in control trap.

Comparative efficacy of different lures against rhinoceros beetle in Andhra Pradesh

Period of catches	Total no. of beetles trapped in 4 traps										
	T1 – NPM CPCRI lure				T2 – PCI lure				T3 – Blank trap		
	M	F	T	Sex ratio	M	F	T	Sex ratio	M	F	T
April 2015 to Feb 2016	75	110	185	1.00 : 1.47	33	39	72	1.00 : 1.18	0	0	0
Mean ± SE	**46.25 ± 2.95**				**18.0 ± 3.32**						

Values represent Mean ± Standard Error

Pre and Post treatment infestation levels of Rhinoceros Beetles in the experimental gardens

Garden No.	Name of the village	Lure	Around the trap (damage %) March'16		50 Mt. Away from trap (damage %)March' 16	
			Leaf	Spindle	Leaf	Spindle
1	Pedapudi	NPM CPCRI lure	8.67	5.00	12.21	5.00
2	Vakkalanka		10.95	10.00	11.80	5.00
3	Pedapudi	PCI lure	12.40	15.00	11.96	12.50

Studies were reconducted with NPM CPCRI lure and PCI lure arranged in two different gardens in Mosallapalli and Vakalagaruvu village against Red palm weevil in the month of October 2016. From the data it was found that highest number of weevils were trapped in CPCRI lure which trapped 325 weevils/4 traps with an average of 81.25 weevils/trap and in PCI lure, 171 weevils/4 traps with an average of 42.75 weevils/trap during the experimental period. One female weevil was noticed in control trap.

Comparative efficacy of different lures against red palm weevil in Andhra Pradesh

Period of catches	Total no. of weevils trapped in 4 traps										
	T_1 – NPM CPCRI lure				T_2 –PCI lure				T_3 – Food bait alone		
	M	F	T	Sex ratio	M	F	T	Sex ratio	M	F	T
Nov 2015 to Feb 2016	128	197	325	1.00 : 1.54	59	112	171	1.00 : 1.90	0	1	1
Mean ± SE	**81.25 ± 6.14***				**42.75 ± 4.46**				**0.25 ± 0.0**		

Values represent Mean ± Standard Error

Studies were also conducted with PCI lure against black headed caterpillar in two different gardens in Bendamurlanka and Challapalli village in 3 ha area in the month of February 2016. The adult moths collected and other pests trapped were recorded for every 15 days interval and data collected for two months revealed that the the mean moths trapped in sticky traps with pheromone lures in Bendamurlanka and Challapalli villages were 16.67 per trap and 7.53 per trap. Simultaneously, the sticky traps (without pheromone lures) registered a trap catch of 7.6 per trap and 6.0 per trap in Bendamurlanka and Challapalli villages, respectively.

Efficacy of PCI lure against black headed caterpillar in Andhra Pradesh

	Mean no. of moths trapped	
	Bendamurlanka	Challapalli
Sticky trap with lure	16.67	7.53
Sticky trap without lure	6	7.6

Multi-location field evaluation of talc formulation of *Hirsutella thompsonii* (CPCRI isolate) against coconut eriophyid mite at AICRP palm centres

The experiment was initiated in the month of February 2012 with four treatments with 20 palms in each treatment (total 80 palms for the experiment). In February, 2015 harvested nuts, the grade index was moderate in T_1 and T_2 treatments and high in T_3 and control palms respectively. In the year 2015-16 harvested nuts, the mite intensity was high in all the treatments along with control palms. The pre-treatment mite population ranged from 1.22 to 3.92 per mm^2 in February, 2015 was decreased in all the treatments by May, 2015 which ranged from 0.53 to 1.14 per mm^2 and then increased in all the treatments by November, 2015 and ranged from 2.77 to 5.58 per mm^2. An increase in the predator count per nut was observed from February 2015 to November 2015.

Grade index of harvested nuts and mite intensity

Tr. No.	Pre-treatment harvested nut scale for Feb 2015 harvested nuts	Grade index for April 2015 harvested nuts	Grade index for Oct 2015 harvested nuts	Grade index for March 2016 harvested nuts
T_1	1.36 (1.53) (moderate)	2.39 (1.84) (High)	2.64 (1.89) (High)	2.44 (1.64) (High)
T_2	1.89 (1.70) (moderate)	2.29 (1.81) (High)	2.28 (1.79) (High)	2.48 (1.65) (High)
T_3	2.60 (1.89) (High)	2.12 (1.75) (High)	2.79 (1.94) (High)	2.41 (1.64) (High)
T_4	2.48 (1.85) (High)	2.43 (1.84) (High)	2.81 (1.94) (High)	2.12 (1.63) (High)
S.E.	**0.07**	--	--	--
C.D.	**0.22**	**NS**	**NS**	**NS**

Figures in parentheses are square root transformed values

Average population of mite per 1 mm^2 predator population per nut

Tr. No.	Pre treatment (Feb' 2015)		May 2015		Nov 2015	
	Avg. population		Avg. population		Avg. population	
	mite / 1mm2	Predator/nut	mite / 1mm2	Predator/nut	Mite / 1mm2	Predator/nut
T_1	1.22 (1.48)	12.5 (3.49)	0.86 (1.34)	7.4 (2.69)	5.58 (1.46)	13.60 (3.65)
T_2	2.85 (1.95)	10.80 (3.35)	0.53 (1.23)	10.6 (2.82)	3.44 (1.53)	10.60 (2.82)
T_3	3.65 (2.09)	3.2 (1.95)	0.66 (1.28)	7.6 (2.62)	2.77 (1.45)	7.60 (2.62)

T_4	3.92 (2.18)	1.9 (1.68)	1.14 (1.45)	8.4 (2.96)	4.42 (1.53)	8.40 (2.96)
S.E.	**0.13**	**0.28**	**--**	**--**	**--**	**--**
C.D.	**0.37**	**0.80**	**NS**	**NS**	**NS**	**NS**

Evaluation of insecticides against the red palm weevil, *Rhynchophorus ferrugineus*

Experiment was initiated in the month of August, 2016 in 1 ha area of coconut garden intercropped with banana in Vyagreswaram village. Total number of plams in the garden were 210 and the red palm weevil infested palms were 5 initially. The treatments were imposed on these infested palms at monthly intervals. Among the treatments chlorantraniliprole and carbosulfan treated palms were having comparatively severe incidence. The imidaclorpid and indoxacarb treated palms recovered within three months (in November 2015) whereas chlorantraniliprole and carbosulfan treated palms were under recovery and the control palm has died within six months after observation. Five more infested palms were observed in the same garden and the infestation was observed in the crown region. All treatments were again imposed on the freshly infested palms.

One more replicated trial was initiated in red palm weevil infested garden around fish ponds of Thummalapalli village in the month of January 2016 with the same treatments when 30% of the palms were infested. All the palms were recovered except carbosulfan treated and control palms.

Percent recovery of different chemical treated palms in different villages

Treatment	No.of palms treated		No.of palms recovered		% recovery	
	Vyagre swaram	Thummala palli	Vyagre Swaram	Thummala palli	Vyagre swaram	Thummala Palli
Imidaclorpid 17.8 SL	2	3	2	3	100	100
Indoxacarb 14.5 SC	2	3	2	3	100	100
Chlorantraniliprole 18.5 SC	2	3	0	3	0	100
Carbosulfan 25 EC	2	3	0	0	0	0
Control	2	3	0	0	0	0

Percent pre infestation in Vyagreswaram and Thummalapalli was 2.38 and 30, respectively

Non- Plan

Mass multiplication of parasitoids of *Opisina arenosella.*

The infestation of coconut black headed caterpillar was recorded in the following villages of Andhra Pradesh and ranged from medium to severe

District	Village
East Godavari	Challapalli, Komaragiripatnam, Turpulanka, Godilanka, Samathakurru, Mogallamuru, Devaguptam, Gundepudi, N.Kothapalli,Thummalapalli, Bendamurlanka, Rellugadda, Kesavadasupalem, Ventrukona, Chinthalapalli, Dosakayalapalli, D.Ravulapalem, Gachhakayalapora, Katrenikona, Sakinetipalli
West Godavari	Komatithippa, Dheyellatippa, Undi, Poduru, Mogallthuru
Visakhapatnam	S.Rayavaram, Peda Uppalam, Koruprollu, Nakkapalli
Krishna	Kruthivennu, Komallapudi, Ayyaparajugudem, Sithanapalli
Srikakulam	Bidimi, Narayanapuram

An outbreak of coconut black headed caterpillar was observed in the main coconut growing districts *viz.,* East Godavari, West Godavari, Visakhapatnam, Krishna and Srikakulam of Andhra Pradesh in the year 2015-16. Its incidence was also reported from Kurnool and Rangareddy districts also. The inundative release of larval parasitiods *viz., Bracon hebetor* and *Goniozus nephantidis* in different villages has successfully

suppressed the incidence of coconut black headed caterpillar and the gardens were recovered from this pest. To know the extent of recovery of the gardens, sample population is being collected from the recovering gardens at three months interval. About 37,88,650 parasitoids were supplied to farmers.

Studies on the seasonal incidence and management of cocoa pests

The cocoa pest succession and intensity was studied at HRS, Ambajipeta.The Brown leaf chaffer beetle, *Adoretus versutus* and black leaf chaffer beetle, *Apogonia blanchardi* were observed from July –December (especially on young plants). The bagworm *Pteroma plagiophelps* was noticed all round the year with its incidence being observed even on pods. Isolated incidences of mealy bug and stem girdler were observed. Incidence of bark eating caterpillar was recorded from October, 2015 and its incidence is being observed on a increased scale.

Studies on field evaluations of new systemic insecticides against coconut pests through root feeding.

Various insecticides were tested against the pests of coconut through root feeding and their rate of absorption was recorded up to 10 days. Among them, monocrotophos was absorbed in 2 days followed by Azadirachtin 10000 ppm [5 days], Imidacloprid [5 days] and Carbosulfan [10 days]. Hundred Percent mortality of slug caterpillars and black headed caterpillars was observed when fed on the leaves treated with monocrotophos followed by 60 Percent mortality when fed on Azadirachtin 1000 ppm treated leaves. Among the absorbed chemicals, there was no mortality when fed on the leaves treated with Imidacloprid 17.8 SL and Carbosulfan 25 % EC.

Name of the Pesticide		Pesticide + Water [ml]	Observational period (Days) for absorption	Absorption [Days]
T_1	Emamectin Benzoate 5 % EC	5 + 45	10	Not absorbed
T_2	Indoxacarb 14.5 SC	5 + 45	10	Not Absorbed
T_3	Thiamethoxam 25%WG	5 + 45	10	Not absorbed
T_4	Imidacloprid 17.8 SL	10 + 40	5	Absorbed
T_5	Fipronil 5 % SC	5 + 45	10	Not Absorbed
T_6	Thiacloprid 21.7% SC	5 + 45	10	Not absorbed
T_7	Monocrotophos 36% SC	15 + 15	3	Absorbed
T_8	Azadirachtin 10000 ppm	15 + 15	5	Absorbed
T_9	Chlorantraniliprole 18.5% SC	5 + 45	10	Not Absorbed
T_{10}	Carbosulfan 25% EC*	5 + 45	10	Absorbed
T_{11}	Water	30	2	Absorbed

*Tested this year only

Effect of various pesticides at recommended concentration against Black headed caterpillar (*O. arenosella*) through root feeding

Sl. No.	Name of pesticide	Pesticide + Water (ml)	Absorption [Days]	Mortality (after feeding)	% mortality
1	Monocrotophos (36%SC)	15 + 15	3	48 hours	100
2	Azadirachtin 10000 ppm	15 + 15	5	96 hours	60
3	Imidaclorprid 17.8 SL	10 + 40	5	--	0
4	Carbosulfan 25% EC	5 + 45	10	--	0
5	Control (water)	30	2		0

CASHEW

Horticultural Research Station, Bapatla

Evaluation of insecticides for the control of TMB and other insect pests

L-Cyhalothrin 0.003 % @ 0.6 ml/l was found effective against leaf and blossom webber (LBW), leaf miner, shoot tip caterpillar (STC) and apple and nut borer (ANB).

Control of Cashew Stem and Root borer (CSRB). Curative trial (Post extraction prophylaxis)

Chlorpyrifos 0.2% @ 10 ml/l was found effective against CSRB.

MEDICINAL & AROMATIC PLANTS

Horticultural Research Station, Venkataramannagudem

Eighteen insect species on five medicinal crops were reported. Two coleopteran defoliators hadda beetle, *Henosepilachna vigintiopunctata*, ash weevil *Mylloceros* sp were recorded in *Solanum nigrum* and *Mucuna pruriens*, respectively. Similarly nine sucking insect species viz., mites, thrips on *Solanum nigrum*, whitefly on *Mucuna pruriens* & *Abelmoschus moschatus,* red cotton bug, seed bug, leaf hopper and aphids on *Abelmoschus moschatus*, cow bugs and red cotton bugs on *Withania somnifera* were found to be the sucking species. Tobacco caterpillar and leaf webber on *Mucuna pruriens,* semilooper, leaf folder and shoot & fruit borer on *Abelmoschus moschatus,* leaf folder and citrus butterfly on *Psoralea corylifolia* were found to be lepidopteran insects.

Spiders, *Eriophora transmarina*, *Oxyopes javanus* were reported against sucking insects on aswagandha . Seasonal incidence of spider population on kasturibenda,dulagondi and bavanchalu was recorded during 2015-16. In dulagondi maximum population of spiders @ 0.62 per vine during 39th Std.week were recorded where as in bavanchalu crop, maximum spiders @ 0.24 per plant during December 1st week and in kasturibenda crop, highest spider population @ 3.00 per plant during October last week were recorded against insect species

In bavanchalu, maximum incidence of *Aproaerema modicella* larvae was recorded in 41st SW (4.8 larva /3 leaves). Highest number of larvae (2.4 per plant) of *Papilio demoleus* was recorded in 44th SW. Correlation studies revealed that weather parameters like rainfall, maximum and minimum temperatures were negatively correlated with *P.demoleus* incidence. In case of *A. modicella* incidence, rainfall, minimum

temperature and evening relative humidity were positively correlated whereas maximum temperature, morning relative humidity were negatively correlated.

Whitefly incidence was initiated in August first week and prevailed up to December in dulagondi. Peak incidence of whitefly @7.37 per 3 trifoliate leaves was recorded in 35th SW. Percent leaf damage due to ash weevil was maximum in 40th SW.

In kasturibenda, peak incidence of aphids was reported during 49th SW and leafhopper incidence was maximum in 44 SW where as shoot and fruit borer was initiated in second week of November and continued up to March with the highest shoot and fruit borer incidence in 51st SW. During pod stage, red cotton bugs and seed bugs were active from January to March. Maximum population of red cotton bug (1.6/plant) and seed bug (22.30/pod) was recorded during 53rd week.

In *Psoralea corylifolia,* 20.83 per cent loss in seed yield due to *Aproaerema modicella* and 11.10 per cent seed yield loss due to sucking insects and shoot & fruit borer in *Abelmoschus moschatus* were recorded.

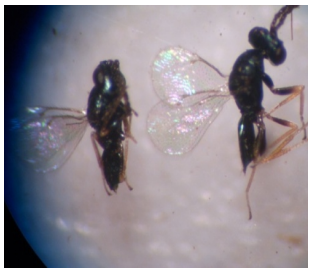
Coleopteran beetle *Henosepilachna vigintiopunctata*, incidence was recorded during October and treatments were imposed for two times with fortnightly interval. Among the botanical treatments azadirachtin 10000 ppm @ 1 ml/l followed by pungam oil @ 3ml/l were found to be effective against hadda beetle on *Solanum nigrum*.

Spodpoptera litura damage on Dulagondi

Bemisia tabaci on dulagondi

Henosepilachna vigintiopunctata on Kamanchi

Aproaerema modicella on Bavanchalu



Pediobius foveolatus against hadda beetle on Kamanchi

Eriophora transmarina

Oxyopes javanus

Spiders against sucking species on aswagandha

Spider against leaf folder on bavanchalu

SEED PRODUCTION

The following quantity of seed was produced at HRS, Lam during 2015-16

CHILLI

Crop	Variety	Seed sold up to 31-3-2016 (kg)	Sale price (Rs. Per kg)
Chilli	**Foundation seed**		
	LCA 620	656.3	650/-
	LCA-625	602.7	
	LCA-334	6.5	
	LCA-353	22.5	
	CA960	16.7	
	G4	0.7	
	Breeder seed		
	LCA-353	9.0	1500/-

CORIANDER

Crop	Variety	Seed sold up to 31-3-2016 (kg)	Sale price (Rs. Per kg)
Coriander	Sudha (FS)	86.5	100/-
	APHU Dhania-1 (FS)	86.5	
	APHU Dhania-1 (BS)	50.0	450/-
	Suguna(FS)	331.5	100/-
	Swathi(FS)	0.5	
	Sindhu(FS)	1.0	
	Sadhana (FS)	6.5	

AJOWAN

Crop	Variety	Seed sold up to 31-3-2016 (kg)	Sale price (Rs. Per kg)
Ajowan	LS-1 (FS)	50.0	150/-
	Lta-26(FS)	7.0	

V.EXTENSION

A. Extension Programmes organized at University level

Udyan Mela- 2015: Udyana Mela was held at DrYSRHU, V.R.Gudem to showcase the technologies in horticultural crops from 30th and 31st December 2015. Farmers from all the districts were invited to the mela. Live demonstrations were organized and explained to the farmers. An exhibition was also arranged by involving all the SAUs, line departments, NGOs and input agencies. About 1500 farmers and students have participated.






Zonal Research and Extension Advisoy Council Meetings: The ZREAC meeting of coastal districts was organized on 07.05.2015 at Dr.YSRHU campus. In this programme Dr.B.M.C.Reddy, Hon'ble Vice-Chancellor, Dr.J.Dilipbabu, Director of Research, Dr.R.V.S.K.Reddy, Director of Extension, Dr.YSRHU, Venkataramannagudem and Department Officials have participated. Scientists have interacted with the departmental officers and farmers from eight coastal districts *viz;*Vizianagaram, Srikakulam, Visakhapatnam, East Godavari, West Godavari, Krishna, Guntura and Prakasam to discuss about the problems faced in cultivation of horticultural crops and to identify the research and extension gaps to be addressed by the scientists and extension officers during the coming year.


KVKs Annual Action Plan Meeting:

The Annual Action plan meeting of KVKs of Andhra Pradesh was conducted from 11.05.2015 to 12.05.2015 at Dr.YSRHU campus. In this programme Dr.B.M.C.Reddy, Hon'ble Vice-Chancellor, Dr.N.Sudhakar, Zonal Project Director, ZPD, Zone-V, Hyderabad, Dr.J.Dilipbabu, Director of Research, Dr.R.V.S.K.Reddy, Director of Extension, Dr.YSRHU, Venkataramannagudem Dr.K.Raja Reddy, Director of Research and Director of Extension, ANGRAU, Dr.P.Sudhkar Reddy, Registrar and Director of Extension, SVVU, Tirupathi and Department Officials have participated to review the work done by the KVKs in AP. during the year and proposed action plan for the coming year was also discussed and finalized.

State Level Technical Programme: Meeting pertaining to technical programmes of all the research stations, AICRP centers and KVKs under this university was conducted from 18.05.2015 to 20.05.2015 at Dr.YSRHU campus. In this programme Dr.B.M.C.Reddy, Hon'ble Vice-Chancellor, Dr.J.Dilipbabu, Director of Research, Dr.R.V.S.K.Reddy, Director of Extension, University Officers along with experts and Scientists have participated and reviewed the work done during 2014-15 and the proposed technical programme for 2015-16

All India Coordinated Research Project on fruits at Horticultural Research Station, Anantharajupeta was inaugurated by Dr.N.K.Krishna Kumar, Depurty Director General (Horti.) o 11-06-2015. In the presence of Dr.B.M.C.Reddy, Vice-Chancellor, Dr.YSRHU, Dr.M.Lakshmi Narayana Reddy, Dean of Horticulture, Dr.Prakash Patil, Project Coordinator (Fruits), ICAR-AICRP on fruits, IIHR, Bengaluru, Dri.M.R.Dinesh, Principal Scientist (Horti) & Head, Division of fruits, IIHR, Bengaluru, Dr.K.Gopal, Associate Dean, HC&RI, Dr.K.T.Venkataramana, Zonal Research Head (Rayalaseema), CRS, Tirupati, Dr. C. Madhumathi, Senior Scientist (H) & Head and teaching staff of HRS and HC&RI, Anantharajupeta.

Hon'ble Vice Chancellor Dr. K. B.M.C Reddy, Hon'bleDDG Dr. N.K. Krishna Kumarand other officials observing different Mango varieties displayed in Mango Diversityexhibition on 11-06-2015

World Soil Day - Kisan Sammelan: World soil day and Kisan sammelan were organized at University Head Quarters on 05.12.2015 by Krishi Vigyan Kendra, Venkataramannagudem. Sri Magantti Venkateswara Rao (Babu), Hon'ble MP of Eluru, Sri Ganni Veeranjaneyulu, MLA, Ungutur and Sri. Mullapudi Bapiraju, ZP Chairman, West Godavari district, Dr.B.M.C.Reddy, Vice-Chancellor, all the University Officers, Scientists and public representatives participated in the programme. On that day Milch animal shed constructed at KVK instructional farm was inaugurated by Sri Magantti Venkateswara Rao (Babu) garu, Hon'ble MP, Eluru. Soil testing lab at KVK was inaugurated by Sri G.Veeranjaneyulu, MLA, Ungutur. An Exhibition was organized during the occasion by involving Research Stations, KVKs, State line departments and input agencies. Dr.B.M.C.Reddy, Vice-Chancellor explained about the importance of soil health and measures to improve soil health. Soil health cards prepared by analyzing soil samples for N,P,K, EC, Zn, Ca, Mg and Fe were distributed to 250 farmers by the dignitaries. Two millet based backery units, 20 Coconut climbing devices were also distributed to the trainees by the guests. Neem and Pongamia soap formulations for agricultural use prepared by KVK, Venkataramannagudem with technical support from IIHR, Bengaluru were also launched on this occasion. Two technical booklets titled "Chirudhanyalatho Poshakahara utpathulu" and "Bhusara Adharitha Poshaka Yajamanyam" published by Dr.R.V.S.K.Reddy, Director of Extension were also released.

Sri G. Veeranjaneyulu garu, Hon'ble MLA, Ungutur inaugurating the Soil Test Lab at KVK, V.R.Gudem

Sri Magantti. Venkateswara Rao (Babu) garu, Hon'ble MP, Eluru inaugurating the Milch animal shed at KVK, V.R.Gudem

Dignitaries interacting about soil health cards

Distribution of soil healh cards to the farmers

Millet Processing units distributed to tribal women

Release of technical bulletin on millet processing by the digniroties

Krishi Vigyan Kendra, Pandirimamidi

On 21.11.2015 Krishi Vigyan Kendra, Pandirimamidi, conducted "Kisan Sammelan" in the agency area of Rampachodavaram division of East Godavari district to create awareness and dessiminate to tribal people on latest advanced technologies in Agricultural , Horticultural and allied sectors with help of ITDA, Line departments, Private seed & fertilizer companies, Farm mechanization and NGO's an exhibition was organized. Smt. Kothapalli Geetha, Hon'ble M.P. (Araku), Smt. T.Ratna bai Hon'ble M.L.C. (Rampachodavaram), Smt. Vanthala Rajeshwari, Hon'ble MLA (Rampachodavaram), Dr.B.M.C.Reddy, Hon'ble Voice Chancellor, Dr.YSR. Horticultural University, Sri.K.V.N. Chakradarababu, IAS, Project Officer, ITDA – Rampachodavram, Dr.R.V.S.K. Reddy, Director of Extension, Dr.YSR. Horticultural University, district line departments heads, public representatives and 1025 tribal farmers from 11 agency mandals of East Godavri district have participated. Chief guest of the programme Smt. Kothapalli Geetha, M.P. has inaugurated the exhibition.

Smt.V.Rajeswari, MLA. inaugurating the stalls

Smt.K.Githa, M.P. and other officials visiting Dr.YSRHU stalls

Smt. K.Gita, MP distributing spryers to tribal farmers

Dr.B.M.C.Reddy, V.C. Presented memento to Smt. K.Gita, M.P.

Rythu Kosam Chandranna Yatra and Rythu Sadassus: University scientists have attended and arranged the exhibition stall during "Rythukosam Chandranna" programme at Tadepalligudem Market yard on 15.09.2015. Displayed the improved technologies of horticultural crops and interacted with the farmers to answer the queries related to production and protection of horticultural crops.

Dr. B.M.C. Reddy, Vice-Chancellor and university officers along with department officials visiting the university stall

Dr.R.V.S.K. Reddy, Director of Extension along with Dr. E. Karunasree, Senior Scientist & Head, KVK, Venkataramannagudem participated in an awareness programme on NHB schemes to SC & ST farmers and tribal women, and also participated in the training programme on "Millet bakery products" on 09.12.2015 at K.R.Puram. Sri. Shan Mohan, IAS, Project Officer, ITDA, K.R.Puram discussed about the collaborative programmes by KVK, Venkataramannagudem through ITDA along with supply of Kitchen garden kits and improved backyard poultry birds.

- One day training programme on Right to information act was organized for all the heads of the colleges, research stations and KVKs at Administrative office, Venkataramannagudem on 22.05.2015.

- Participated in South Zone Agri. Expo-2015, Small Farmers Friendly Agriculture Technologies Conference & Exhibition at RARS, Lam from 19th to 21st December, 2015 and an exhibition of Dr.Y.S.R.H.U technologies was also arranged.

❖ On 01.04.2015 Dr.B.V.K.Bhagawan, Principal Scientist (Hort.) & Head, HRS, Kovvuru and Zonal Research Head, Zone-I and Dr.A.Srinivas, Programme Coordinator, KVK, Pandirimamidi attended Kisan Mela organized by ADR & Director, APRRI, Maruteru, West Godavari district and exhibited the new technologies in horticultural crops developed by Dr.YSR. Horticultural University.

B. DIAGNOSTIC VISITS

Horticultural Research Station, Venkataramannagudem

- Dr. B.Ramesh Babu, Scientist (Hort.) visited Soorampalem village of East Godavari to assess the crop value in mango.
- Dr. B.Ramesh Babu, Scientist (Hort.) visited cauliflower crop at Poranki village of Penamaluru mandal of Krishna district.
- Dr. B.Ramesh Babu, Scientist (Hort.) visited bean crop at Madicherla village of Krishna district.
- Smt.P. Rama Devi, Scientist (Pl.Path.) visited mango gardens in Itukulagunta, Bhimadole Mandal on 10.04.2015.
- Smt.P. Rama Devi, Scientist (Pl.Path.) and Sri M. Ravindra Babu, Scientist (Hort.) visited banana fields in Kavuluru and Chadarasigunta, Nallajerla Mandal on 20.04.2015.
- Smt.P.Sunitha, Scientist (Ento.) visited sweet orange orchard in Avapadu village and recommended carbendazim @1 gm/l drenching followed by foliar spray @ 1gm/l on 11.06.2015.
- Smt.P. Rama Devi, Scientist (Pl.Path.) visited oil plam gardens in Avapadu, Nallajarla Mandal on 19.07.2015 and 19.10.2015.
- Smt.P. Rama Devi, Scientist (Pl.Path.) visited papaya field in Krishnapuram, Tadepalliguem mandal on 27.08.2015 and Venkataramannagudem on 16.09.2015
- Smt.P. Rama Devi, Scientist (Pl.Path.) visited citrus orchard in Koonavaram, Bangarugudem mandal on 28.10.2015.

- Dr.M. Rajasekhar, Senior Scientist (Hort.) and Smt.P. Rama Devi, Scientist (Pl.Path.) visited citrus orchard in Duggirala, Eluru on 12.01.2016 and Avapadu, Nallajarla Mandal on 09.03.2016.

- Smt.P. Rama Devi, Scientist (Pl.Path.) and Smt. P.Sunitha, Scientist (Ento.) visited betelvine gardens in Vanukuru, Madduru, Royyuru villages of Penamaluru and Kankipadu mandals on 16.03.2016.

- Dr. P.Ashok, Scientist (Hort.) visited Anuru village of Peddapuram, East Godavari district and interacted with Cassava growers

- Dr. P.Ashok, Scientist (Hort.) visited Mallavaram village of East Godavari District and explained the method of seed treatment in cassava.

- Dr.P.Ashok, Scientist (Hort.) visited Pithapuram and Peddapuram and interacted with Yam growers.

Horticultural Research Station, Anantapuramu

- Dr.B.Srinivasulu, Senior Scientist (Hort.) & Head attended diagnostic survey of onion fields at Basenepalli Thanda on 04.04.2015.

- Dr.B.Srinivasulu, Senior Scientist (Hort.) & Head visited tomato, tuberose, chrysanthemum and bhendi fields at Nayanapalli, Maddur along with Agricultural Officer on 14.08.2015.

- Dr.B.Srinivasulu, Senior Scientist (Hort.) & Head visited tomato fields in Thimmampeta, Garladinne mandal on 24.08.2015 along with Assistant Director of Horticulture, Kalyandurgam.

- Dr.B.Srinivasulu, Senior Scientist (Hort.) & Head visited tissue culture banana gardens at Kesavarayunipeta and Srilakshimpalli of Yadiki mandal on 16.11.2015.

- Dr.B.Srinivasulu, Senior Scientist (Hort.) & Head visited onion field along with Deputy Director of Horticulture and Assistant Director of Horticulture (Penugonda) at Jangamreddipalli village, Narpala mandal on 07.01.2016.

Horticultural Research Station, Mahanandi

- Dr.K.Subramanyam, Principal Scientist (Pl.Path.) & Head visited turmeric field and diagnosed the leaf spot incidence and micro nutrient deficiency and advised the farmer with suitable management practices at Gajulapalli village on 06.08.2015.

- Dr.K.Subramanyam, Principal Scientist (Pl.Path.) & Head and Sri.M.Tagore Naik, Scientist (Hort.) along with Horticultural Officer, Allagadda visited bhendi field at village Kadarabadara of Sirivella mandal on 01.09.2015 and diagnosed the severe incidence of Yellow Vein Mosaic and suggested the farmer with suitable management practices.

- Dr.K.Subramanyam, Principal Scientist (Pl.Path.) & Head and Smt.T.Nagalakshmi, Scientist (Pl.Path.) conducted joint survey in Allagadda mandal of Kurnool district and Mydukur mandal of Kadapa district and recorded the incidence of diseases in onion, turmeric, jasmine, banana and marigold on 05.09.2015 and interacted with the farmers and advised them with suitable management practices.

- Dr.K.Subramanyam, Principal Scientist (Pl.Path.) & Head conducted survey on 10.10.2015 along with Horticultural Officer in Sirivella and Yerraguntla mandals of Kurnool district and recorded severe

incidence of collor rot in drum stick, mosaic and leaf curl diseases in chilli, flower drop and viral diseases in brinjal and bud borer in jasmine and advised the farmers with suitable management practices.

- Dr.K.Subramanyam, Principal Scientist (Pl.Path.) & Head and Sri.M.Tagore Naik, Scientist (Hort.) visited chilli field at Yalluru village, Gospadu mandal along with ADH-II, Kurnool on 02.12.2015 and recorded incidence of viral diseases and suggested remedial measures to the farmers.

- Dr.K.Subramanyam, Principal Scientist (Pl.Path.) & Head conducted survey in Mahanandi mandal, Kurnool district on 05.12.2015 and recorded the incidence of diseases in drumstick, onion, turmeric, banana, brinjal, marigold, bhendi, cucumber and chilli. Severe incidence of collor rot was observed in drumstick and advised the farmers with disease management practices.

- Dr.K.Subramanyam, Principal Scientist (Pl.Path.) & Head conducted survey on 07.01.2016 in Koilkuntla, Banaganapalli and Panyum mandals of Kurnool district and recorded the incidence of diseases in pomegranate, onion, turmeric, chilli and papaya crops and suggested control measures.

- Dr.K.Subramanyam, Principal Scientist (Pl.Path.) & Head conducted survey at different villages in Anantapur district on 08.02.2016 & 09.02.2016 and recorded the incidence of pests and diseases in horticultural crops and advised the farmers with suitable management practices.

- Dr.K.Subramanyam, Principal Scientist (Pl.Path.) & Head and Smt.T.Nagalakshmi, Scientist (Pl.Path.) conducted joint survey at different villages in Kurnool district on 13.02.2016 & 14.02.2016 and recorded the incidence of pests and diseases in Horticultural crops and interacted with the farmers and recommend suitable management practices.

Krishi Vigyan Kendra, Venkataramannagudem

- Sri Ch.Kiran Kumar, SMS (SS&AC) and Dr E. Karuna Sree Senior Scientist and Head conducted field diagnostic visit in Paddy nursery at Telikicherla village and suggested nutrient and pest management practices in nursery and main field on 12.07.2018.

- Sri Ch.Kiran Kumar, SMS (SS&AC) and Dr.E.Karuna Sree. Senior Scientist & Head visited cotton fields and identified sucking pest damage. Suggested spraying of dimethoate @ 3g/l, 2 to 3 times at fortnight 1st interval on 16.07.2015

- Joint field diagnostic visit with Scientists of IIOPR, Pedavegi was conducted in Oil palm fields by Ch. Kiran Kumar, Scientist (SS&AC) at Telikicherla village and identified boron and magnesium deficiency on 24.07.2015 Suggested to apply 500 g. of Magnesium Sulphate and Borax @ 50 to 100 g./palm/year.

- Dr.E.Karunasree, Senior Scientist & Head visited old mango, cashew, sapota and guava orchards along with Principal Scientist (Hort.) from NRC on Litchi, Dr.Rajesh Kumar to explore the possibilities of rejuvenation and canopy management on 01.10.2015.

- Field diagnostic visit in blackgram FLD fields in Chodavaram, Telikicherla and Venkataramannagudem villages was conducted by Sri Ch.Kiran Kumar, SMS (SS&AC) under NFSM programme and observed maruca damage in initial stage and recommended spraying of thiodicarb@1g/l for the control.

- Sri Ch.Kiran Kumar, SMS (SS&AC), SMA (Ento.) and SMA (Agril.Extn.) have conducted field diagnostic visit to blackgram, papaya and paddy fields in Telikicherla and Chodavaram villages and observed YMV incidence in blackgram fields and recommended diafenthiuron @ 1.5 g/l for the control of white fly and also observed Zinc deficiency in paddy fields and recommended foliar application of $ZnSo_4$ @ 2.5 g/l. Potassium deficiency was observed in papaya field and recommended foliar spray of Potassium nitrate @ 5 g/l.

- Dr.E.Karunasree, Senior Scientist & Head visited Aliveru, Mothigudem, Kamaiahkunta and Pandugudem villages and conducted group discussion about the facilities available and practices adopted in their villages in the cashew plantations and attended field diagnostic visits in these villages and made them aware about the damage of Tea Mosquito bug and suggested the management practices.

- SMA (Ento.) conducted a filed diagnostic visit to brinjal fields on 10.03.2016 in Telikicherla village and observed sucking pests and distributed neem soap for the pest control.

Horticultural Research Station, Anantharajupeta

- Diagnostic field visit was conducted on 09.06.2015 by Dr.C.Madhumathi, Sr.Scientist (Hort.) & Head and Syed Sadarunnisa, Assistant Professor (Hort.) in papaya field infected with collor rot at Byanapalli village near Kodur and recommended drenching with Redomil MZ @ 2g/l.
- Dr.D.Srinivasa Reddy, Scientist (Ento.) visited Rayalacheruvu village of Chittoor District on 19.08.2015 and found incidence of vegetative malformation in Baneshan mango cultivar and recommended spraying of dicofol 18 EC @ 2ml/l and NAA @ 200 ppm and also removal of severely infested twigs.
- Dr.D.Srinivasa Reddy, Scientist (Ento.) visited Grand Nine banana field in B.Kammapalli village of Obulavaripalli mandal on 19.08.2015 and observed erwinia rot and recommended drenching of bleaching powder @ 25g /l of water.
- Dr.D.Srinivasa Reddy, Scientist (Ento.) visited turmeric field in Y.Kota village and observed micronutrient deficiency and rhizome rot on 26.08.2015. Recommended soil drenching with Metalaxyl 4%+ Mancozeb 64% WP @ 3g/l of water against rhizome rot and also spraying of micronutrient mixture to overcome deficiency.
- Dr.D.Srinivasa Reddy, Scientist (Ento.) visited Rayalaseema Horticulture nursery and observed drying of mango leaves in nursery due to high EC content and salts in irrigation water. Suggested to irrigate with water from other source.
- Dr.D.Srinivasa Reddy, Scientist (Ento.) visited turmeric field in Uppaguntapalli village and observed rhizome rot damage and recommended soil drenching with Metalaxyl 8% + Mancozeb 64 % WP @ 3g/l of water .
- Smt.T.Nagalakshmi, Scientist (Pl.Path.) and Dr.K.Subramanyam, Principal Scientist (Pl.Path.) along with Horticulture Department Officers conducted survey in Mydukur and Duvvur mandals of Kadapa

district and recorded 15-25% purple blotch in onion (Bellary red) and 15-20% streak mosaic symptoms in banana fields of Adireddypalli village.

- Smt.T.Nagalakshmi, Scientist (Pl.Path.) visited papaya field in and around Bommavaram village and observed ring spot virus incidence on 23.09.2015.
- Dr.D.Srinivasa Reddy, Scientist (Ento.) visited turmeric field at Korlakunta village on 18.09.2015 and diagnosed micronutrient deficiency and recommended to spray micronutrient mixture.
- Dr.D.Srinivasa Reddy, Scientist (Ento.) visited Obanapalli village on 01.10.2015 and observed heavy pseudostem weevil damage (20%) in Rasthalu variety of banana (ratoon crop) and suggested remedial measures.
- Dr.C.Madhumathi, Senior Scientist (Hort.), observed severe incidence of leaf blotch in turmeric in Kodur and Obulavaripalli mandals and recommended to spray propiconazole 25EC @ 0.1%.
- Smt T.Nagalakshmi, Scientist (Pl.Path.) and Dr.Ch.Ruth, Assitant Professor, (Pl. Path.) and visited banana and betel vine gardens damaged due to heavy rains and floods at Kammapalli and Bommavaram villages along with RAWEP students on 13th November, 2015.
- Dr.D.Srinivasa Reddy, Scientist (Ento.) during his visit to mango orchards on 04.11.2015 in Ramachandrapuram mandal of Chittoor District and observed trees drying due to depletion of water table and in some orchards severe incidence of mango hoppers that lead to typical symptoms of damage i.e. hopper burn on non bearing trees and sooty mold on bearing trees.
- Joint field visit by scientists of HRS,Anantharajupet and officials of Department of Horticulture, was conducted to assess the damage due to Rovan cyclone, to interact with farmers and to suggest suitable recommendations on 18th, 24th and 25th November, 2015 .
- Survey of Horticultural crops in Kodur, Rajampet, Pullampet, Chitvel mandals of Kadapa (Division-II) affected due to Rovan cyclone by Dr.C.Madhumathi, Senior Scientist (Hort.) and Dr.D.Srinivasa Reddy, Scientist (Ento.) was conducted and the farmers were recommended with the measures to save the crops on 24.11.2015 and 25.11.2015.
- Survey of Horticultural crops in Kadapa Division-I affected due to Rovan cyclone was taken up by Smt.T.Naga Lakshmi, Scientist (Pl.Path.) and Sri D.Sreedhar, Scientist (Hort.) and the farmers were recommended with suitable measures to save the crops on 24.11.2015 and 25.11.2015.
- Dr.D.Srinivasa Reddy, Scientist (Ento.) visited B.Kammapalli village on 09.12.2015 and observed root wilt in papaya nursery and recommended soil application of *Trichoderma harzianum.*
- Dr.D.Srinivasa Reddy, Scientist (Ento.) visited banana field cv Grand Naine on 11.12.2015 and recommended spraying of pripiconazole 25 EC @ 1ml /l + mineral oil @ 10ml/l of water (Banole®) against sigatoka leaf spot disease.
- Smt T.Nagalakshmi, Scientist (Pl.Path.) conducted survey on 09.12.2015 on papaya diseases and inspected flood affected papaya fields in Obanapalli, Bayanapalli and Singirivaripalli.
- The incidence of root and coller rots was 100% which completely devastated the papaya orchards in Kodur and Chitvel mandals of Kadapa distict. Farmers were suggested to go for banana as an alternate crop to reduce further spread of soil borne diseases.
- Smt.T.Nagalakshmi, Scientist (Pl.Path.) along with first year M.Sc (Hortl.Pl.Path.) students conducted survey in Madhavaram podu and Settigunta villages of Railway Kodur division on 29th January, 2016 and observed that black banded disease on all aerial parts of the plant in severe form in all mango gardens visited due to heavy rains received during the month of November for 23 days (837.5 mm) in this region.
- Dr.D.Srinivasa Reddy, Scientist (Ento.) visited cauliflower grown as an intercrop in mango orchard on 29.01.2016. Incidence of *Spodoptera litura* was observed and recommended to spray chlorfenapyr 10 SC @ 1ml /l for effective control of the pest.
- Smt.T.Nagalakshmi, Scientist (Pl.Path.) and Dr.Ch.Ruth, Assistant Professor (Pl.Path.) visited Obanapalli village of Rly.kodur mandal and observed that early planted (October, 2015) papaya gardens escaped papaya ring spopt virus (12% incidence) when compared to late planted (December, 2015) crop (35% disease incidence).

- D.Sreedhar, Scientist (Hort.) & Smt.T.Nagalakshmi, Scientist (Pl.Path.) conducted field survey in papaya and mango orchards in Rajampet and Chitvel mandals of Kadapa district on 28.05.2016.
- Dr.D.Srinivasa Reddy, Scientist (Ento.) visited muskmelon crop at Bommavaram village on 05.02.2016 and advised to install yellow sticky traps for trapping adults of leaf miner and also advised to spray Cyantraniliprole 10 OD (Cyazpyr) @ 360ml/acre for the management of leaf miner based on the severity of pest incidence.
- D.Sreedhar, Scientist (Hort.) and Smt.T.Nagalakshmi, Scientist (Pl.Path.) surveyed mango gardens in Thurpupalli, Bommavaram and Settigunta villages of Kadapa district on 11th February, 2016. Flowering was delayed and erratic due to excess and continuous rains received during November, 2015. Combined infection of anthracnose, blossom blight and sooty mold and severe infestation of mango hopper affected flowering and fruit set. Vegetative growth was also observed in many fields.

Horticultural Research Station, Pandirimamidi

- On 02.01.2016, Dr.K.Rajendra Prasad, Scientist (Hort.) visited capsicum under polyhouse conditions and suggested fertilizer management at Peddapuram.

- On 23.01.2016, Dr.K.Rajendra Prasad, Scientist (Hort.) visited capsicum under shadenet conditions and suggested curative measures for thrips, white fly and micronutrient deficiencies at Dwarapudi.

- On 14.09.2015, Dr.K.Rajendra Prasad, Scientist (Hort.) visited naturally ventilated Polyhouse and suggested the layout and planting methods for capsicum cultivation at Kotikesavaram.

Citrus Research Station, Tirupati

- Smt.G.Sarada, Scientist (Ento.) has surveyed tomato fields in Kadapa and Chittoor districts to observe the intensity of new invaded pest, tomato pin worm (*Tuta absoluta)* on 11.04.2015 and 12.04.2015. In western mandals of Chittoor district and Galiveedu mandal in Kadapa district the intensity was observed as 40-50% and 5-10% respectively.

- Dr.L.Mukunda Lakshmi, Scientist (Hort.), Smt.G.Sarada, Scientist (Ento.) and Dr.T.Rajasekharam, Scientist (Pl.Path.) conducted diagnostic survey to acid lime orchards of Pedavegi mandal of West Godavari and also visited Kinnow mandarin orchards and collected the leaf and soil samples on 21.05.2015.

- Dr.L.Mukunda Lakshmi, Scientist (Hort.), Smt.G.Sarada, Scientist (Ento.) and Dr.T.Rajasekharam, Scientist (Pl.Path.) conducted diagnostic visit to acid lime orchards of Dakkili, Podalakur and Kaluvoya mandals and collected the leaf and soil samples on 30.05.2015.

- Smt G.Sarada, Scientist (Ento.) and Dr.T.Rjasekharam, Scientist (Pl.Path.) surveyed the acid lime orchards in Dakkili and Balaiahpalli mandals of Nellore district and recorded the intensity of pests and diseases on 05.06.2015.

- Dr.T.Rjasekharam, Scientist (Pl.Path.) surveyed banana gardens at Indukurpeta mandal of Nellore district along with H.O. and recorded the incidence of fusarial wilt in Nellore Amritapani variety on 17.06.2015.

- Smt.G.Sarada, Scientist (Ento.) conducted diagnostic survey for mango borers along with Smt.P.Sunitha, Scientist (Ento.) HRS, V.R.Gudem in potential mango belt of Chittoor district covering 5 mandals *viz*., Damalacheruvu, Puthalapattu, Bangarupalyam, Irala and Tavanampalli on 28th and 29th July, 2015.

- Dr.L.Mukundalakshmi, Scientist (Hort.) accompanied Dr.S.K.Malik, Head, Department of Cryopresevation and Dr.O.P.Dariwal, Head, Exploratory Unit, NBPGR, New Delhi and surveyed acid lime gardens in Sydapuram and Dakkili mandals of Nellore district for germplasm collection on 10.08.2015.

- Dr.L.Mukundalakshmi, Scientist (Hort.) accompanied Dr.S.K.Malik, Head Department of Cryopresevation and Dr.O.P.Dariwal, Head, Exploratory Unit, NBPGR, New Delhi and surveyed sweet orange gardens in Muddanuru and Pulivendula mandals of Kadapa district for germplasm collection on 12.08.2015.

- Dr.L.Mukundalakshmi, Scientist (Hort.), Smt.G.Sarada, Scientist (Ento.) and Dr.T.Rajasekharam, Scientist (Pl.Path.) surveyed sweet orange gardens in Pulivendula and Thonduru manadals of Kadapa district on 27.08.2015.

- Dr.L.Mukunda Lakshmi, Scientist (Hort.), Smt.G.Sarada, Scientist (Ento.) and Dr.T.Rajasekharam, Scientist (Pl.Path.) surveyed the sweet orange orchards in Chinthakalva village of Kayampeta mandal and collected leaf and soil samples on 10.09.2016.

- Dr.T.Rajasekharam, Scientist (Pl.Path.) along with Department of Horticulture Officials has surveyed citrus orchards in Markapuram and Kanigiri mandals of Prakasam district to know the cause of mortality in citrus plants on 18th and 19th September 2015.

- Dr.L.Mukunda Lakshmi, Scientist (Hort.) proceeded to Mittakandriga village of Ramachandrapuram mandal and noticed zinc and iron deficiencies in six years old mango orchards, fruit cracking in ash gourd and pickling melon and damping off in methi and palak leafy vegetable fields on 01.10.2015.

- Smt.G.Sarada, Scientist (Ento.) and Dr.T.Rajasekharam, Scientist (Pl.Path.) along with Horticultural Officers visited Narpala, Yallanuru, Putluru, Garladinne and Anantapur (R) mandals of Anantapur district to surveyed sweet orange gardens. In total sixteen gardens were observed for the incidence of pests and diseases on 12th and 13th October 2015.

- Dr.L.Mukunda Lakshmi, Scientist (Hort.) and Dr.M.Kavitha, Scientist (Pl.Path.), CRS, Petlur conducted diagnostic survey on 20th and 21st November, 2015 along with Department of Horticulture officers in cyclone affected mandals *viz.,* Byreddipalli, V.Kota, Santhipuram, Punganur, Ramasamudram mandals of Chittoor district.

- Smt.G.Sarada, Scientist (Ento.), Dr.T.Rajasekharam, Scientist (Pl.Path.) and Sri.D.Sreedhar, Scientist (Hort.) along with Department of Horticulture Officials surveyed cyclone affected mandals *viz.,* Kalikiri, Kalakada, Gurramkonda, Valmikipuram, Putturu, KVB Puram and Satyavedu of Chittoor district on 20th and 21st November, 2015.

Citrus Research Station, Petlur

- Dr.M.Kavitha, Scientist (Pl.Path.) along with the scientists of CRS, Tirupati visited acid lime orchards in Lakshmipuram and other villages of Eluru mandal on 25.05.2015

- Dr.M.Kavitha, Scientist (Pl.Path.) and Dr.M.Mukundalakshmi, Scientist (Hort.) attended diagnostic visits along with Asst. Director of Horticulture, Chittoor in Palamaneru, Ramakuppam, Byreddipalli,

Punganuru and Madanapalli mandals to assess the crop damage due to continuous rains and also given suitable suggestions to protect the crops on 23.11.2015.

- Dr.B.Govindarajulu, Principal Scientist (Pl.Path.) & Head made six diagnostic visits in various acid lime and sweet orange orchards in different mandals of SPSR Nellore and other districts.

- Dr.M.Kavitha, Scientist (Pl.Path.) made 15 diagnostic visits in various acid lime and sweet orange orchards in different mandals of SPSR Nellore and other districts.

- Dr.M.G.Bala Hussaini, Scientist (Hort.) made 20 diagnostic visits in various acid lime and sweet orange orchads in different mandals of SPSR Nellore dist.

- Dr.B.Pratap, Scientist (Agro.) made 10 diagnostic visits in various acid lime and sweet orange orchads in different mandals of SPSR Nellore dist.

Horticultural Research Station, Kovvur

- Dr.B.V.K.Bhagavan, Principal Scientist (Hort.) & Head along with Dr.Rampal, Senior Scientist (Hort.) from NRC Orchids, Darjeeling visited Chintapalli and Maredumilli mandals of Visakhapatnam and East Godavari districts from 08.06.2015 to 10.06.2015. respectively to observe the feasibility of growing orchids in these regions

- Smt.K.Mamatha, Scientist (Hort.), along with Research Associates carried out survey for various banana diseases and estimation of geographical area for elephant foot yam on 8th August, 2015.

- Smt.R.Naga Lakshmi, Scientist (Hort.) observed various diseases in banana, tube rose and guava at Purushothapalli and Madduru lanka villages of West Godavari district on 12.08.2015.

- Dr.B.V.K.Bhagavan, Principal Scientist (Hort.) & Head visited banana fields on 14.10.2015 at Dommeru where the panama wilt infestation was severe in Tella chakkerakeli.

- Ms.T.Sowmya, Research Associate (Pl.Path.) and Mr.Thirupal, Research Associate (Hort.) visited Karpura Chakkera keli and Bontha banana fields on 13.11.2015 in Maddur village of Kovvur mandal, West Godavari and observed sigatoka leaf spot.

- Ms.T.Sowmya, Research Associate (Pl.Path.) visited jack and sapota orchards of Kapavaram village in East Godavari district on 11.12.2015.

- Ms.T.Sowmya, Research Associate (Pl.Path.) visited sapota and jack orchards of Payakaraopeta mandal in Visakhapatnam district on 13.12.2015 and observed various diseases and pests.

- Ms.T.Sowmya, Research Associate (Pl.Path.) conducted survey in jack and sapota orchards of Nathavaram, Rolugunta mandal in Vishakhapatnam district on 14.12.2015 for diseases and pests.

- Ms.T.Sowmya, Research Associate (Pl.Path.) conducted survey in banana, jack and sapota orchards of Bobbili and Mentada mandals in Vizianagaram, district on 15.12.2015 for diseases and pests.

- Smt.K.Mamatha, Scientist (Hort.) and Smt.R.Naga Lakshmi, Scientist (Hort.) visited *Dioscorea* intercropped with colocasia at Virawada village, Pitapuram mandal of East Godavari district on 21.12.2015.

- Smt.K.Mamatha, Scientist (Hort.) along with Dr.James George, Project Coordinator, AICRP on Tuber crops visited *Dioscorea* fields and interacted with farmers at Virawada village, Pithapuram mandal of East Godavari district on 01.01.2016.

Horticultural Research Station, Darsi

- On 19.09.2015, Dr. M. Mutyala Naidu, Senior Scientist (Hort.) & Head visited chilli fields and recommended spraying of fipronil @ 2ml/l for the control of upward curling at Veekatachelampalli village and on 07.11.2015 at Bottlapalem, Darsi mandal.

- On 14.10.2015, Dr. M. Mutyala Naidu, Senior Scientist (Hort.) & Head visited banana fields and recommended soil drenching with bleaching power @ 25g/l against rhizome rot disease at Cherukumpalem village, Darsi mandal.

- On 16.11.2015, Dr. M. Mutyala Naidu, Senior Scientist (Hort.) & Head visited tissue culture banana fields and reported low yields at Kesavarayenipeta and Srilakshmi Palli village, Anantapuram district.

Horticultural Research Station, Ambajipeta

- Dr.N.B.V.Chalapathi Rao, Senior Scientist (Ento.) visited Tanuku and Undrajavaram villages of East Godavari district for survery of incidence of Coconut black headed caterpillar and released the parasitoids on 02.05.2015.

- Dr.G.Ramanandam, Principal Scientist (Hort.) & Head visited Tanuku and Velivennu villages of West Godavari district for survey of incidence of coconut black headed caterpillar and released the parasitoids on 12.06.2015.

- Dr.N.B.V.Chalapathi Rao, Senior Scientist (Ento.) conducted diagnostic survey of incidence of coconut black headed caterpillar and released the parasitoids at Thudem village of Vizianagaram district on 03.07.2015.

- On 07.07.2015, Dr. N.B.V. Chalapathi Rao, Senior Scientist (Ento.), and on 13.07.2015, Dr. G. Ramanandam, and Dr.N.B.V.Chalapathi Rao Senior Scientist (Ento) visited Nandarada and Dosakayalapalli villages of East Godavari Dist and identified the incidence of Coconut black headed caterpillar and slug caterpillar and released the parasitoids.

- Dr. G. Ramanandam, Principal Scientist (Hort) & Head surveyed Razole & Sompelli villages on 14.07.2015, Antarvedi on 15.07.2015, Palakollu on 21.07.2015, Moharampudi, Rajahmundry on 3.08.2015 and Vemulapalli on 08.09.2015 in East Godavari District to collect data on elite palms for coconut germplasm collection.

- On 01.08.2015, Dr A. Snehalatha Rani, Scienitst (Pl.Path.) conducted diagnosis of guava disease and suggested suitable management practices in Borvancha village of Nuzvid mandal, Krishna District.

- Dr.N.B.V.Chalapathi Rao, Senior Scientist (Ento.) visited Samanthakurru and D.Ravulapalem villages of East Godavari Dist and indentified incidence of Coconut black headed caterpillar and released the parasitoids on 03.08.2015.

- Dr.N.B.V.Chalapathi Rao, Senior Scientist (Ento.) and Dr.A.Snehalatha Rani, Scienitst (Pl.Path.) noticed ganoderma and red palm weevil incidence and suggested the control measures on 07.08.2015 in Katakoteswaram village in Nidadavolu mandal of West Godavari District.

- On 19.09.2015, Dr.G.Ramanandam, Principal Scientist (Hort.) & Head conducted fixed plot survey for inserct pests in coconut in Palivela village of East Godavari District.

- Dr.G.Ramanandam, Principal Scientist (Hort.) & Head visited S.Rayavaram and Anakapalli mandals of Visakhapatnam District and identified low to moderate incidence of mite in both mandals and very low incidence of black headed caterpillar released the parasitoids on 29.09.2015.

- On 30.09.2015, Dr.G.Ramanandam and Dr.N.B.V.Chalapathi Rao identified low to moderate incidence of mite, medium incidence of rhinoceros beetle and red palm weevil. With respect to disease incidence, stem bleeding and basal stem rot diseases in Thudem, Ravada, Kavulawada villages of Visakhapatnam District was noticed.

- Dr.G.Ramanandam visited Haripuram, Narayanapuram, Bethalapuram, Bhadapalli and observed low to moderate incidence of eriophyid mite and black headed caterpillar on 1st and 2nd October, 2015.

- Dr.G.Ramanandam, Dr.N.B.V.Chalapathi Rao, Dr.A.Snehalatha Rani and Smt.E. Padma has created awareness on nature of damage by black headed caterpillar and its control through bio agents and demonstrated field release of bio agents on 08.10.2015 in Samanthakurru village of Allavaram mandal of East Godavari District.

- On 16.10.2015, Dr.A.Snehalatha Rani and Smt.E.Padma visited Ernagudem and Gopalapuram villages of West Godavari District and observed incidence of basal stem rot, stem bleeding and rhinoceros beetle damage in the surveyed gardens and suggested the farmers to adopt the integrated management measures.

- Dr.N.B.V.Chalapathi Rao visited Vedireswaram village, Ravulapalem mandal, East Godavari District and observed high incidence of slug caterpillar and identified the stage of pest in the field as adult moth phase and awareness was created on nature of damage and management practices to the farmers on 11.03.2015.

Krishi Vigyan Kendra, Pandirimamidi

- On 08.09.2015, Dr.A.Srinivas, Programme Coordinator visited Cotton and Sorghum fields at E.Ramavaram vilage of Gangavaram mandal along with Agricutural Officer and ATM-ATMA and explained the good management parctices, schemes and programmes under Tribal Sub Plan.

- On 09.12.2015, Dr.A.Srinivas, Senior Scientist & Head, Sri.V.Govarthan Rao, SMS (Pl.Path.) and Dr.K.Ravi Kumar, SMA, (Hort.) visited Chilli fields of Nellipaka village of Chinturu mandal, Nandigam village of Yetipaka mandal and Kunavaram village along with respective A.O's and identified severe incidence of midge fly and viral diseases and suggested control measures.


KVK Scientists, PHO-ITDA and departmental officers Observerving virus disease in chilli at Nellipaka village of Chintoor mandal

- On 05.01.2016, Dr.A.Srinivas, Senior Scientist & Head, Sri.P.Venkata Ramana, SMA (SS&AC) and Dr. K. Ravi Kumar, SMA (Hort.), conducted diagnostic field visit to brinjal crop at Tamarapalli village of Rampachodavaram mandal.

Dr.A.Srinivas, Sr.Scientist and scientific staff observing the brinjal fields-Tamarapalli

- On 21.01.2016 and 20.02.2016, Sri V.Govardhan Rao, SMS (Pl.Path), Dr.K.Ravi Kumar, SMA (Hort.) and Sri P.Venkataramana SMA (SS&AC), visited chilli and papaya fields at Pedagedda village of Rampachodavaram mandal and suggested control measures against the pests and diseases observed.



- On 25.01.2016, Dr.A.Srinivas, Senior Scientist & Head, Sri V.Govardhan Rao, SMS (Pl.Path.) and Sri P.Venkataramana, SMS (SS&AC) visited maize fields at Chinna Ramanayyapeta, Dandangi, Parasanapadu, Pudipalli, Agraharam and Thoyyuru villages of Devipatnam mandal and suggested control measures against late wilt and nutrient deficiencies observed.

Field observation

Late wilt symptom in root system

- On 03.02.2016, Sri V.Govardhan Rao, SMS (Pl.Path.) and Sri P.Venkataramana, SMA (SS&AC) visited tomato field at Vadapalli village of Maredumilli mandal and observed incidence of early blight and leaf miner and suggested control measures.

Sri V.Govardhan Rao, Scientist (Pl.Path.), Sri P.Venkataramana, SMA(SSAC), KVK , Pandirimamidi made Diagnostic visit on Tomato at Vadapalli village of Maredumilli mandal

- On 03.02.2016, Sri V.Govardhan Rao, SMS (Pl.Path.) and Sri P.Venkataramana, SMA (SS & AC) visited carrot field at Narasapuram village of Maredumilli mandal and suggested control measures against late blight and carrot rust fly observed.

Scientist (Pl.Path.) observing the Carrot field

- On 04.02.2016, Sri V.Govardhan Rao, SMS (Pl.Path.) and Sri P.Venkata Ramana, SMA (SS&AC) visited maize field at Sharabhavaram village of Rampachodavaram mandal and observed the typical symptom of phosphorus deficiency in paddy fallows and suggested foliar spraying of 19:19:19 NPK two to three times at weekly interval.

Horticultural Research Station, Lam

- On 14.08.2015, Dr.S.Surya Kumari, Principal Scientist (Hort.) attended inspection of diseased and senile coconut palms at HRS, Vijayarai.

- Dr.C.Venkata Ramana, Scientist (Hort.) participated in diagnostic field visit in Vejendla, Narakoduru and Gundavaram villages of Chebrolu mandal to ascertain the reason for bittergourd premature ripening and yellowing of fruits along with Horticultural Officer on 14.08.2015.

- On 21.09.2015, Dr. L.Naram Naidu, Principal Scientist (Hort.) and Dr.C.Venkata Ramana, Scientist (Hort.) attended field visit as a part of Rythu Kosam Chandranna at Pedajagarlamudi. Around 150 farmers have participated.

- Smt.T.Vijaya Lakshmi, Scientist (Pl.Path.) and Dr.K.Sireesha, Scientist (Ento.) visited chilli field damaged (20-25%) due to the symptoms of swelling and cutting at the base of the plant at Mandepudi village on 06.10.2015.

- Dr.C.Sarada visited chilli fields at Nuzvid to diagnose the reasons for crop failure along with Department of Horticulture officers on 14.10.2015.

- Smt.T.Vijaya Lakshmi, Scientist (Pl.Path.), Dr.C.Venkata Ramana, Scientist (Hort.) and Dr.K.Sireesha, Scientist (Ento.) visited chilli fields around Ravipadu and Prattipadu villages on 09.12.2015.

- Dr.C.Sarada, Sr.Scientist (Hort.) visited chilli fields of crop failure at Karampudi along with officers of Dept of Agriculture on 14.12.2015.

- On 22.12.2015, Dr.C.Venkata Ramana, Scientist (Hort.) attended diagnostic field visit in chilli crop in Yerraguntla, Allagadda, Alamur, Rudravaram, Yallur, Sirivella and Perur villages of Kurnool district along with officers of Department of Horticulture and Agriculture.

- Dr.L.Naram Naidu, Principal Scientist (Hort.) attended diagnostic field visit in chilli crop in Inkollu and surrounding villages of Prakasam district on 12.01.2015.

- Dr.LNaram Naidu, Principal Scientist (Hort.), Dr.C.Sarada, Senior Scientist (Hort), Smt.T.Vijaya Lakshmi, Scientist (Pl.Path.) and Dr.C.Venkata Ramana, Scientist (Hort.) attended field visit at Ananthavarappadu to monitor chilli minikits on 23.02.2016.

- Dr.C.Venkata Ramana, Scientist (Hort.) inspected chilli field at Mandapadu village of Medikonduru mandal and Dhulipalla village of Sattenapalli mandal along with AO and HO to ascertain the reasons for the chilli crop failure on 24.02.2016.

- On 02.03.2016, Smt.T.Vijaya Lakshmi, Scientist (Pl.Path.) and Dr.K.Sireesha, Scientist (Ento.) attended field visit in Vangipuram, Chebrolu, Narakoduru and Vejendla covering chilli and vegetable crops.

- Dr.L.Naram Naidu, Principal Scientist (Hort.) attended diagnostic field visit at Marturu and surrounding villages of Prakasam district on 27.03.2016.

- Dr.K.Giridhar, Scientist (Hort.) attended diagnostic field visit at Tenali, Duggirala and Kollipara on 02.11.2015 and at Kolluru and Bhattiprolu mandals on 06.11.2015 covering turmeric crop.

- Dr.K.Sireesha, Scientist (Ento.) attended diagnostic field visit at Parchuru and Inkollu, Prakasam Dt. covering chilli crop on 04.11.2015.

- Dr.C.Sarada, Senior Scientist (Hort.) and Smt.T.Vijaya Lakshmi, Scientist (Pl.Path.) attended diagnostic field visit at Piduguralla, Machavaram, Rajupalem and Bellamkonda mandals covering chilli, tomato and coccinia crops on 12.11.2015 and at Tadikonda, Pedakurapadu and Amaravathi covering chilli, tomato and brinjal crops on 13.11.2015

- Dr.K.Sireesha, Scientist (Ento.) attended diagnostic field visit at Medikonduru and Sattenapalli mandals covering chilli crop on 13.11.2015.

- Dr.C.Venkata Ramana, Scientist (Hort.) attended diagnostic field visit at Pedakurapadu and Chilakaluripet on 13.11.2015 and at Vinukonda and Bollapalli mandals on 14.11.2015 covering chilli crop.

- Dr.C.Sarada, Sr.Scientist (Hort.) and Smt.T.Vijaya Lakshmi, Scientist (Pl.Path.) attended diagnostic field visit at Parchuru, Inkollu, Naguluppalapadu, Maddipadu, Prakasam Dt. and Dr.C.Venkata Ramana, Scientist (Hort.) and Dr.K.Sireesha, Scientist (Ento.) at Yerragondapalem, Tripurantakam, Addanki, Darsi, Prakasam Dt. and Dr.LNaram Naidu, Principal Scientist (Hort.) at Molagavalli and Veeravalli villages of Veeravalli mandal in Krishna district covering chilli crop on 05.01.2016.

- Dr.C.Venkata Ramana, Scientist (Hort.) attended diagnostic field visit at Ponnekallu village of Tadikonda mandal (crop failure- incompatibility between Pegasus and a bio product Magic) covering chilli crop on 19.01.2016.

- Smt. T.Vijaya Lakshmi, Scientist (Pl.Path.) attended diagnostic field visit at Yedlapadu village of Yedlapadu mandal (crop failure due to yellowing and drying) covering chilli crop on 27.01.2016.

Mango Research Station, Nuzvid

- Dr.R.Rajya Lakshmi, Scientist (Hort.) & Head participated in a field visit along with A.D.A. Nuzvid at Vissanapeta on 15.05.2015

- Dr.R.Rajya Lakshmi, Scientist (Hort.) & Head participated in field visit at Borvancha, Ramannagudem village in Nuzvid mandal on 01.08.2015 along with Scientist (Plant Pathology). Visited the guava garden and noticed bark eating caterpillar infestation.

- Dr.R.Rajya Lakshmi, Scientist (Hort.) & Head participated in a field visit at Gollalapalli village in Gannavaram mandal on 14.08.2015 and identified the mango stem borer infestation.

- Dr.R.Rajya Lakshmi, Scientist (Hort.) & Head participated in field visit at Chatrai village, Chatrai mandal on 18.08.2015 and demonstrated the training and pruning practice in mango.

- Dr.R.Rajya Lakshmi, Scientist (Hort.) & Head participated in field visit on 19.08.2015 at Madicherla village of Bapulapadu mandal along with H.O. and visited the beans field and explained about the improved package of practices in beans.

- Dr.R.Rajya Lakshmi, Scientist (Hort.) & Head participated in field visit at Yanamandala village of Nuzvid Mandal on 25.08.2015 along with H.O, Nuzvid and visited mango fields and collected soil samples for identification of soil problems.

- Dr.R.Rajya Lakshmi, Scientist (Hort.) & Head visited guava fields for identification of wilt affected guava gardens to show to ICAR team on 26.08.2015.

- Dr.R.Rajya Lakshmi, Scientist (Hort.) & Head visited mango orchards in Nuzvid mandal on 11.09.2015 and explained about the training and pruning practices in mango

- Dr.R.Rajya Lakshmi, Scientist (Hort.) & Head participated in field visit in Reddygudem mandal on 14.09.2015. Visited the mango orchards and explained about the fertilizer recommendation.

- Dr.R.Rajya Lakshmi, Scientist (Hort.) & Head visited mango orchards in Venkatadhripuram on 03.10.2015 and suggested the control measures for leaf webber in mango.

- Dr.R.Rajya Lakshmi, Scientist (Hort.) & Head attended to field visit in Mallavalli on 13.10.2015 and explained about the control measures of leaf spot, wilt and drying of branches in mango.

- Dr.R.Rajya Lakshmi, Scientist (Hort.) & Head visited vegetable fields *viz*., tomato, pumpkin at Kothapalli on 06.11.2015 and explained the management practices for control of snails.

- Dr.R.Rajya Lakshmi, Scientist (Hort.) & Head visited mango gardens at Vissannapeta on 27.11.2015 and 18.12.2015 and at Ramannagudem on 23.12.2015 and 20.01.2016 and explained about INM and IPM practices in mango.

- Dr.R.Rajya Lakshmi, Scientist (Hort.) & Head visited mango gardens at Naaguru on 05.01.2016 and explained about the improved production technologies in mango.

- Dr.R.Rajya Lakshmi, Scientist (Hort.) & Head visited mango gardens at Putrela on 25.01.2016 and Ramannagudem on 18.02.2016 and enlightened the farmers about the improved production technologies and integrated pest and disease management in mango.

- Dr.R.Rajya Lakshmi, Scientist (Hort.) & Head visited mango gardens at Kondaparva on 17.02.16 and explained about the INM and IPM practices in mango.

Horticultural College & Research Institute, Venkataramannagudem

Dr.N.Emmanuel, Assistant Professor (Ento.) attended the diagnostic visit to coconut gardens in Prakasaraopalem on 28.10.2015.

Horticultural College & Research Institute, Anantharajupeta

Scientists from HC&RI, Anantharajupeta visited flood affected areas in Obulavaripalli and Kodur mandals and explained to the farmers about the management practices to be adopted in flood affected mango, sweet orange, papaya and betel vine gardens.

C.TRAINING PROGREMMES CONDUCTED

Krishi Vigyan Kendra, Venkataramannagudem

- KVK, Venkataramannagudem conducted 15 days vocational training programme on **"Food Processing and Preservation"** to Ch.S.D.St.Theresa's College for Women, Eluru students from 10.04.2015 to 25.04.2015. Dr.E.Karunasree, Programme Co-ordinator has co-ordinated the training programme.


Dr.B.M.C.Reddy, Hon'ble Vice-Chancellor and Dr.RVSK Reddy, Director of Extension interacting with trainees

- Conducted training programme on **"Disease management in Oil Palm"** at Telikicherla village in collaboration with IIOPR, Pedavegi as a past of Farmers Field School programme on 13th August, 2015. Dr.R.V.S.K.Reddy, Director of Extension, Dr.M.V.Prasad, Principal Scientist, Dr.Praveena Deepti, Scientist, IIOPR, Pedavegi and Dr.E.Karunasree, Programme Coordinator, KVK, Venkataramannagudem participated and explained about the importance of clean cultivation and management of diseases in oil palm crop.

- Conducted training programme on **"Integrated Nutrient Management in Cashew and Cotton"** at Kamaikunta village of Buttaigudem mandal on 22.08.2015. In this programme Sri R.Suryanarayana, Project Officer, ITDA, K.R.Puram participated as guest of honour and explained about the scope for collaboration of KVK and ITDA for the improvement in living status of tribal farm families. Dr.RVSK Reddy, Director of Extension,Dr.YSRHU explained about the importance of soil health cards to calculate the fertilizer dosage and to know the soil health status to improve the soil quality by the suggestions made in the card based on crop specific recommendations. He explained various KVK activities under TSP during 2015-16 followed by distribution of soil health cards and fertilizers to selected farmers under TSP programme. Also conducted method demonstration on "Stem Application in Cotton" with monocrotophos @ 25ml + 75ml of water 1:4 ratio for the control of sucking pest complex without damaging the natural pests as, ecologically sustainable technology in cotton fields. Sri Ch.Kiran Kumar, SMS (SS&AC), KVK,Venkataramannagudem and Dr.Phani Kumar, Co-ordinator, DAATTC, Eluru have organized the demonstration.



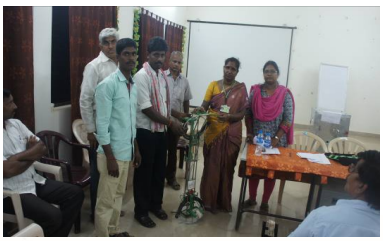
- Dr.E.Karunasree, Programme Coordinator conducted training programme on "Pest and Disease Management in Vegetable crops" at Telikicherla village on 10.09.2015. Smt. P. Suneetha, Scientist (Ento), HRS, VR Gudem participated as resource person.

- Training programme on "Soil test based nutrient application in *Rabi* blackgram" was conducted on 05.10.2015. Dr.R.V.S.K.Reddy, Director of Extension, Dr.YSRHU participated as chief guest and distributed bio fertilizers, blackgram seed to farmers and explained the usage of bio fertilizers in Pulses. Seed treatment of black gram with Rhizobium culture was also demonstrated by Dr.E.Karunasree, Programme Coordinator and Ch.Kiran Kumar, SMS (SS&AC).

- A six days vocational training programme from 02.11.2015 to 07.11.2015 on "Coconut Hybridization" was conducted at KVK, Venktaramannagudem in collaboration with HRS, Ambajipeta. The programme was inaugurated by Dr. J. Dileep Babu, Director of Research in the presence of Dr. R.V.S. K. Reddy Director of Extension on 2nd November. Scientists of HRS, Ambajipeta and KVK conducted technical sessions and practical classes for six days and one day field visit to HRS, Ambajipeta in order to give exposure to different stages in hybridization process. A total of 30 participants from Venkataramannagudem, Vijayarai and Ambajipeta have participated in this programme.



- Vocational training programme on **"Friends of Coconut Tree(FoCT)"** from 1st to 6th December, 2015 was conducted by Krishi Vigyan Kendra, Venkataramannagudem. Twenty participants were trained on the use of palm climbing device, production and protection aspects of coconut gardens.



- A three days vocational training programme on **"Millet based Bakery Products"** for 30 tribal women was conducted from 5th to 7th December, 2015. Where in the tribal women were trained in preparation of biscuits and other bakery items like puffs, cakes etc. Dr. B. Srinivasulu, Registrar participated as chief guest for the valedictory programme and distributed the certificates and resource material useful for making millet based recipes and bakery products. Participants expressed their confidence for taking it as livelihood activity by preparation of millet products and supplying to tribal welfare schools with the support of KVK, Venkataramannagudem and ITDA, K.R.Puram.


- KVK Venkataramannagudem is a partner of the initiative of Coconut Development Board for 'Friends of coconut tree', aimed at training the rural youth in the use of tree climbing device and scientific management of coconut. The six days vocational training programme was organized from 15.02.2016 to 20.02.2016. In addition to the use of coconut climber, the participants were trained on plant protection and crop management aspects. The instructions include principles of physical and mental fitness, financial management, insurance etc. The participants were insured before the commencement of the training and the climbing devices were provided free of cost to the successful participants.

- One day training programme on **"T-Mosquito bug management in Cashew"** was conducted on 19.02.2016 in which Sri S.Shan Mohan IAS Project Officer ITDA attended as the chief guest and distributed inputs to the 200 farmers in the area of Jeelugumilli under Tribal Sub Plan Scheme. Later conducted a demonstration on spraying of Lambda-cyhalothrin for the control of Tea mosquito bug. Dr.E.Karunasree, Senior Scientist & Head and technical team of KVK,Venkataramannagudem organized the programme.


- A six days vocational training programme from 22.02.2016 to 27.02.2016 on **"Bee Keeping (Apiculture)"** was organized at KVK, Venkataramannagudem with the support of RKVY. In this connection 25 farmers from various villages of West Godavari District were trained in bee keeping and their maintenance and an exposure visit to ARS, Vijiyarai was conducted. Dr.B.Srinivasulu, Registrar and Dr.R.V.S.K.Reddy, Director of Extension, Dr.YSRHU attended the valedictory function and distributed certificates and literature on apiculture to the trainees.


- Six days vocational training programme (FoCT) was organized from 16.03.2016 to 21.03.2016 which was aimed at training the rural youth in the use of tree climbing device and scientific management of coconut. In addition to the use of coconut climber, the participants were trained on plant protection and crop management aspects.


Dr.B.Srinivasulu, Registrar and Dr.RVSK.Reddy, Director of Extension, Dr.YSRHU

- Scientific Advisory Committee (SAC) Meeting was conducted on 24-03-2016 at KVK, Venkataramannagudem. Work done report for *Kharif* and *Rabi,* 2015-16 was presented and finalized the action plan for 2016-17. Dr. R.V.S.K. Reddy, Director of Extension presided over the session and Dr.J.V.Prasad, Principal Scientist, ATARI, Hyderabad participated as Chief Guest. Dr.BVK Bhagawan, Zonal Research Head, Coastal Zone-I, Dr.YSRHU, Dr.M.V.Prasad, Principal Scientist, IIOPR, Pedavegi, Dr.A.Sujatha, Associate Dean, HC & RI, Venkataramannagudem, Dr.M.Rajasekhar, Senior Scientist (Hort.) & Head, HRS, Venkataramannagudem, Dr.K.Ananda Rao, Senior Scientist & Head, BRS, Venkataramannaugdem, Dr.K.Anandkumar, PHO, ITDA, K.R.Puram, line department officers, progressive farmers along with representatives of NGO's attended the meeting and extended their suggestions.

Krishi Vigyan Kendra, Pandirimamidi:

- On 11.02.2016 Krishi Vigyan Kendra, Pandirimamidi conducted three days State Level Training Programme on "Advances in Cashew Production Technology" in collaboration with Directorate of Cashewnut & Cocoa Development (DCCD), Kochi from 11th to 13th February, 2016 to create awareness on scientific management practices in cashew production & protection, cashewnut processing, marketing and value addition. About 200 farmers have participated from 6 districts of A.P.

Horticultural Research Station, Anantapuramu

- Awareness camp on 'Improving security of rural population through biodiversity' at V. Bonthiralla and Yerraguntla under Bioversity International project on 30.05.2015 was organised at HRS, Anantapuramu as well as at Mallapuram and Kurlapalli on 18.06.2015. Dr. K. Subramanayam, Principal Scientist & Head and Dr. B. Srinivasulu, Senior Scientist (Horti.) has coordinated the programme.

- CSS-MIDH sponsored one day "Farmers Training Programme on dryland fruit crops" was organized at Horticultural Research Station, Anantapuramu on 24-03-2016. (No.of farmers attended- 162).

Horticultural Research Station, Mahanandi

Organized Farmers training programme on "Cultivation of Turmeric, Coriander and Ajowan" under Centrally Sponsored Scheme (CSS) on 30.03.2016 at HRS, Mahanandi. Technical sessions were handled by Dr. K. Subramanyam, Principal Scientist (Pl.Path.) & Head and Sri M. Tagore Naik, Scientist (Hort).

Horticultural Research Station, Lam

Scientists of HRS, Lam has given training on "Production technology of chilli and turmeric" to the field scouts of Spices Board on 11.12.2015 at HRS, Lam. About 25 no. of field scouts have participated in the training programme.

Mango Research Station, Nuzvid

Conducted training programme on "Mango Cultivation" to farmers of Srikakulam and Visakhapatnam district on 15.06.2015 at HRS, Nuzvid and Dr.R.Rajya Lakshmi, Scientist (Hort.) & Head coordinated the programme.

D.Training Programmes Participated

Horticultural Research Station, Venkataramannagudem

- Smt.P.Rama Devi, Scientist (Pl.Path.) participated as resource person in a training programme on "Coconut Diseases and their Management" to coconut harvesters on 03.12.2015, 22.01.2016, 18.02.2016 and 21.03.2016 conducted by KVK, Venkataramannagudem.

- Smt.K.Umamaheswari, Scientist (Hort.) participated in trainer's training for three days at DMAPR, Anand, Gujarat during 20th to 22nd January, 2016 on "Conservation, Cultivation and Post Harvest Management of Medicinal and Aromatic Plants".

- Smt.P.Rama Devi, Scientist (Pl. Path.) and Smt. P.Sunitha, Scientist (Ento.) organized a training programme on "Betelvine Cultivation" and participated as resource persons on "Pest and Disease Management in Betelvine" at Vanukuru of Krishna district on 16.03.2016 and at Kothuru of Visakhapatnam district on 17.03.2016

- Smt.P.Rama Devi, Scientist (Pl. Path.), Smt.K.Umamaheswari, Scientist (Hort.) and Smt.P.Sunitha, Scientist (Ento.) attended as resource persons in the training programme on "Medicinal Plants Diseases and their Management" to the farmers on 18.03.2016 conducted by PI, NMPB Project on medicinal plants cultivation in the University Campus.

- Smt.P.Rama Devi, Scientist (Pl. Path.), Smt.K.Umamaheswari, Scientist (Hort.) and Smt.P.Sunitha, Scientist (Ento.) participated as resource persons and in the training programme on "Medicinal Plant Diseases and their Management" to the farmers on 28.03.2016 conducted by PI, NMPB Project on medicinal plants cultivation at Araku, and on 29.03.2016 at Paderu, Visakha district.

Krishi Vigyan Kendra, Venkataramannagudem

- Dr.E.Karunasree, Programme Coordinator participated in Women farmers training on "Nutritional Security through Kitchen Gardening" at Bapulapadu village on 09.09.2015.

- Dr.E.Karunasree, Programme Coordinator, and Sri Ch.Kiran Kumar, SMS (SS&AC) participated in the training programme on "Organic Farming" organized by JDA, West Godavari on 14th October, 2015 as district resource persons and delivered guest lectures on "Direct seeding and SRI" in paddy and "Processing of organic products".

- An orientation programme to the farmer producer company members on vegetable farming organized by Society Education and Voluntary Action supported by NABARD at M.Nagulapalli village on 15.12.2015 was attended by G.Naveen Kumar, SMA (Agrl.Extn.) and K.Krishna Kanth, SMA (Ento.) and clarified their doubts on various pests and diseases in vegetable crops and gave information on various activities carried out by KVK, Venkataramannagudem.

- Dr.E.Karunasree, Senior Scientist & Head and Sri G.Naveen Kumar, SMA (Agrl.Extn.) participated in Sounth India Agri Expo and displayed University technologies and improved practices in horticultural crops from 19.12.2015 to 21.12.2015 at Lam, Guntur.

- Dr.E.Karunasree, Programme Coordinator attended and arranged the exhibition stall at "Rythukosam Chandranna" programme at Tadepalligudem Market yard on 15.09.2015.

- Dr.E. Karunasree, Senior Scientist & Head attended 3 days State level training programme on "Cashew Production Technology" at Pandirimamidi on 12.02.2016 and gave lecture to participants on value addition in Cashew.
- Dr.E.Karunasree, Senior Scientist & Head and Sri G.Naveen kumar (Agril. Extn.) participated in "Kobbari Mithrula Rythu Sadassu" organized by Lions club foundation, Palakollu on 01.03.2016. Arranged the exhibition stall, displayed the technologies and publications related to horticultural crops.
- Dr.E.Karunasree, Senior Scientist & Head participated in three days "Millet Fest" organized by Home Science College, ANGRAU and Department of Agriculture at Guntur from 12.03.2016 to 14.03.2016 and displayed the millet based food products along with three entrepreneurs i) SANJEEVINI Food products, Gundugolanu, Bhimadolu mandal ii) Giri Vanitha Foods, Rajanagaram, Buttaigudem mandal and iii) Giri Poshana Foods, Bandarlagudem, Buttaigudem mandal promoted by KVK, V.R.Gudem.

Horticultural Research Station, Anantharajupeta:

- Dr.C.Madhumathi, Senior Scientist & Head attended "Awareness programme'' to farmers on cultivation of tissue culture banana at Muddanur, Conducted by Department of Horticulture, Kadapa on 23.07.2015.
- D.Sreedhar, Scientist (Hort.) attended training programme on "Cultivation of Tissue Culture Banana at Porumamilla with ADH-1, District Collector on 28.07.2015, organized by Department of Horticulture, Kadapa.
- Smt.T.Nagalakshmi, Scientist (Pl.Path.) and D.Sreedhar, Scientist (Hort.) attended training programme on "Friends of Coconut'' held at KVK, Kalikiri, Chittoor district and explained about Cultivation aspects, varietal description and control measures for pests and diseases of Coconut .
- Training programme on "Turmeric Production Practices'' was organized by HRS Anantharajupeta as a part of CSS-NHM scheme on turmeric on 06.01.2016. Around 100 formers participated in the training programme. Dr.K.Gopal, Associated Dean, HC&RI, Anantharajupeta attended as chief guest. Guest lecturers were also organized viz., Dr.Raghuram, Retd. Professor (Economics), S.V. Agril. College, Tirupati and Co-ordinator, IABM, delivered Market fluctuations in turmeric and Mr.Rajendranath Reddy, Renuka bio-Forms, Srikalahasti, Nellore District delivered lecture on Organic cultivation of turmeric.
- Dr.D.Srinivasa Reddy, Scientist (Ento.) attended training programme on mango at Kalikari on 23.01.2016 organized by Dept. of Horticulture, Pileru division and explained about pests occurring in mango mainly blossom midge and alternate insecticides for hoppers control followed by a field visit.

- Dr.D.Srinivasa Reddy, Scientist (Ento) attended a training programme on "Mango" at Srikalahasti and explained about cultivation aspects of mango to tribal farmers on 25.01.2016 organized by Department of Horticulture, Pileru Division and Pragathi (NGO) organization.

- Dr.D.Srinivasa Reddy, Scientist (Ento) attended a training programme on mango at Rajulukandriga village and delivered lecture on plant protection measures during the current season on 27.01.2016, Rompicharla on 02.02.2016, P.V.Puram of Satyavedu mandal on 04.02.2016 and Vadamalapet of Puttur Mandal on 08.02.2016 organized by Department of Horticulture, Pileru Division.

- Smt.T.Nagalakshmi, Scientist (Pl.Path.) and D.Sreedhar, Scientist (Hort.) attended training programme on "Friends of Cocount Tree (FoCT)" on 23rd February 2016 held at KVK, Nellore district and explained about the management of coconut pest & diseases.

Horticultural Research Station, Mahanandi

- Sri M.Tagore Naik, Scientist (Hort.) attended and participated in the training programme on "Vegetable Cultivation" in Kurnool district on 06.05.2015.

- Dr.Ch.Ruth, Scientist (Pl.Path) & Head attended and participated in the training programme on Mango in Paramaturu village, Bandi Atmakur mandal along with Horticultural Officer, Mahanandi on 07.05.2015.

- Dr.K.Subramanyam, Principal Scientist (Pl.Path.) & Head attended training programme to APMIP staff on "Cultivation of Pomegranate" organized by Regional Horticultural Training Institute, Ananthapur on 15.06.2015 and 18.06.2015.

- Dr.K.Subramanyam, Principal Scientist (Pl.Path.) & Head attended training to Officers of Dept.Horticulture on "Nursery, Production, pest and disease management in Pomegranate" during the workshop on Horticulture farms development, production plan at Dr.Y.S.R. Horticultural University Campus, V.R.Gudem on 01.07.2015.

- Dr.K.Subramanyam, Principal Scientist (Pl.Path.) & Head attended training to the farmers on "Cultivation of banana and turmeric" at Gajulapalli village organized by M/s.Coremandal Fertilizers Ltd., on 16.07.2015. No. of farmers attended 45.

- Dr.K.Subramanyam, Principal Scientist (Pl.Path.) & Head and Sri. M.Tagore Naik, Scientist (Hort.) participated in farmers training programme conducted by Department of Horticulture, on "Protected Cultivation of Vegetable crops under Shadenets" at Ayyalur village on 30.12.2015.

- Sri M.Tagore Naik, Scientist (Hort.) participated in farmers training programme on "Integrated Production Technology of Vegetable Crops" conducted by Department of Horticulture, Kurnool at Srinagaram Village, Mahanandi Mandal on 13.01.2016.

- Dr.K.Subramanyam, Principal Scientist (Pl.Path.) & Head attended farmers training programme on "Cultivation and Integrated Pest and Disease Management in banana and turmeric" on 15.02.2016 conducted by Department of Horticulture, Kurnool at Gajulapalli Village.

- Dr.K.Subramanyam, Principal Scientist (Pl.Path.) & Head attended training programme on "Cultivation and Integrated Management of Pest and Diseases in Pomegranate" at RHTI, Ananthapur on 24.02.2016.

- Dr.K.Subramanyam, Principal Scientist (Pl.Path.) & Head attended training programme on "Cultivation of Pomegranate" at RHTI, Anantapuramu on 22.03.2016 and 23.03.2016.

- Dr.K.Subramanyam, Principal Scientist (Pl.Path.) & Head attended farmers training programme on "Cultivation of Dry Land Fruit Crops" at HRS, Anantapuramu on 24.03.2016.

- Dr.K.Subramanyam, Principal Scientist (Pl.Path.) & Head attended training programme on "Papaya Cultivation" at RHTI, Anantapur on 25.03.2016 and 26.03.2016.

Horticultural Research Station, Anantapuramu

- Dr.K.Subramanayam, Principal Scientist (Pl.Path.) & Head and Dr.B.Srinivasulu, Senior Scientist (Hort.) attended training programme to the farmers on "Cultivation of Mango" at Obulareddy palli and Nangivandlapalli near Talupula, Kadiri on 02.04.2015.

- Dr.B Srinivasulu, Senior Scientist (Hort.) attended training to extension workers on "Mango and Sapota Cultivation" organized by RF Ecology centre, Anantapuramu on 17.04.2015.

- Dr.B.Srinivasulu, Senior Scientist (Hort.) attended C.M's Programme and participated in farmers interaction programme on "Floriculture Protected Cultivation" on 20.04.2015.

- Dr.K.Subramanayam, Principal Scientist (Pl.Path.) & Head and Dr. B. Srinivasulu, Senior Scientist (Hort.) attended training programme to the farmers on 'Cultivation of Sweet Orange' at Garladinne on 25.04.2015.

- Dr.K.Subramanyam, Principal Scientist (Pl.Path.) & Head, attended training programme to the farmers on "Cultivation of Mango and Sweet Orange" at Gooty on 07.05.2015.

- Dr.K.Subramanyam, Principal Scientist (Pl.Path.) & Head, attended training programme to the farmers on "Cultivation of Pomegranate" at Janthaluru on 12.05.2015.

- Dr.K.Subramanyam, Principal Scientist (Pl.Path.) & Head, attended training programme to the farmers on "Cultivation of mango, banana, sweet orange and melons" organized by Department of Horticulture at Kalyandurgam on 15.05.2015.

- Dr.B.Srinivasulu, Senior Scientist (Hort.) & Head attended Mango growers meet organized by RDT, Anantapuramu at Shettur on 09.07.2015.

- Dr.B. Srinivasulu, Senior Scientist (Hort.) & Head imparted training to field officers of RF Ecology centre on "Pruning Techniques in Mango" organized by Rural Development Trust on 21.07.2015 at Setturu, at Kuderu on 22.07.2015 and at Anatapuramu on 28.07.2015.

- Dr.B.Srinivasulu, Senior Scientist (Hort.) & Head attended farmers training programme on banana organized by M/s.Zuari Agro Chemicals Ltd. at Peddapappur and K.Venkatampalli on 24.07.2015.

- Dr. B. Srinivasulu, Senior Scientist (Hort.) & Head attended farmers training program on Pomegranate at RHIT, Anantapuramu on 03.11.2015.

- Dr.B.Srinivasulu, Senior Scientist (Hort.) & Head, imparted training to Branch Managers of Rayalaseema zone of Andhra Pragathi Grameena Bank at Anantapuramu on 05.11.2015.

- Dr.B.Srinivasulu, Senior Scientist (Hort.) & Head attended farmers training programme on "Tissue Culture Banana" at RHTI, Anantapuramu on 08.12.2015.

- Dr.B.Srinivasulu, Senior Scientist (Hort.) & Head attended farmers training programme on "Production Technology of Vegetable Crops" on 11.12.2015.

- Dr.B.Srinivasulu, Senior Scientist (Hort.) & Head attended farmers training programme on "Mango Production Technology" on 15.12.2015 and 05.01.2016 at RHTI, Anantapuramu.

- Dr.B.Srinivasulu, Senior Scientist (Hort.) & Head, attended farmers training programme on "Sweet Orange Production Technology" on 18.12.2015.

- Dr.B.Srinivasulu, Senior Scientist (Hort.) & Head attended farmers meet on the eve of Sri. Acharya N.G. Ranga 116th Birth Anniversary at Narsinayanikunta on 07.01.2016.

- Dr.B.Srinivasulu, Senior Scientist (Hort.) & Head attended farmers meet organized by Department of Horticulture & WALMART India Pvt. Ltd. at Garladinne on 19.01.2016.

- Dr.B.Srinivasulu, Senior Scientist (Hort.) & Head attended "Production Technology of Flower Crops" at RHTI, Anantapuramu 16.03.2016.

Citrus Research Station, Tirupati

- Dr.K.T.Venkataramana, Principal Scientist (Hort.) & Head has attended awareness programme on mango farming and exporting at Chittoor organized by Chittoor farmer's Association on 11.04.2015.

- Dr.K.T.Venkataramana, Principal Scientist (Hort.) & Head attended workshop on Horticultural farm development, Production plan organized by Dept. of Hort. at Tadepalligudem as a resource person and gave lecture on "Pests and Diseases of Citrus and their Management" on 30.06.2015.

- Dr.T.Rajasekharam, Scientist (Pl.Path.) has participated in one day programme on "Brain Storming Dialogue on Viral & Greening diseases of Citrus: Challenges & Way Forward'"on 28.07.2015 at CCRI, Nagpur.

- Smt.G.Sarada, Scientist (Ento.) has attended farmer's training programme on "Crop Production, Plant Protection, Post Harvest Management & Marketing of Papaya" at Chittoor on 13.08.2015 organized by Department of Horticulture and educated the farmers with new technologies in papaya plant protection.

- Smt.G.Sarada, Scientist (Ento.) and Dr.T.Rajasekharam, Scientist (Pl.Path) have imparted training to Teaching Associate (Plant Pathology) of Banana Research Station, Kovvur, on nematode extraction and identification at CRS, Tirupati from 18th-21^{st,} August, 2015.

- Dr.L.Mukunda Lakshmi, Scientist (Hort.), Smt.G.Sarada, Scientist (Ento.), and Dr.T.Rajasekharam, Scientist (Pl.Path.) have participated in the training programme organized by Department of Horticulture, YSR Kadapa and enlightened the farmers on package of practices of sweet orange on 27.08.2015.

- Dr.L.Mukunda Lakshmi, Scientist (Hort.) participated in the training programme organized by KVK, Kalikiri, ANGRAU on "Friends of Coconut Trees" at Kalikiri as resource person on 31.08.2015.

- Dr.T.Rajasekharam, Scientist (Pl.Path.) participated in "Rythu Kosam Chandranna" at Kothacheruvu in Ananthapur district on 30.09.2015.

- Smt.G.Sarada, Scientist (Ento.) has attended a training programme on "Cashew Production and Protection Techniques" at Chiluvur mandal of Nellore District organized by KVK, Nellore and educated the farmers with new technologies in cashew pest and disease management on 16.10.2015.

- Dr.K.T.Venkataramana, Principal Scientist (Hort.), Dr.T.Rajasekharam, Scientist (Pl.Path.) and Dr.B.Prathap, Scientist (Agro.), CRS, Petlur have participated in farmers' training programme at Kalahasti, Chittoor district on 24.10.2015.

- Dr.P.T.Srinivas, Senior Scientist (Hort.), Smt.G.Sarada, Scientist (Ento.) and Dr.B.Prathap, Scientist (Agro.), CRS, Petlur have attended farmer interaction meeting with Agril. Minister at marketyard, Madanapalli, Chittoor district on 12.11.2015.

- Dr.K.T.Venkataramana, Principal Scientist (Hort.) has attended Rythu Kosam programme, a Team building workshop to achieve double digit production in Horticulture crops and chaired Coconut session, at ICRISAT, Hyderabad on 13th and 14th November, 2015.

- Dr.K.T.Venkataramana, Principal Scientist (Hort.) & Head, Dr.L.Mukundalakshmi, Scientist (Hort.), Smt.G.Sarada, Scientist In-charge, Dr.T.Rakasekharam, Scientist (Pl.Path) and Smt.G.Tanuja Sivaram, PR from HC&RI, Anantarajupeta have attended the RAWEP students' farmers training programme and exhibition in Mallaiahpalli and Gollapalli villages on 7th and 8th December, 2015 respectively.

- Dr.L.Mukunda Lakshmi, Scientist (Hort.) on 16.12.2015 attended training programme on Friends of Coconut Trees and delivered a lecture on "Package of Practices of Coconut" at KVK, Kalikiri, ANGRAU.

- Smt.G.Sarada, Scientist (Ento.) has attended a farmer training programme on "Plant protection and Management in Mango" at Yarravaripalem mandal in Chittoor district on 22.01.2016 and explained the farmers about various pest and disease management methods in mango.

- Dr.L.Mukunda Lakshmi, Scientist (Hort.) attended farmers training programme and delivered a lecture on "Varietal behaviour, Integrated nutrient and weed management in Mango" at Rompicherla mandal of Chittoor district conducted by Department of Horticulture, Chittoor district on 01.02.2016.

- Dr.T.Rajasekharam, Scientist (Pl.Path.) has attended a training programme on "Postharvest Disease Management in Mango" at Chittoor conducted by Department of Horticulture on 18.03.2016.

- Dr.T.Rajasekharam, Scientist (Pl.Path) has attended a training programme as a resource person on "Disease Management Techniques in Tomato" at Chittoor organized by Department of Horticulture on 29.03.2016.

Citrus Research Station, Petlur

- Dr.B.Govindarajulu, Principal Scientist (Pl.Path.) & Head and Dr.M.Kavitha, Scientist (Pl.Path.) attended "Double digit growth of Citrus" programme at ZP meeting Hall, Nellore on 09.09.2015.

- Dr.B.Govindarajulu, Principal Scientist (Pl.Path.) & Head attended District level farmers convention programme on citrus at ZP Meeting hall, Nellore on17.02.2016.

- Dr.B.Govindarajulu, Principal Scientist (Pl.Path.) & Head and other scientific staff have participated in the farmers of Chittoor exposure visit to CRS, Petlur on 02.03.2016.

- Dr.M.G.Bala Hussaini, Scientist (Hort.) attended farmers training programme on 20.02.2016 for citrus cultivation in Nellore district at Ramapuram and Chutti of Balayapalli mandal.

- Dr.M.G.Bala Hussaini, Scientist (Hort.) attended farmers training programme on "Citrus Cultivation" at AMC, Venkatagiri on 29.02.2016.

- Dr.M.G.Bala Hussaini, Scientist (Hort.) attended farmers training programme on Vegetable Cultivation at Shanthipuram, Chittoor district on 06.03.2016.

- Dr.M.G.Bala Hussaini, Scientist (Hort.) attended farmers training programme on 30.03.2016 on citrus cultivation at Vemulachedu, Sydapuram mandal and Kammapalli, Dakkili mandal.

Horticultural Research Station, Kovvur

- Dr.B.V.K.Bhagavan, Principal Scientist (Hort.) & Head along with Dr.M.L.N.Reddy, Dean of Horticulture, Dr.J.Dilip Babu, Director of Research and Dr.A.Sujatha, Associate Dean, CoH, V.R.Gudem attended Rythu Sadassu at Horticultural research Station Ambajipeta organized by final year B.Sc (Hort.) students during their RAWE programme on 24.11.2015.

- Dr.M.L.N.Reddy, Dean of Horticulture, Dr.A.Sujatha, Associate Dean, COH, V.R.Gudem, Dr.B.V.K.Bhagavan, Principal Scientist (Hort.) & Head, HRS, Kovvur, Smt.Usha Kumari, Assistant Professor and In charge of RAWEP, COH, V.R.Gudem, Smt.R.Naga Lakshmi, Scientist (Hort.), HRS, Kovvur, Ms.T.Sowmya, RA (Pl.Path.) and Sri M.Thirupal, RA (Hort.) attended Rythu sadassusu at Pasivedala and Kalavalapalli villages organized by final year B.Sc (Hort.) students during their RAWE programme under Horticultural Research Station, Kovvur on 30.11.2015.

- Smt.K.Mamatha, Scientist (Hort.) participated in Kisan Mela and exhibited the banana and tuber crops exhibits in the exhibition stall at APRRI, Maruteru on 27.03.2016.

- Smt.R.Naga Lakshmi, Scientist (Hort.) attended Rythu sadassu on 'Improved practices in coconut cultivation' organized by Lions club, Palkol and exhibited banana bunches and tissue culture plants in the exhibition stall on 01.03.2016.

- Dr.B.V.K.Bhagavan, Principal Scientist (Hort.) & Head participated in the orientation programme to Research Associates and delivered a lecture on Research priorities in Zone–I on 25.06.2015.

- Dr.B.V.K.Bhagavan, Principal Scientist (Hort.) & Head participated and gave a lecture on Production technologies of banana in the workshop on "Horticultural Farms Development" for Horticultural Officers and Assistant Directors of Horticulture, Department of Horticulture, Government of Andhra Pradesh on 1st July, 2015.

- Dr.B.V.K.Bhagavan, Principal Scientist (Hort.) & Head participated in the training programme as resource person at Farmers Training Center, Utukuru, Cudappah district and gave a guest lecture on Production technology of banana on 09.10.2015.

- Dr.B.V.K.Bhagavan, Principal Scientist (Hort.) & Head gave a lecture on Awareness on Tissue Culture Banana Cultivation to 60 farmers of B. Kammapalli village of Rajampeta mandal, Cuddapah district followed by field visit on 10.10.2015.

- Dr.B.V.K.Bhagavan, Principal Scientist (Hort.) & Head delivered scientific lectures on Production Technologies of Papaya and Banana held from 7th-8th November, 2015 at Masonic temple, Vizianagaram.

- Dr.B.V.K.Bhagavan, Principal Scientist (Hort.) & Head attended the meeting held at KVK, Kalavacharla on Coconut Training programme for farmers on 20.01.2016.

- Dr.B.V.K. Bhagavan, Principal Scientist (Hort.) & Head, attended the meeting conducted by Indian Nursery Men Association at Palla Venkanna Nursery, Kadiyam on 28.02.2016. Chief Guest of the meeting was Hon'ble Vice Chancellor, Dr.YSRHU, Dr.B.M.C.Reddy. About 400 nursery growers have participated in the meeting.

- Smt.R.Nagalakshmi, Scientist (Hort.) gave training on improved package of practices on banana to the farmers of Cheepurupalli & Saluru mandals of Vizianagaram district at Horticultural Research Station, Kovvur on 05.03.2016 followed by a field visit.

- Smt.R.Nagalakshmi Scientist (Hort.) gave training to 21 no. Technical staff from Office of Director of Horticulture, Kalahandi district of Odisha state on tisuue culture banana production, improved package of practises of banana and tuber crops on 21.03.2016 .

Cashew Research Station, Bapatla

- Dr.K.M.Yuvaraj, Senior scientist (Hort.) & Head and K.Uma Maheswararao, Scientist (Hort.) participated in orientation programme for newly recruited Horticultural Officers at Dr.YSR Horticultural University on 01.07.2015 and delivered lectures on "Cashew Production Technology, Nursery Techniques in Quality Plant Material Production and Pest and Disease Management in Cashew" organized by Department of Horticulture, Govt. Of Andhra Pradesh.

- Dr.K.M.Yuvaraj, Senior Scientist (Hort.) & Head has attended "Rythukosam Chandranna Yatra" at Tenali on 21.09.2015 and arranged the cashew exhibits in the exhibition stall for the benefit of farming community.

- Dr.K.M.Yuvaraj, Senior Scientist (Hort.) and Head has attended training programme on "Cashew Apple Processing and Value Addition" organized by ANGRAU, KVK, Nellore district on 15.10.2015.

- Dr.K.M.Yuvaraj, Senior Scientist (Hort.) & Head has attended the training programme on 19.11.2015 as a resource person to deliver the lecture on "Advanced Production Technology and Pest and Disease Management in Cashew" at Tadepalligudem, West Godavari district organized by Department of Horticulture.

- Dr.K.M.Yuvaraj, Senior Scientist (Hort.) & Head and Sri K.Thulasiram, Research Associate has organized a district level training programme on "Production Technology of Cashew and Pest and

Disease Management in Cashew" at Narsipatnam Market Yard, Visakhapatnam district on 17.12.2015 with the financial assistance from Directorate of Cashew nut and Cocoa Development, Kochi, Kerala.

- Dr.K.M.Yuvaraj, Senior Scientist (Hort.) & Head and Sri K.Thulasiram, Research Associate has organized a training programme on "Production Technology on Cashew and Pest and Disease management in Cashew" to the tribal farmers at Gadhabapalem village of Visakhapatnam district on 19.12.2015 with the financial assistance from Directorate of Cashew Research, Puttur.

- Dr.K.M.Yuvaraj, Senior Scientist (Hort.) & Head participated as resource person in the farmers training programme on "Advanced Production Technology in Cashew" at RHTI, Eluru and Jangareddygudem on 03.02.2016 and 04.02.2016.

- Dr.K.M.Yuvaraj, Senior Scientist (Hort.) & Head participated in a three days training programme on "Advanced Production Technology on Cashew" organized by Krishi Vigyan Kendra, Pandirimamidi from 11th to 13th February 2016 to create awareness to farmers on Cashew Production.

- Farmers from different mandals of Srikakulam district visited Cashew Research Station, Bapatla, on 15.02.2016, Dr.K.M.Yuvaraj, Senior Scientist (Hort.) & Head & K.Thulasi Ram, Research Associate (Ento.) interacted with the farmers and gave training on "Cashew Production Technology and Value Addition" followed by a field visit to the farm.

- Officers from Forest Department, Kavali and farmers from different mandals of Srikakulam district visited Cashew Research Station, Bapatla on 01.03.2016. Dr.K.M.Yuvaraj, Senior Scientist (Hort.) & Head & K.Thulasi Ram, Research Associate (Ento.) interacted with the farmers and Forest Department Staff and gave training on "Cashew Production Technology and Value Addition" later visited the Cashew Research Station, experimental fields.

- Dr.K.M.Yuvaraj, Senior Scientist (Hort.) & Head and Sri K.Thulasiram, Research Associate has organized a training programme on "Production Technology on Cashew and Pest and Disease Management in Cashew" to the tribal farmers under Tribal Sub Plan (TSP) on 03.03.2016 at BREDS (NGO organization), Pathapatnam, Srikakulam district and a total of 150 farmers have attended.

- Dr.K.M.Yuvaraj, Senior Scientist (Hort.) & Head and Sri K.Thulasiram, Research Associate has organized a district level seminar on "Production Technology of Cashew and Pest and Disease Management in Cashew" on 04.03.2016 at Market Yard, Palasa, Srikakulam district and a total of 120 farmers attended.

- Dr.K.M.Yuvaraj, Senior Scientist (Hort.) & Head, CRS, Bapatla has attended Kisan Mela on fruit crops from 12th-13th March, 2016 at HRS, Darsi.

- Dr.K.M.Yuvaraj, Senior Scientist (Hort.) & Head, CRS, Bapatla has attended Kisan Mela on Mango on 19th March, 2016 at HRS, Nuzvid.

Horticultural Research Station, Ambajipeta

- Dr.G.Ramanandam, Principal Scientist & Head, Dr.N.B.V.Chalapathi Rao, Senior Scientist (Ento.), Dr.A.Snehalatha Rani, Scientist (Pl.Path.) and Smt.E.Padma, Scientist (Hort.) participated in three days training programme on "Scientific Cultivation of Cocoa" at Vizianagaram from 02.07.2015 to 04.07.2015.

- Dr.G.Ramanandam, Principal Scientist & Head, Dr.N.B.V.Chalapathi Rao, Senior Scientist (Ento.), Dr.A.Snehalatha Rani, Scientist (Pl.Path.) and Smt.E.Padma, Scientist (Hort.) participated in FoCT training programme on "Harvesting of Coconuts using Climbing Machines" at Horticultural Research Station, Ambajipeta from 12.10.2015 to 17.10.2015.

- Dr.G.Ramanandam, Principal Scientist & Head, Dr.N.B.V.Chalapathi Rao, Senior Scientist (Ento.), Dr.A.Snehalatha Rani, Scientist (Pl.Path.) and Smt.E.Padma, Scientist (Hort.) participated in FoCT training programme on "Harvesting of coconuts using climbing machines" at Krishi Vignana Kendra, Dr.YSRHU, V.R.Gudem from 02.11.2015 to 07.11.2015.

- Dr.G.Ramanandam, Principal Scientist & Head, Dr.N.B.V.Chalapathi Rao, Senior Scientist (Ento.), Dr.A.Snehalatha Rani, Scientist (Pl.Path.) and Smt.E.Padma, Scientist (Hort.) participated on FoCT training programme on "Harvesting of Coconuts using Climbing Machines" at KVK, Kalavacharla from 20.01.2016 to 25.01.2016.

- Dr.G.Ramanandam, Principal Scientist & Head, Dr.N.B.V.Chalapathi Rao, Senior Scientist (Ento.), Dr.A.Snehalatha Rani, Scientist (Pl.Path.) and Smt.E.Padma, Scientist (Hort.) participated in three days training programme on "Scientific Cultivation of Cocoa" at Vijayrai from 15.02.2016 to 17.02.2016.

- Dr.G.Ramanandam, Principal Scientist & Head, Dr.N.B.V.Chalapathi Rao, Senior Scientist (Ento.) and Dr.A.Snehalatha Rani, Scientist (Pl.Path.) participated in training programme on "Kobbari saagu pai avagahana sadassu" at Palakollu on 01.03.2016.

- Dr.G.Ramanandam, Principal Scientist & Head, Dr.N.B.V.Chalapathi Rao, Senior Scientist (Ento.), Dr.A.Snehalatha Rani, Scientist (Pl.Path.) and Smt.E.Padma, Scientist (Hort.) participated in FoCT training programme on "Harvesting of coconuts using climbing machines" from 14.03.2016 to 19.03.2016 and 21.03.2016 to 26.06.2016 at HRS, Ambajipeta.

- Dr.G.Ramanandam, Principal Scientist & Head and Dr.N.B.V.Chalapathi Rao, Senior Scientist (Ento.) participated in One day district level seminar on "Scientific cultivation of cocoa" on 28.03.2016.

Krishi Vigyan Kendra, Pandirimamidi

- On 09.10.2015, Sri V.Govardhan Rao, SMS (Pl.Path.) participated in T & V Programme conducted by ARS, Peddapuram.

- On 10.12.2015 Dr.A.Srinivas, Senior Scientist & Head, Sri V.Govarthan Rao, SMS (Pl.Path.), Dr.K.Ravi Kumar, SMA (Hort.) attended one day Awareness Programme about NHB schemes for ST & SC (TSP & SCP) farmers sponsored by National Horticulture Board (NHB) and organized by ITDA, Rampachodavaram.

- KVK scientific staff delivered lectures on "Potential and package of practices for plantation of Horticulture crops in ITDA area". Sri V.Govardhan Rao, SMS (Pl.Path.) delivered lecture on Cashew and Mango. Dr.K.Ravi Kumar, SMA (Hort.) gave a lecture on Production technology of Tomato. Later discussed different problems in Horticultural crops and suitable remedial measures were suggested.

- On 08.01.2016 Dr.A.Srinivas, Senior Scientist & Head and Sri V.Govardhan Rao, SMS (Pl.Path.) has participated in Sagara Sambaraalu at Kakinada and exhibited the stall. Hon'ble Chief Minister Sri N.Chandra Babu Naidu visited stalls during the first day of this programme.

- Dr.K.Ravi Kumar, SMA (Hort.) has participated in training programmes on "Post Management Practices in Horticultural Crops-Cashew, Mango and Citrus" in 6 agency mandals namely Gangavaram, Addategala, Maredumilli, Rampachodavaram, Y.Ramavaram and Rajavommangi.

- Krishi Vigyan Kendra & Horticultural Research Station, Pandirimamidi jointly exhibited stall in Manyam Jathara organized by ITDA, Rampachodavaram from 27th to 29th February, 2016 at Vanavihari, Maredumilli mandal headquarters.

- From 10.03.2016 to 12.03.2016, Dr.A.Srinivas, Senior Scientist & Head and Dr.K.Ravi Kumar, SMA (Horti), KVK, Pandirimamidi participated in training on "Production Technology of Cashewnut" at Pamugandi and D.N.Palem, Uppayyapalem and Sharabavaram villages of Devipatnam mandal and Tativada, Bandapalli villages of Rampachodavaram mandal.

- On 15.03.2016, Dr.Dilip Babu, Director of Research, Dr.YSRHU, Sri K.V.N.Chakradarababu, P.O., ITDA, Rampachodavaram, Sri.T.V.Subbarao, PD, APMIP, Smt.Vinetha Sharma, Principal Scientist, DST, Newdelhi, Dr.A.Srinivas, Senior Scientist & Head, Sri.V.Govardanrao, SMS (Pl.Path.), KVK, Pandirimamidi of Dr.YSRHU have participated in "Organic farming & Biodiversity" at Bhimavaram village of Addateegala mandal organized by Laya NGO, Addateegala mandal.

Horticultural Research Station, Lam

- Smt.T.Vijaya Lakshmi, Scientist (Pl.Path.), Dr.C.Venkata Ramana Scientist (Hort.) and Smt.A.Rajani, Scientist (Hort.) attended Master trainers training programme as resource persons on Integrated crop management in chilli organized by Department of Horticulture, Guntur on 24.06.2015.

- Dr.L.Naram Naidu, Principal Scientist (Hort.) & Head along with Dr.R.V.S.K.Reddy, Director of Extension visited NTPC Simhadri, Vizag in connection with MoU on afforestation programme of NTPC on 02.06.2015.

- Dr.S.Surya Kumari, Principal Scientist (Hort.) and Dr.C.Venkata Ramana, Scientist (Hort.) attended an interaction meeting with Japan International Cooperation Authority (JICA) on "Data collection and confirmation study on Agricultural value chain in India with special reference to mango, tomato and chilli" organized by Department of Horticulture and spices Board on 18.06.2015.

- Dr.L.Naram Naidu, Principal Scientist (Hort.) & Head attended orientation training programme to Research Associates/Training Associates and delivered a lecture on "Research Priorities in Coastal Zone-II" on 25.06.2015.

- Dr.C.Venkata Ramana, Scientist (Hort.) attended as resource person in farmers training programme and delivered a lecture on Okra cultivation organized by Department of Horticulture, Guntur as a part of NSP 2015-16 tail end project at Veerapuram of Piduguralla mandal on 09.07.2015 and about 75 nos. farmers have participated.

- Dr.C.Venkata Ramana, Scientist (Hort.) attended as resource person in a farmers training programme and delivered a lecture on "Integrated Crop Management of chilli" in a Rythu Sadassu organized by Nandi Rythu Samakya at Nandyal on 22.07.2015, (100 nos. participated).

- Dr.C.Venkata Ramana, Scientist (Hort.) attended as resource person in a farmers training programme and delivered a lecture on chilli cultivation organized by Department of Horticulture, Ongole as a part of NSP 2015-16 tail end project at Cherukur village of Parchuru mandal and Pavuluru village of Inkollu mandal on 25.07.2015, (60 nos. participated).

- Dr.L.Naram Naidu, Principal Scientist (Hort.) & Head as resource person attended farmers training programme organized by KVK, Garikapadu at Kanneveedu village of Vatsavai mandal, Krishna district on 04.08.2015, (50 nos. participated).

- All the scientists of HRS, Lam attended a training programme as resource persons on "Crop management Practices in Chilli Production" to the farmers and input dealers organized by DASD, Calicut and Fertilizer Association of India at Guntur and delivered lectures on different aspects of chilli production on 06.08.2015, (125 nos. participated).

- Dr.L.Naram Naidu, Principal Scientist (Hort.) & Head, HRS, Lam as a committee member of Spices Development Agency, Guntur attended first review meeting by Chief Secretary, Govt. of AP at Secretariat along with officers of Spices Board and other committee members on 07.08.2015.

- Dr.C.Sarada, Senior Scientist (Hort.) attended as resource person in farmers training programme at Guntur on "Varshabhava Paristhithulu – Prathyamnaya Pantala Saagu" organized by Retired Officers Association on 19.08.2015, (100 nos. participated).

- Dr.L.Naram Naidu, Principal Scientist (Hort.) & Head attended "Team building workshop of consortium team members" for Rythukosam project at ICRISAT, Hyderabad. Seventy five participants including scientist of Dr.Y.S.R.H.U, ANGRAU and ICRISAT, representatives of NGO's attended. Participated in group discussions of Krishna, Guntur, Prakasam region and discussed on interventions for enhancing the productivity of chilli and other horticultural crops on 20.08.2015.

- Dr.S.Surya Kumari, Principal Scientist (Hort.), Dr.C.Sarada, Senior Scientist (Hort.), Smt.T.Vijaya Lakshmi, Scientist (Pl.Path.) and Dr.C.Venkata Ramana, Scientist (Hort.) as resource persons attended field visit cum training programme to the farmers of Jesus welfare Rural Development Society, Zaheerabad on spices and vegetable crops at HRS, Lam on 20.08.2015, (40 nos. participated).

- Dr.C.Sarada, Senior Scientist (Hort.) as resource person attended farmers training programme at Yedlapadu on good agricultural practices in chilli organized by spices board on 21.08.2015, 70 nos. participated.

- Dr.L.Naram Naidu, Principal Scientist (Hort.) & Head attended as resource person and delivered a lecture on Production Technology of Chilli and Contingency Plan in Rythu Chaitanya Sadassu at Chilakaluripet organized by AMC & Rotary club of Chilakaluripet and RARS, Lam, Sri Prattipati Pullarao, Agricultural Minister presided over the meeting on 24.08.2015 (500 nos. participated).

- Dr.C.Venkata Ramana, Scientist (Hort.) and Dr.K.Giridhar, Scientist (Hort.) as resource person attended field visit cum training programme to field officers of Spices Board at HRS, Lam on 26.08.2015 (30 nos. participated).

- Dr.L.Naram Naidu, Principal Scientist (Hort.) attended as resource person for farmers interaction meeting organized by M/s. Coromandal Fertilizers Ltd. on 15.09.2015 (30 nos. participated).

- Dr.C.Venkata Ramana, Scientist (Hort.) and Dr.K.Giridhar, Scientist (Hort.) attended as resource persons for Rythu Sadassu on Chilli organized by Department of Agriculture, Guntur and AMC, Narsaraopet on 15.09.2015 (250 nos. participated).

- Dr.L.Naram Naidu, Principal Scientist (Hort.) & Head as resource person attended crop seminar on chilli and cotton at Siripuram village of Medikonduru mandal organized by IFFCO on 23.09.2015 (60 nos. participated).

- Dr.L.Naram Naidu, Principal Scientist (Hort.) and Dr.C.Sarada, Senior Scientist (Hort.) attended as resource person in a training programme on chill to the field and marketing team of NFCL (Nagarjuna fertilizers and Chemicals Ltd.) and delivered lecture on chilli Production Technology at Guntur on 26.09.2015 (35 nos. participated).

- Dr.S.Surya kumara, Principal Scientist (Hort.) attended as resource person for the training programme cum field visit on turmeric at Gundimeda of Mangalagiri mandal along with Department of Horticulture and spices board on 13.10.2015 (50 nos. participated).

- Dr.L.Naram Naidu, Principal Scientist (Hort.) and Dr.K.Sireesha, Scientist (Ento.) attended as resource person for farmers training programme on Chilli quality improvement programme at Krishi Bhavan, Guntur organized by Department of Horticulture and Janani Foods Pvt. Ltd. on 24.11.2015.

- Dr.C.Sarada, Senior Scientist (Hort.) and Smt.T.Vijaya Lakshmi, Scientist (Pl.Path.) attended as resource person for farmers training programme on “Chilli quality improvement programme” at AMC, Sattenapalli organized by Department of Horticulture and Janani Foods Pvt. Ltd. on 25.11.2015.

- Dr.C.Venkata Ramana, Scientist (Hort.) attended as resource person for farmers training programme at Garapadu organized by NFCL on 28.11.2015.

- Dr.L.Naram Naidu, Principal Scientist (Hort.), Dr.C.Sarada, Senior Scientist (Hort.), Smt.T.Vijaya Lakshmi, Scientist (Pl.Path.), Dr.K.Giridhar, Scientist (Hort.), Dr.C.Venkata Ramana, Scientist (Hort.) and Dr.P.Jhansi Rani, RA attended as resource persons for farmers training programme at Pedavadlapudi organized by RAWEP students on 01.12.2015.

- Smt.T.Vijaya Lakshmi, Scientist (Pl.Path.), Dr.C.Venkata Ramana, Scientist (Hort.) and Dr.K.Sireesha, Scientist (Ento.) participated as resource persons for farmers training programme at Prattipadu organized by Well Grown Spices Pvt. Ltd. and Plant Lipids on 09.12.2015.

- Smt.T.Vijaya Lakshmi, Scientist (Pl.Path.) attended as resource person for farmers training programme at Macherla organized by ATMA & Department of Agriculture on 15.12.2015.

- Smt.T.Vijaya Lakshmi, Scientist (Pl.Path.) attended as resource person for farmers training programme at Piduguralla organized by ATMA & Department of Agriculture on 15.12.2015.

- Dr.C.Venkata Ramana, Scientist (Hort.) attended as resource person for farmers training programme at Narsaraopet organized by ATMA & Department of Agriculture on 16.12.2015.

- Dr.C.Sarada, Senior Scientist (Hort.) attended as resource person for farmers training programme at Tadikonda organized by ATMA & Department of Agriculture on 24.12.2015.

- Dr.C.Venkata Ramana, Scientist (Hort.) attended as resource person for work shop on "Protected Cultivation" and delivered lecture on IPM in chillies and vegetable crops at ZP hall, Guntur organized by Department of Horticulture on 04.02.2016.

- Dr.K.Sireesha, Scientist (Ento.) attended as resource person for training programme on chillies organized by APMIP along with Department officers at Chegerla of Nakarikallu mandal on 06.02.2016.

- Dr.K.Giridhar, Scientist (Hort.) attended as resource person for training programme on turmeric organized by APMIP along with Dept. officers at Chinapalem of Duggirala mandal on 07.02.2016.

- Dr.C.Sarada, Senior Scientist (Hort.) attended as resource person for Rythusadassu on Post harvest technology in chillies at Sattenapalli organized by Department of Horticulture on 12.02.2016.

- Dr.C.Venkata Ramana, Scientist (Hort.) attended as resource person for training programme on chilli organized by APMIP along with Department officers at Kotanemaliguri of Rajupaleem mandal and Chennarajupaleem of Bellamkonda mandal on 17.02.2016.

- Dr.S.Surya Kumari, Principal Scientist (Hort.) attended as resource person for Rythusadassu at AMC, Duggirala on 25.02.2016.

- Dr.C.Sarada, Senior Scientist (Hort.) and Smt.T.Vijaya Lakshmi, Scientist (Pl.Path.) attended as resource persons for training programme on virus management and post harvest technology at Ponnekallu organized by Department of Horticulture on 09.03.2016.

- Dr.C.Sarada, Senior Scientist (Hort.) and Smt.T.Vijaya Lakshmi, Scientist (Pl.Path.) attended as resource persons for training programme on virus management and post harvest technology at Visadala organized by Department of Horticulture on 10.03.2016 (40 nos. participated).

- Dr.L.Naram Naidu, Principal Scientist (Hort.) & Head attended training programme to farmers and traders on Market Linkage in chilli organized by Department of Horticulture and Spices Board, Guntur and delivered lecture on Integrated Crop Management in chilli on 20.03.2016.

Mango Research Station, Nuzvid

- Dr.R.Rajyalakshmi, Scientist (Hort.) participated in training program on "Kuragayalupai Avagahana" organized by Department of horticulture at Kothapalli on 06.11.2015.

- Dr.R.Rajyalakshmi, Scientist (Hort.) attended workshop on "Improved Production Technologies of Important Horticultural Crops" at Vizianagaram on 07.11.2015 & 08.11.2015.

- Dr.R.Rajyalakshmi, Scientist (Hort), MRS, Nuzvid Participated in training program on Production technology of mango as resource person organized by RHTI at Eluru on 17.11.2015.

- Dr.R.Rajyalakshmi, Scientist (Hort.) participated in training program on "Production Technology of Mango" organized by Department of Agriculture at Remalle on 11.12.2015.

- Dr.R.Rajyalakshmi, Scientist (Hort.) participated in training program on "Mamidi pai Avagahana Sadhassu" organized by Department of Horticulture at Kotha Remalle on 19.12.2015 and "Awareness programme on Mango" at Meerjapuram (23.01.2016), Nuzvid (16.02.2016), Yelamandala (23.02.2016), Edara (24.02.2016) Boravancha (11.03.2016) and Vissanapeta (14.03.2016).

Post Harvest Technology Research Station, Venkataramannagudem

- Dr.B.Prasanna Kumar, Principal Scientist (Hort.) & Head participated in one day "Workshop on Protected Cultivation and Post Harvest Management" by Department of Horticulture in Vizianagaram district under MIDH Programme on 30.10.2015.

- Dr.B.Prasanna Kumar, Principal Scientist (Hort.) & Head participated in one day training on "Awareness Campaign on Ripening of Mango without using Calcium Carbide" by Department of Horticulture, at AMC, Nunna of Krishna district on 09.12.2015 and 19.12.2015.

- Fifty farmers of Srikakulam district were trained on the utility and function of Ripening chamber, cold storage unit and grading machine at PHTRS and fruit & vegetable processing unit on 11.02.2016 by Dr.B.Prasanna Kumar, Principal Scientist (Hort.) & Head.

- Fifty farmers of Rajam, Srikakulam district were trained on the utility and function of Ripening chamber, cold storage unit and grading machine who visited the IPHC Unit and fruit & vegetable processing unit on 15.02.2016.

- Fifty farmers of Pathapatnam, Srikakulam district are trained on the utility and function of Ripening chamber, cold storage unit and grading machine who visited the IPHC Unit and fruit & vegetable processing unit on 16.02.2016.

- Dr.B.Prasanna Kumar, Principal Scientist (Hort.) & Head attended the training programme as expert member on Post Harvest Management on Mango and awareness programme on Calcium carbide free ripening technologies for fruits conducted at Vizianagaram on 16.02.2016 by Department of Horticulture, Government of Andhra Pradesh.

- Dr.B.Prasanna Kumar, Principal Scientist (Hort.) & Head along with G.Shankara Panda, Directorate of Horticulture explained the function of the Integrated Pack House Unit to the farmers of Orissa who visited the of PHTRS, V.R.Gudem on 18.02.2016

- Farmers of Payakaraopeta, Vizag district (50 nos.) were trained on the utility and function of Ripening chamber, cold storage unit and grading machine who visited the IPHC Unit and fruit & vegetable processing unit on 23.02.2016.

- Fifty farmers along with A.Lavanya, Horticultural Officer Visakhapatnam were trained on functioning of Ripening chamber, cold storage unit and grading machine at IPHC and fruit & vegetable processing unit on 02.03.2016.

- Fifty farmers from S.Kota mandal along with Ch.Sankar Dasu, Horticultural Officer and 50 farmers from Parvatipuram mandal along with Y.Pratyusha Banu, Horticultural Officer of Vizianagaram district were trained in using Ripening chamber, cold storage unit and grading machine at IPHC and fruit & vegetable processing unit on 05.03.2016.

Horticulture College and Research Institute, Venkataramannagudem

- Dr.D.V.Swamy, Associate Professor (Hort.) attended as resource person to enlighten the farmers about growing of medicinal plants in North Coastal districts of Andhra Pradesh in seminar cum training programme jointly conducted by A P. Medicinal plants board and Department of Ayush at Andhra University Campus, Visakhapatnam.

- Dr.T.Suseela, Assistant Professor (Hort.) attended training program on 10.03.2016 as a resource person to create awareness on cultivation practices of flower crops *viz*., rose, tuberose, gladiolus and china aster grown under pilot project at Araku valley organaized by department of Horticulture, Visakhapatnam.

- Dr.T.Suseela, Assistant Professor (Hort.) delivered a lecture on "Utility of Ornamentals in Landscape Gardening" as a resource person in one day training programme organized by Dr.YSR Horticultural University at HC&RI, V.R.Gudem to Horticultural Officers, Architect Engineers, Assistant Directors of Horticulture working in Andhra Pradesh Urban Greenery and Beautification Corporation, Vijayawada on 20.03.2016.

Horticulture College and Research Institute, Anantharajupeta

- Dr.Syed Sadarunnisa, Assistant Professor (Hort.) attended a training programme as resource person on "Cultivation of tomato under trellis" at KVK, ANGRAU, Utukur on 18.02.2016.

- Faculty of Department of Floriculture, Dr.K.Swarajya Lakshmi, Associate Professor (Hort.), Dr.R.Nagaraju, Assistant Professor (Hort.) participated in "one Day interaction programme" with officers (21 members) of A.P. Urban Greening and Beautification Corporation Limited, Government of Andhra Prradesh, Hyderabad on 20.03.2016 held at Conference Hall, HC&RI, V.R.Gudem.

Horticultural Polytechnic, Madakasira

- Dr.M.Ramakrishna, Principal attended training programme on Mango cultivation to DWMA farmers of Kalyanadurgam division organized by Regional Horticulture Training Institute (RHTI), Anantapuramu district on 08.06.2015.

- Dr.M.Ramakrishna, Principal attended farmers Awareness programme on management practices in mango gardens at Cherlopalli, Hindupuram Mandal organized by Rastriya Udyan mission, Department of Horticulture, Anantapuramu district on 11.07.2015.

- Dr.M.Ramakrishna, Principal participated in farmers training programme conducted by Regional Horticulture Training Institute, Anantapuramu on Mamidi Sagu for mango growers of Anantapuramu district on 04.02.2016.

SKPP Horticultural Polytechnic, Ramachandrapuram

- Sri M.Satti Raju, Vice-Principal participated in Prakruthi Vyvasayam programme on 24.01.2016 at Sarpavaram.

E.HRD TRAININGS:

Horticultural Research Station, Venkataramannagudem:

- Dr.B.Ramesh Babu, Scientist (Hort.) participated in winter school on Precission citriculture for sustainable production and post harvest management at CCRI, Nagpur, Maharashtra.

- Smt. P.Rama Devi, Scientist (Pl. Path.) participated in a training programme of ten days duration on "Beneficial microbes for sustainable Agriculture production" at IGKV, Raipur, Chattisgarh from 5th -14th October, 2015.

- Dr. P. Ashok, Scientist (Hort.) attended 21 day training programme on "Advances in improvement of Vegetable crops through biotechnological approaches" from 18th September to 8th October, 2015 at IARI, New Delhi.

Krishi Vigyan Kendra, Venkataramannagudem

- Dr.E.Karunasree, Programme Co-ordinator participated in "Annual Zonal work shop of KVKs (Zone-V), 2015" organized at Jain Hills in collaboration with Jain Irrigation Systems, Ltd., Jalgaon, Maharashtra during 26th–28th June, 2015 and presented significant achievements of KVK, Venkataramannagudem.

- Dr.E.Karunasree, Programme Coordinator participated in 3 days training programme on "Processing and Value Addition" at KVK Utukuru, Kadapa from 23.08.2015 to 25.08.2015.

- Sri Ch.Kiran Kumar, SMS (SS&AC) attended a three days training programme from 9th to 11th February, 2016 on use of electronic tools for effective transfer of technology to equip the faculty with necessary skills in using modern electronic tools at Electronic Wing, PJTSAU, Rajendranagar, Hyderabad.

Horticultural Research Station, Anantarajupeta:

- Dr.D.Srinivasa reddy, Scientist (Ento.) attended "Pest Risk Analysis" (PRA) training at NIPHM, Hyderabad from 3rd to 8th September, 2015.

Citrus Research Station, Petlur

- Dr.M.Kavitha, Scientist (Pl.Path.) attended 21 Days training programme on "Plant Disease Diagnostics and Management" at Plant Pathology Division, IARI, New Delhi from 13.10.2015 to 02.11.2015.

Krishi Vigyan Kendra, Pandirimamidi

- Sri V.Govardhan Rao, SMS (Pl.Path.) has undergone training programme on "The Master Trainers on Natural Farming/ Organic Farming" from 28.09.2015 to 02.10.2015 at SAMETI, Hyderabad organized by State Department of Agriculture, Hyderabad.

- On 28.03.2016, Dr.A.Srinivas, Senior Scientist & Head attended a training programme on "Protection of Plant Varieties & Farmers Rights Authority" at ICAR-ATARI, CRIDA, Hyderabad.

Horticultural Research Station, Lam

- All the scientists of HRS, Lam attended a guest lecture given by Dr.T.V.Ramana Rao, Department of Bio Science, Sardar Vallabhai Patel University, Anand, Gujarat, on "Scope and efficacy of safe and eco-friendly technologies for reducing post harvest losses of fruits and vegetables" organized by HRS and RARS, Lam on 09.06.2015.

- Dr.L.Naram Naidu, Principal Scientist (Hort.) & Head, Dr.C.Venkata Ramana, Scientist (Hort.) and Dr. K.Giridhar, Scientist (Hort.) attended one day orientation programme on RTI Act on 21.08.2015.

- Dr.S.Surya Kumari, Principal Scientist (Hort.) attended an interaction meeting with Dr.D.K.Sarma, Director, CSSIR (Central Soil Salinity Research Institute), Lucknow, Dr.T.Damodaran, Senior Scientist, CSSIR along with Dr.B.M.C.Reedy, Hon'ble Vice-Chancellor, Dr.YSRHU regarding MoU for research collaboration on Fusarium wilt on 27.08.2015.

- Dr.L.Naram Naidu, Principal Scientist (Hort.) & Head attended review meeting of CEOs, State Medicinal Plant Board organized by National Medicinal Plants Board at Ayush Bhavan, New Delhi on 27.08.2015.

- Dr.K.Giridhar, Scientist (Hort.) and Dr.C.Venkata Ramana, Scientist (Hort.) attended 21 days training programme on "Advanced breeding strategies for biotic and abiotic stress tolerane in vegetable crops" at IIHR, Bangalore from 8th-28th October, 2015.

Horticulture College and Research Institute, Venkataramannagudem

- Dr.C.P.Vijji, Assistant Professor (Ento.) attended International workshop on "Parasitic Hymenoptera-How and where they are ?" held at Department of Entomology, Faculty of Agriculture, Annamalai University, Chidambaram, Tamil Nadu from 21st to 25th September, 2015.

- Dr.T.Suseela, Assistant Professor (Hort.) attended ICAR sponsored 10 days short course on "Processing machineries, product diversification & entrepreneurship development in tuber crops" from September 14th-23rd, 2015 at Central Tuber Crop Research Institute, Thiruvunanthapuram, Kerala.

Horticulture College and Research Institute, Anantharajupeta

- Dr.M.Ramaiah, Assistant Professor (Ento.), Dr.Ch.Ruth, Scientist (Pl.Path.) Horticultural College & Research Institute, Anantharajupeta attended and presented a poster in National Conference on *National Priorities in Plant Health Management* at RARS, Tirupati.

- Dr.M.Ramaiah, Asst. Professor (Ento.) has participated in NIPHM Sponsored 21 days Course on "Integrated Vertebrate Pest Management" which was held from 1st to 21st March, 2016 organized at NIPHM, Hyderabad.

- Dr.Syed Sadarunnisa, Assistant Professor (Hort.) attended 21 days training programme on "Advanced Breeding Strategies for Biotic and Abiotic stress tolerance in Vegetable crops" from 8th to 28th October, 2015 at IIHR, Bengaluru.

- Dr.V.N.P.Sivaramakrishna, Associate Professor (Hort.) attended a training programme on "National Seminar on Digital hybridization in Fruit crops" for 3 days at IIHR, Bengaluru.

Horticultural Research Station, Anantapuramu:

Dr.B.Srinivasulu, Senior Scientist (Hort.) & Head attended one-day awareness programme on NHB schemes at RHTI, Anantapuramu on 28.08.2015.

F. METHOD DEMONSTRATIONS

Method demonstrations conducted at Various Research Stations and KVKs in order to demonstrate different skills involved in adoption of new technologies are as follows:

Horticultural Research Station, Venkataramannagudem

- Conducted method demonstration of Seed treatment in Tapioca on 03.07.2015 at Mallavaram and Aanuru villages of East Godavari district.

Krishi Vigyan Kendra, Venkataramannagudem

- Dr.E.Karunasree, Programme Coordinator, KVK, Venkataramannagudem conducted Paddy transplanter demonstrations at Tadepalligudem and Allampuram on 03.08.2015. In this visit Hon'ble Minister Pydikondala Manikyalarao has participated.

- Demonstration of soil test based nutrient application as cost reduction technology in tomato cultivation was conducted by Sri Ch.Kiran Kumar, SMS (SS&AC) and Sri G.Naveen Kumar, SMA (Agrl. Extn.), Krishi Vigyan Kendra, Venkataramannagudem on 13.11.2015 in Lankapalli, Kamaiahkunta and Pandugudem villages of Buttaiahgudem mandal under TSP programme.

Citrus Research Station, Petlur

- Dr.B.Govindarajulu, Principal Scientist (Pl.Path.) & Head conducted method demonstration on *Trichoderma* mass multiplication along with the RAWEP students at Balayapalli mandal.

- Dr.B.Prathap, Scientist (Agro.) conducted method demonstration on preparation of Vermicomposting along with the RAWEP students.

- Dr.M.Kavitha, Scientist (Pl. Path.) conducted method demonstration on preparation of Bordeaux mixture and paste preparation and *Trichoderma* mass multiplication along with the RAWEP students.

Horticultural Research Station, Pandirimamidi

- Sri P.C.Vengaiah, Scientist (F&ST) method demonstrated Neera tapping in coconut at HRS, Ambajipeta on 06.04.2015 & 09.04.2015.

- Sri P.C.Vengaiah, Scientist (F&ST) and Dr.G.N.Murthy, Scientist (Hort.) conducted method demonstration on Neera tapping and palm jaggery preparation along with Velugu team at Bolagonda on 03.06.2015.

- Sri P.C. Vengaiah, Scientist (F&ST) conducted method demonstration on Palmyrah products in Kisan mela at KVK, Kalavachrla on 09.11.2015.

- Sri P.C.Vengaiah, Scientist (F&ST) conducted method demonstration on Neera tapping in coconut at HRS, Ambajipeta on 10.11.2015.

Krishi Vigyan Kendra, Pandirimamidi

- On 03.02.2016, Sri V.Govardhan Rao, SMS (Pl.Path.) and Sri P.Venkata Ramana, SMA (SS&AC) demonstrated whorl application of Carbofuran 3G granules @ 3-4 kg/acre in Maize at Tamarapalli village of Rampachodavaram mandal to control shoot borer in Maize.

Method Demonstration on whorl application of Carbofuran Granules (3G)@ 3-4 kg/acre in Maize at Tamarapalli village of Rampachodavaram mandal

- On 05.02.2016, Sri V.Govardhan Rao, SMS (Pl.Path.) and Sri P.Venkata Ramana, SMA (SS&AC) demonstrated the Zero tillage method in Maize crop in Tamarapalli village of Rampachodavaram mandal. To control weeds spraying of Atrazine 50%@1.5kg/acre + Paraquat dicloride @ 1lit./acre was suggested in paddy fallows.

Method Demonstration on Zero tillage Maize cultivation at Tamarapalli village of Rampachodavaram mandal

- On 05.02.2016, Sri V.Govardhan Rao, SMS (Pl.Path.), Sri P.Venkata Ramana, SMA (SS&AC) demonstrated 3% Urea Solution soil application at 2-5 leaf stage by pot water method to save the fertilizer cost, to avoid weed growth.

Method Demonstration on 3% Urea Solution soil application in Maize

Post Harvest Technology Research Station, Venkataramannagudem

- Demonstrated and explained various aspects of Integrated Pack House cum Cold Storage Unit, it's functioning and importance in horticulture to B.Sc. (Home Science) students of St.Theresa College, Eluru organized by KVK, V.R.Gudem on 22.04.2015 by Dr.B.Prasanna Kumar, Principal Scientist (Hort.) & Head, PHTRS, V.R.Gudem.
- Demonstrated and explained various aspects of Integrated Pack House cum Cold Storage Unit it's functioning and importance in horticulture to the farmers of Srikakulam district organized by KVK, V.R.Gudem on 22.06.2015 by Dr. B. Prasanna Kumar, Principal Scientist (Hort.) & Head, PHTRS, V.R.Gudem.
- Demonstrated and explained various aspects of Integrated Pack House cum Cold Storage Unit, it's functioning and importance in horticulture to the students of DRG Govt. Degree college of Tadepalligudem on 03.09.2015 by Dr.B.Prasanna Kumar, Principal Scientist (Hort.) & Head, PHTRS, V.R.Gudem.

Horticultural Polytechnic, Kalikiri

Preparation of Bordeaux mixture, Bordeaux paste and Cheshunt compound were demonstrated to farmers at Sanyasivandlapalli on 04.04.2015.

G.GROUP DISCUSSIONS

Horticultural Research Station, Kovvur

- Dr.B.V.K.Bhagavan, Principal Scientist (Hort.) & Head participated as District Level Committee Member in the meeting at Joint Collector's Office for fixing banana cost of cultivation for paying compensation to farmers on 12.06.2015.

- Dr.B.V.K.Bhagavan, Principal Scientist (Hort.) & Head participated in Annual Review Meeting of MIDH (Mission for Integrated Development of Horticulture) Programmes to review the programmes implemented under MIDH at university campus, Venkataramannagudem on 19th and 20th June, 2015.

- Dr.B.V.K.Bhagavan, Principal Scientist (Hort.) & Head participated in e-short joint venture development programme with Spices development board and Dr.YSRHU members on 5th August, 2015 at Dr.YSRHU, V.R.Gudem.

- Smt.K.Mamatha, Scientist (Hort.) participated in Midterm review meeting on AICRP Tuber crops on 24th and 25th September, 2015 at CTCRI, Trivendrum.

- Dr.B.V.K.Bhagavan, Principal Scientist (Hort.) & Head participated in pre meeting for Rytukosam Chandranna at Collectrate Office, Eluru on 11th September, 2015.

- Dr.B.V.K.Bhagavan, Principal Scientist (Hort.) & Head participated in interaction meeting on "Strategies and auction plans for Double digit growth in horticulture sector under 'Rythu Kosam' in Andhra Pradesh" held from 13rd-14th November, 2015 at ICRISAT, Patancheru.

- Dr.B.V.K.Bhagavan, Principal Scientist (Hort.) & Head, HRS, Kovvur attended to pre-group discussion meeting under AICRP fruits held at IIHR, Bangalore on 8th and 9th February, 2016.

Citrus Research Station, Tirupati

- Dr.K.T.Venkataramana, Principal Scientist (Hort.) & Head has attended Pre-Group Discussion of Scientists at IIHR, Bangalore on 8th and 9th February, 2016.

- Dr.K.T.Venkataramana, Principal Scientist (Hort.), Dr.L.Mukundalakshmi, Scientist (Hort.) Smt.G.Sarada, Scientist (Ento.) and Dr.T.Rajasekharam, Scientist (Pl.Path.) have attended 3rd Group Discussion on Fruits from 3rd-6th March, 2016 held at Punjab Agricultural University, Ludhiana and presented the technical programme results of 2014-15.

Mango Research Station, Nuzvid

- Dr.R.Rajyalakshmi, Scientist (Hort.) & Head attended T&V meetings at KCP auditorium, Vuyyuru on 19.09.2015, at sugarcane Research Station Vuyyuru on 21.11.2015, at KCP auditorium, Vuyyuru on 20.02.2016 and Vuyyuru on 08.03.2016.

H. FIELD DAYS/KISAN MELAS

Horticultural Research Station, Kovvur

Kisan Mela was organized at Horticultural Research Station, Kovvur on 17th February, 2016. Welcome address was given by Dr.R.V.S.K.Reddy, Director of Extension, Dr.YSRHU and Dr.B.V.K.Bhagavan, Principal Scientist (Hort.) & Head presented the research station activities. Presidential address was given by Chief Guest Sri.K.S.Jawahar MLA, Kovvur. Farmers (519 nos) from Vizag to Guntur districts participated in the Kisan Mela. Along with various departmental officials, farmers from Orissa state have participated and interacted more on tuber crops cultivation and also visited banana, tuber crops, turmeric and tuberose experimental fields. In the technical session, about 50 farmers interacted with scientists on different crops like banana, coconut, citrus, tuber crops, paddy, pepper, turmeric, chillies etc.

Citrus Research Station, Tirupati

Dr.K.T.Venkata Ramana, Principal Scientist (Hort.) & Head, Dr.L.Mukundalakshmi, Scientist (Hort.), Smt.G.Sarada, Scientist-Incharge RAWEP and Dr.T.Rajasekharam, Scientist (Pl.Path.) organized field day with an exhibition at Mallaiahpalli and Gollapalli villages on 7th and 8 th December, 2015 respectively and interacted with the farmers.

Horticultural Research Station, Ambajipeta

Sixty farmers from Srikakulam district visited Horticultural Research Station, Ambajipeta on 10.02.2016. The Scientists explained the ongoing activities in crop improvement, crop production and plant protection in coconut farming.

Krishi Vigyan Kendra, Pandirimamidi:

- On 30.10.2015, in Nellimetla village of Rajavommangi mandal conducted field day on Implementation of Sorghum Demonstrations in the agency area of Rampachodavaram Division, East Godavari district sponsored by ICAR-IIMR, Hyderabad under Tribal Sub Plan (TSP)–2015.

Sorghum Field Day at Nellimatla village of Rajavommangi mandal

- On 07.11.2015, Paddy field day was conducted on "Introduction of new Paddy variety JGL-17004" at Koyyalagudem village of Rampachodavaram mandal. Dr.A.Srinivas, Programme Coordinator has explained the importance of new paddy variety JGL 17004 - fine, short duration, blast resistance and suitable for Rabi season.

Paddy fields at Koyyalagudem village, Variety-JGL-17004

- On 17.11.2015, Sorghum field day was conducted at Pedduru and Kothagudem villages of Devipatnam mandal to popularize and disseminate technology in the agency area. Sri.K.V.V.Chakradara Babu, IAS, Project Officer, ITDA, Rampachodavaram has participated as Chief Guest and visited the Sorghum fields at Kothagudem and Peddur and interacted with the tribal farmers and taken feedback regarding sorghum cultivation.

Krishi Vigyan Kendra, Venkataramannagudem

- AAS was installed for Soil & Plant Analysis at KVK and demonstrated the method of analysis to farmers from Bottaigudem mandal.

- Field day for soil sample collection and information pertaining to the selected farmers to demonstrate Integrated Nutrient Management in Cashew and Cotton in Tribal Sub Plan areas at Bandamgudem and Pandugudem villages of Buttaigudem mandal on 16.07.2015 was conducted.

- Distributed vegetable seed kits to Tribal woman farmers to promote multi nutritional gardens in their backyards to alleviate nutritional disorders on 16.07.2015.

- Dr.B.M.C.Reddy, Hon'ble Vice-Chancellor, Dr.S.Raghuvardhan Reddy, former Vice-Chancellor and Dr.N.Sreerama Reddy, former Dean of Agriculture, ANGRAU visited Krishi Vigyan Kendra, Venkataramannagudem. In this visit Dr.J.Dilipbabu, Director of Research and Dr.R.V.S.K.Reddy, Director of Extension, Dr.YSRHU have participated and explained the activities of KVK.

- Yeluri Sambasiva Rao, Hon'ble MLA, Paruchuru, Guntur visited Krishi Vigyan Kendra, Venkataramannagudem. In this visit Dr.J.Dilip babu, Director of Research, Dr.YSRHU and Dr.E.Karunasree, Programme Coordinator have participated.

- Dr.E.Karunasree, Programme Coordinator visited ARS, Vijiyarai to interact with Principal Scientist (Ento), AICRP on Honeybee about apiary training and unit installation at KVK and TSP villages on 11th October, 2015.

- Arrangements of an exhibition stall with display of Horticultural, Agricultural, Fisheries, and Livestock and Home Science technologies during Kisan Mela conducted by KVK, Undi on 16th November, 2015. Hon'ble Member of Parliament Sri G.Gangaraju, Sri P.Manikyala Rao, Hon'ble Minister for Endowments, Government of AP., Sri Sivarama Raju, Hon'ble MLA, Undi and Dr.A.K.Singh, Deputy Director General (Agricultural Extension), ICAR, New Delhi, visited the stall and enquired about the farmer friendly technologies.

- Sri K.Krishna Kanth, SMA (Ento.) and Sri V.Subbarao, Farm Attendar had attended four days vocational training programme on Bee Keeping at Honey Bee Research Station, Vijayarai from 30th November, 2015 to 4th December, 2015.

- Dr.B.M.C.Reddy, Hon'ble Vice-Chancellor, Dr.YSRHU, Venkataramannagudem visited the KVK on 13.01.2016, where in the KVK activities like Soil testing lab, Apiary, Goat Rearing and preparation of millet based food products and display of all the publications were arranged and explained.

- Dr.B.M.C.Reddy, Hon'ble Vice-Chancellor along with University Officers of Dr.YSRHU, Venkataramannagudem laid the foundation stone for the KVK 1st floor building and Farmers Hostel 1st floor construction activities on 20.01.2016.

- KVK Venkataramannagudem organized field day on Improved Cultivation of Tomato in Pandugudem village in TSP area on 04.02.2016. Earlier the participants visited the demonstration block.

- Sri Ch. Kiran Kumar, SMS (SS&AC) and M.Supriya, SMA (Hort.) distributed China aster seedlings of Arka Kamini variety to three farmers in TSP areas of Pandugudem, Kamayyakunta and Lankapalli Villages as a part of Varietal introduction of China aster in TSP areas.

- Dr.E.Karunasree, Senior Scientist & Head and Sri K.Krishna Kanth, SMA (Ento.) participated in Kisan Mela organized by Horticultural Research Station, Kovvur on 17.02.2016 and displayed latest technologies of horticultural crops in the exhibition.

- Sri Ch. Kiran Kumar, SMS (SS&AC) attended as a resource person and gave a lecture to MPEO's on 19.02.2016 at Eluru on soil sample collection and analysis and use of bio fertilizers in production of horticultural crops.

- Sri K.Krishna Kanth, SMA (Ento.) attended as a resource person and gave a lecture to MPEOs on 24.02.2016 at Eluru on Non Pesticide Management in horticultural crops.

- Demo units of Sheep and Poultry sheds at KVK, Venkataramannagudem were inaugurated by Dr.B.M.C.Reddy, Hon'ble Vice-Chancellor on 25.02.2016. In this programme, Dr.B.Srinivasulu, Registrar, Dr.J.Dilipbabu, Director of Research, Dr.R.V.S.K.Reddy, Director of Extension and Dr.P.R.P.Raju, Estate Officer, Dr.YSRHU and farmers have participated.




- G.Naveen Kumar, SMA (Agrl.Extn.) along with the support of faculty from Buffalo Research Station conducted vaccination of (Gamboro vaccine) on 09.03.2016 to 14 day old back yard poultry birds maintained at KVK instructional farm.

- Sri K.Krishna Kanth, SMA (Ento.) attended as a resource person and gave a lecture to MPEO's on 12.03.2016 at Eluru on Non Pesticide Management of crops and life cycle of pests and their management using botanical extracts, predators and parasitoids.

- Distributed 6 weeks old Vanaraja and Gramapriya birds to Tribal women, K.R.Puram on 24.03.2016. In this programme Dr.R.V.S.K.Reddy, Director of Extension Dr.J.V.Prasad, Principal Scientist, ATARI, Hyderabad, Dr.B.V.K.Bhagawan, Zonal Research Head, Coastal Zone-I, Dr.YSRHU, Dr.K.Anandkumar, PHO, ITDA, K.R.Puram and farmers have participated.

Horticultural Polytechnic, Kalikiri

- Field visits were organized to mango, citrus, sapota, jamun, pomegranate and coconut orchards at Sanyasivandlapalli on 03.04.2015.

- Field visits were organized to pomegranate, papaya and mango orchards in farmer fields at Moorevandalapalli, Kalikiri Mandal on 16.09.2015.

Horticulture College and Research Institute, Venkataramannagudem

- Dr.A.Sujatha, Associate Dean and Dr.T.Suseela, Assistant Professor (Hort.) as Associate Dean Representative participated in Rytu sadassu conducted by the final year students at HRS, Ambajipeta on 24.11.2015 as a part of RAWEP.

- Dr.A.Sujatha, Associate Dean and Smt.K.Usha Kumari, Assistant Professor (Hort.) as Associate Dean Representative attended the field days conducted by the final year students at Pasivedala and Kalavalapalli villages 30.11.2015 as a part of RAWEP.

- Dr.A.Sujatha, Associate Dean and Dr.V.Vijaya Bhaskar, Associate Professor (Hort.) as Associate Dean Representative attended the field day conducted by the final year students at Pedavadlapudi village on 01.12.2015 as a part of RAWEP.

I.MASS COMMUNICATION

With a view to reach a large number of farmers with the latest technologies and methods, scientists of the university are regularly giving radio talks, TV programmes and literature & publications through print media in local language, Kisan melas, guest lectures through various line departments, institutions and NGOs etc.

a) Radio Programmes:

Date	Topic	Name of the Scientist
17.04.2015	Cultivation of onion, Mango, Banana and Citrus	Dr.Ch.Ruth, Scientist (Pl.Path)
22.04.2015	Kisan Vani	Dr.Ch.Ruth, Scientist (Pl.Path)

24.04.2015	Cultivation of onion, Mango, Banana and Citrus	Dr.Ch.Ruth, Scientist (Pl.Path)
29.04.2015	Cultivation of onion, tomato, banana and bhendi crops	Dr.Ch.Ruth, Scientist (Pl.Path)
01.05.2015	Cultivation of onion, tomato, banana and bhendi crops	Dr.Ch.Ruth, Scientist (Pl.Path)
08.05.2015	Cultivation of onion, tomato, banana and bhendi crops	Dr.Ch.Ruth, Scientist (Pl.Path)
15.05.2015	Vesavi lo thamalapaku thotala sasyarakshna	Smt.P.Sunitha, Scientist (Ento.)
15.05.2015	Cultivation of onion, tomato, banana and bhendi crops	Dr.Ch.Ruth, Scientist (Pl.Path)
01.06.2015	Cultivation of Horticultural crops in Ananthapur district	Dr. K.Subramanyam, Principal Scientist (Pl.Path.)
05.06.2015	Pasupu sagulo melakuvalu	Dr.B.Srinivasulu, Senior Scientist
12.06.2015	Pasupu rakalu – Vittana empika	Dr.S.Surya Kumari, Principal Scientist (Hort.)
17.06.2015	Mirapalo panta marpidi mariyu pachirotta pyrula avasyakatha	Dr.C.Venkata Ramana, Scientist (Hort.)
22.06.2015	Prastutam Kobbarini Asistunna Akuteli Purugulu – Nivarana charyalu	Dr.N.B.V.Chalapathi Rao, Senior Scientist (Ento.)
24.06.2015	Kobbarilo Antara Pantala saagu	Smt.E.Padma, Scientist (Hort.)
25.06.2015	Tamalapakulo samagra Sasyarakshana	Smt.P. Rama Devi, Scientist (Pl.Path.)
29.06.2015	Varsakalamlo mamidi thotallo cheyavalasina panulu	Dr.M.Ramakrishna, Principal
29.06.2015	Important techniques in *Kharif* Vegetable Cultivation	V. Ramana, Technical Officer (H)
29.06.2015	Important management techniques in onion Cultivation	P.Parameswar, Teaching Associate (H)
14.07.2015	Maamidi kotha mariyu yegumatiki patinchavalasina melakuvalu	Dr.R.Rajya Lakshmi, Scientist (Hort.)
16.07.2015	Mirapa Naarumallalo Sasyarakshana	Smt.T.Vijaya Lakshmi, Scientist (Pl.Path)
20.07.2015	Mirapa Saagu-Melakuvalu	Dr.C.Venkata Ramana, Scientist (Hort.)
22.07.2015	Benda saagulo melaina yajamanya paddatulu	Dr.C.Sarada, Senior Scientist (Hort.)
27.07.2015	Mango cultivation	Dr.M.G.Bala Hussaini, Scientist (Hort.)
28.07.2015	Mirapalo saaluthotala yajamayam	Dr.L.Naram Naidu, Principal Scientist (Hort.)
28.07.2015	Tati chettu saagu mariyu upayogalu	
10.08.2015	Cultivation of Horticultural crops	Dr. K.Subramanyam, Principal Scientist (Pl.Path.)
13.08.2015	Jeedimamidilo Rakalu Yajamanyam	Dr.K.M.Yuvaraj, Senior Scientist (Hort.)
13.08.2015	Varshakalamlo Kobbari mariyu Cocoa nu Asimche Tegullu Nivarana Charyalu	Dr.A.Snehalatha Rani, Scientist (Pl.Path.)
20.08.2015	Varshakalamlo mamidithotalalo chepattavalasina yajamanyam	Dr.R.Rajya Lakshmi, Scientist (Hort.)
20.08.2015	Kobbarilo adhika digubadulaku Samagra Yajamanyam	Dr.G.Ramanandam, Principal Scientist (Hort.)

24.08.2015	Problems in horticultural crops	Dr.B.Srinivasulu, Senior Scientist
25.08.2015	Pandlathotallo Sasyarakshana	Dr.A.Sujatha, Associate Dean & Professor (Ento.)
25.08.2015	Boppailo Sukshamadhatulopa Lakshanalu-Nivarana	Dr. P. Subbaramamma, Assistant Professor (Plant Physiology)
03.09.2015	Vividha Rakala Haritha illu, Vati Nirmaana Paddathulu Mariyu Yajamanyamu	Sri.B.Chennakesavulu, Assistant Professor (Agri. Engineering)
21.09.2015	Tomatolo melyana yajamanya paddatulu	Dr.K.Umajyothi, Professor (Hort.)
16.10.2015	Pandla thotallo antara pantala pramukyatha	Dr.V.Sudha Vani, Assistant Professor (Hort.)
27.10.2015	Polyhouseslo poola sagu pramukhyata	Dr.V.Vijaya Bhaskar, Associate Professor (Hort.)
13.11.2015	Sapota Thotallo Poota Mariyu Pindela Yajamanya Paddatulu	Dr. B.Ramesh Babu, Scientist (Hort.)
23.11.2015	Boppayi Sagulo Melakuvalu	Dr.Syed Sadarunnisa, Assistant Professor (Hort.)
23.11.2015	Adhika Varshalaku Udyana pantallo Teesukovalasina Jagrattalu	Dr.B.Srinivasulu, Senior Scientist
01-12-2015	Mamidithotallo putakumundu teesukovalasina charyalu	Dr.A.Sujatha, Associate Dean & Professor (Ento.)
03.12.2015	Mirapa kothalu- kotha ananthara parignanam	Dr.L.Naram Naidu, Principal Scientist (Hort.)
08.12.2015	Citrus Management	Dr.B.Govinda Rajulu, Principal Scientist (Pl.Path.)
11.12.2015	Cheeni nimma thotallo adhikadigubadiki suchanalu	Dr.L. Mukunda Lakshmi, Scientist (Hort.)
18.12.2015	Ulli Saagulo patinchavalasina Melukuvalu and Pasupu Saagulo Yajamanya Paddatulu	Sri M. Tagore Naik, Scientist (Hort.)
22.12.2015	Musk melon & Water melon	Dr.B.Srinivasulu, Senior Scientist
23.12.2015	Melons cultivation	Dr.B.Srinivasulu, Senior Scientist
07.01.2016	Polyhouselalo poola sagu	Dr.V. Vijaya Bhaskar, Associate Professor (Hort.)
18.01.2016	Prastuta tarunamlo Udyana pantallo teesukovalasina jagrattalu	Dr.B.Srinivasulu, Senior Scientist
27.01.2016	Dhaniyalu, vaamu saagulo melakuvalu	Dr.K.Giridhar, Scientist (Hort.)
27.01.2016	Cultivation of Ber	Dr.M. Mutyala Naidu, Senior Scientist (Hort.)
27-01-2016	Tomatolo Samagra Poshaka Yajamanyam	Dr.P.Subbaramamma, Assistant Professor (Plant Physiology)
27.01.2016	Mamidi pootha samayamlo theesukovalasina jagrathalu	Dr.M.Ramakrishna, Principal
04.02.2016	Polyhouseslo keeradosa saagu	Dr.V.Suchitra, Assistant Professor (Hort.)
23.02.2016	Vesavilo cheeni mariyu nimma thotala yajamanyam	Dr.B.Govinda Rajulu, Principal Scientist (Pl.Path.)
29.02.2016	Vesavi Kuragayala sagulo melakuvulu	Dr.K.Umajyothi, Professor (Hort.)
01.03.2016	Pantalaku Neeti Viniyoga Paddhatulu	Dr.K.Sasikala, Assistant Professor (Agro.)

03.03.2016	Vesavilo kobbari thotala yajamanyam	Dr.G.Ramanandam, Principal Scientist (Hort.)
15.03.2016	Malle parimalala kosam theesukovalasina jagrathalu	Dr.T.Suseela, Assistant Professor (Hort.)
17.03.2016	Kobbarilo anthara pantaga cocoa	Smt.E.Padma, Scientist (Hort.)
19.03.2016	Vesavilo tamalapuku sagulo teesukovalasina jagratalu	Smt.P. Rama Devi, Scientist (Pl.Path.)
21.03.2016	Cultivation of Horticultural crops in Ananthapur district	Dr. K.Subramanyam, Principal Scientist (Pl.Path.)

b) Television Programmes:

Date	Topic	Name of the Scientist	Recorded by
08.04.2015	Summer Management in pomegranate	Dr.B.Srinivasulu, Senior Scientist (Hort.)	Doordarshan
29.04.2015	Mamidilo kotha anantharam tisukovalisina jagrathalu	Dr.R.Rajya Lakshmi, Scientist (Hort.)	Sapthsgiri
12.05.2015	Chilli and coriander varieties	Dr.L.Naram Naidu, Principal Scientist (Hort.)	ETV
13.05.2015	Ganoderma disease in coconut and its management	Dr. A. Snehalatha Rani, Scientist (Pl.Path.)	ETV, Annadata
13.05.2015	Management of coconut slug caterpillar	Dr. N.B.V. Chalapathi Rao, Senior Scientist (Ento.)	ETV, Annadata
30.05.2015	Measures to be taken in betelvine gardens during summer	Smt.P. Rama Devi, Scientist (Pl.Path.)	Eee TV
04.06.2015	Coconut slug caterpillar and its management	Dr. N.B.V. Chalapathi Rao, Senior Scientist (Ento.)	Doordarshan Saptagiri
04.06.2015	Diseases of Coconut and Cocoa in rainy season and the management	Dr.A. Snehalatha Rani, Scientist (Pl.Path.)	Doordarshan Saptagiri
05.06.2015	Pasupu sagulo melakuvalu	Dr.B.Srinivasulu, Senior Scientist (Hort.)	Doordarshan
09.06.2015	Fertilizer management in coconut & Fertilizer management in Banana	Dr. G. Ramanandam, Principal Scientist (Hort.)	Doordarshan
15.06.2015	Coconut based high density cropping system for higher returns	Dr. G. Ramanandam, Principal Scientist (Hort.)	Sakshi TV
15.06.2015	Diseases of coconut and management	Dr. A. Snehalatha Rani, Scientist (Pl.Path.)	Sakshi TV
22.06.2015	Achievement of out standing AICRP awards to Horticultural Research Station, Ambajipeta	Dr. G. Ramanandam, Principal Scientist (Hort.)	Doordarshan Saptagiri
22.06.2015	Growing of green manuring insitu as substitute for organic manures in coconut	Dr. G. Ramanandam, Principal Scientist (Hort.)	Doordarshan Saptagiri

22.06.2015	Kobbarilo Movvukullu tegulu, Cocoalo kayakullu tegulu mariyu kandam macha – teeskovalsina charyalu	Dr.A.Snehalatha Rani, Scientist (Pl.Path.)	Doordarshan Saptagiri
09.07.2015	Kobbarilo Anthara Pantala Saagu	Dr. G. Ramanandam, Principal Scientist (Hort.)	Doordarshan
28.07.2015	Aratilo adhika digubadiki suchanalu	Dr.B.V.K.Bhagavan, Principal Scientist (Hort.)	Doordarshan
01.08.2015	Mirapa narumallalo tegulla yajamanyam	Smt. T.Vijaya Lakshmi, Scientist (Pl.Path.)	DD Saptagiri
01.08.2015	Mirapalo vittanasuddhi	Smt. T.Vijaya Lakshmi, Scientist (Pl.Path.)	DD Saptagiri
01.08.2015	Mirapa narumallalo purugula yajamanyam	Dr.K.Sireesha, Scientist (Ento.)	DD Saptagiri
01.08.2015	Pasupulo eruvula Yajamanyam	Dr.S.Surya Kumari, Principal Scientist (Hort.)	DD Saptagiri
07.08.2015	Pasupulo purugulu, tegullavalla kalige nashtalu- teesukovalasina jagrathalu	Dr.S.Surya Kumari, Principal Scientist (Hort.)	DD Saptagiri
07.08.2015	Mirapa natutalo melakuvalu	Smt.A.Rajani, Scientist (Hort.)	DD Saptagiri
18.08.2015	Kuragayala pantalalo sasyarakshna charyalu	Smt.P. Sunitha, Scientist (Ento.)	Doordarshan
27.08.2015	Mirapalo yeruvula yajamanyam	Dr.C.Sarada, Senior Scientist (Hort.)	DD Saptagiri
27.08.2015	Mirapalo narumalla yajamanyam	Dr.C.Sarada, Senior Scientist (Hort.)	DD Saptagiri
27.08.2015	Insect pest management in tomato and brinjal	Dr.K.Sireesha, Scientist (Ento.)	DD Saptagiri
01.09.2015	Mirapa saagulo melakuvalu	Dr. L.Naram Naidu, Principal Scientist (Hort.)	DD Saptagiri
01.09.2015	Achievements of HRS, Ambajipeta since inception	Smt. E. Padma, Scientist (Hort.)	ETV, Annadata
04.09.2015	Virus management in chilli	Smt.T.Vijaya Lakshmi, Scientist (Pl.Path.)	DD Saptagiri
04.09.2015	Pasupulo sukshma poshaka lopala nivarana	Dr.S.Surya Kumari, Principal Scientist (Hort.)	ETV
15.09.2015	Bio-fertilizer production unit activities and achievements	Smt.P. Rama Devi, Scientist (Pl.Path.)	Eee TV and Doordarshan
16.09.2015	Management of little leaf of brinjal & Management of ridge gourd mosaic	Smt.P. Rama Devi, Scientist (Pl.Path.)	Eee TV and Doordarshan
16.09.2015	Dhaniyala saagulo melakuvalu	Dr.S.Surya Kumari, Principal Scientist (Hort.)	ETV
16.09.2015	Menthi saagulo melakuvalu	Dr.S.Surya Kumari, Principal Scientist (Hort.)	ETV
16.09.2015	Vamu saagulo melakuvalu	Dr.K.Giridhar, Scientist (Hort.)	ETV
16.09.2015	Chilli nursery management and transplanting	Dr.C.Venkata Ramana, Scientist (Hort.)	ETV

16.09.2015	Production technology in chilli	Dr.C.Sarada, Senior Scientist (Hort.)	ETV
24.09.2015	Cheeni Nimma Thotala Sasyarakshana	Smt.G.Sarada, Scientist (Ento.)	DD Saptagiri
24.10.2015	Pasupulo adhika digubadiki melakuvalu	Dr.S.Surya Kumari, Principal Scientist (Hort.)	DD Saptagiri
27.10.2015	Ginja sugandhadravya pantala saagu	Dr.S.Surya Kumari, Principal Scientist (Hort.)	DD Saptagiri
28.10.2015	Vegetable cultivation in Rabi season	Dr.P. Ashok, Scientist (Hort.)	
29.102015	Mirapalo sasya rakshana	Dr.K.Sireesha, Scientist (Ento.)	DD Saptagiri
10.11.2015	Cheeni nimma thotallo adhikadigubadiki suchanalu	Dr.L.Mukunda Lakshmi, Scientist (Hort.)	DD Saptagiri
13.11.2015	Management of pest and diseases of pomegranate and custard apple	Dr.B.Srinivasulu, Senior Scientist (Hort.)	Doordarshan
23.11.2015	Chillies sucking complex management	Smt.P. Sunitha, Scientist (Ento.)	Etv annadatha
23.11.2015	Betelvine pests and their management	Smt.P. Sunitha, Scientist (Ento.)	Etv annadatha
23.11.2015	Jasmine bud borer management	Smt.P. Sunitha, Scientist (Ento.)	Etv annadatha
03.12.2015	Mamidi lo pootha ku mundu tharuvatha thisukovalisina Charyalu	Dr.R.Rajya Lakshmi, Scientist (Hort.)	Doordarshan
04.12.2015	Sucking pest management	Dr.K.Sireesha, Scientist (Ento.)	DD Saptagiri
15.12.2015	Danimmalo Nanyamyna Digubadiki Suchanalu	Dr.K.Subramanyam, Principal Scientist (Pl.Path.)	Doordarshan
04.01.2016	Management of viral diseases in chilli	Dr.LNaram Naidu, Principal Scientist (Hort.)	ETV
04.01.2016	Jagratha vahinchu	Dr.R.Rajya Lakshmi, Scientist (Hort.)	Eenadu
08.01.2016	Sucking pest management in chilli	Dr.K.Sireesha, Scientist (Ento.)	DD Saptagiri
13.01.2016	Mirapalo Sasya rakshana – Interview	Smt.T.Vijaya Lakshmi, Scientist (Pl.Path.)	DD Saptagiri
21.01.2016	Tamalapaku Sagulo Adhika Digubadiki Suchanalu	Smt.P. Rama Devi, Scientist (Pl.Path.)	Saptagiri
24.01.2016	Post harvest management in chilli	Dr. C.Sarada, Senior Scientist (Hort.)	DD Saptagiri
26.01.2016	Mirapalo kotha – kotha ananthara Parignanam	Dr.LNaram Naidu, Principal Scientist (Hort.)	DD Saptagiri
29.01.2016	Insect pest management in summer tomato	Dr.K.Sireesha, Scientist (Ento.)	DD Saptagiri
29.01.2016	Vesavilo benda saagu	Dr. C.Sarada, Senior Scientist (Hort.)	DD Saptagiri
15.02.2016	Production of cut flowers under poly house condictions	Dr.R.Nagaraju, Assistant Professor (Hort.)	Doordarshan

16.02.2016.	Mamidi lo pindhe raludu nivaranopayalu	Dr.R.Rajya Lakshmi, Scientist (Hort.)	Doordarshan
24.02.2016	Management of fruits after harvesting in Mango	Dr. B.Ramesh Babu, Scientist (Hort.)	ETV Annadata
29.02.2016	Pest & disease management after marble stage of mango	Dr. B.Ramesh Babu, Scientist (Hort.)	ETV Annadata
01.03.2016	Cultivation practices of cut chrysanthemum and carnation	Dr.K.Swarajya Lakshmi, Associate Professor (Hort.)	Express TV
02.03.2016	Cultivation practices of knol khol	Smt. K.Lalitha, Assistant Professor (Agro.)	Express TV
15.03.2016	Vesavilo arati thotallo patinchavalacina yajamanya paddatulu	Dr. M. Mutyala Naidu, Senior Scientist (Hort.)	Doordarshan
24.03.2016	Care and management of flowering cashew orchards	Dr.K.Rajendra Prasad, Scientist (Hort.)	ETV Annadata
24.03.2016	Pest and disease management in Coconut	Dr.N.B.V.Chalapathi Rao, Senior Scientist (Ento.)	Doordarshan
25.03.2016	Care and management of young orchards	Dr.K.Rajendra Prasad, Scientist (Hort.)	ETV Annadata
	Mamidilo Pootha mariyu Pindela yajamanya Paddatulu	Dr. B.Ramesh Babu, Scientist (Hort.)	Express TV

J.Rythu Sadassus

Horticultural Research Station, Ambajipeta

Date	Topic	Village	Scientist participated
09.11.2015	Demonstrated the coconut climbing machine for coconuts harvest	KVK, Kalvacharla	Dr.N.B.V.Chalapathi Rao, Senior Scientist (Ento.)
24.11.2015	Farmers – scientists and students interaction to clarify the field level problems in the cultivation of various Horticultural crops	Horticultural Research Station, Ambajipeta	Dr. G. Ramanandam, Principal Scientist (Hort.) Dr.N.B.V.Chalapathi Rao, Senior Scientist (Ento.) Dr.A. Snehalatha Rani, Scientist (Pl.Path.) & Smt.E. Padma, Scientist (Hort.)

Citrus Research Station, Tirupati

- Dr.L.Mukundalakshmi, Scientist (Hort.) and Dr.T.Rajasekharam, Scientist (Pl.Path) have attended "Rythu kosam chandranna" Rythu sadssu at S.V.Veternary College, Tirupati on 24.09.2015 and exhibited the citrus germplasm and production technologies.

- Dr.K.T.Venkataramana, Principal Scientist (Hort.) & Zonal Research Head and Smt.G.Sarada, Scientist (Ento.) along with Dr.K.Gopal, Associate Dean, HC&RI, Anantarajupeta and Dr.B.Sreenivasulu, Senior Scientist (Hort.) & Head, HRS, Ananthapur have attended Rythu Sadassu at Pulivendula being

organized by Department of Horticulture and educated the farmers with improved practices in pomegranate, citrus production and protection techniques through power point presentations on 19.03.2016.

- Dr.L.Mukundalakshmi, Scientist (Hort.) has attended National Consultation on Science and Technology for development of Indigenous India" organized by Indian Science Congress Association, Tirupati Chapter and displayed fruit samples of citrus germplasm accessions in the exhibition at VEMU Engineering College, Chittoor on 25.03.2016.

Horticultural Research Station, Anantapuramu

Dr.B.Srinivasulu, Senior Scientist & Head, participated in Rythu Sadassu conducted by Department of Horticulture, A.P. on 19.03.2016.

Horticultural Research Station, Pandirimamidi

- Dr.G.Narasimha Murthy, Scientist (Hort.), and Dr.K.Rajendra Prasad. Scientist (Hort.) participated in Rythu sadassu (Kisan sammelan) held at KVK, Pandirimamidi on 20.11.2015

- Dr.K.Rajendra Prasad, Scientist (Hort,) and Sri.P.C.Vengaiah, Scientist (FS&T) participated in Rythu sadassu held at HRS, Kovvur on 17.02.2016 and also attended farmers interaction on crop specific problems.

- Dr.G.Narasimha Murthy, Scientist (Hort.) participated in Udyanamela at University headquarters conducted during 28.12.2015 to 31.12.2005.

Mango Research Station, Nuzvid

Attended Rythukosam Chandranna programme conducted at Indira Gandhi stadium, Vijayawada on 29.09.2015 along with Dr.P.Prasannakumar, Principal Scientist & Head, PHTRS, Venkataramannagudem. Arranged exhibits like posters and laminations in the stall to show to the famers.

Horticultural Polytechnic, Madakasira

Dr.M.Ramakrishna, Principal participated in Rythu Sadassu conducted by ATMA, Anantapuramu and Department of Agriculture, Madakasira on Agriculture and Horticultural crops on 24.02.2016 at Jr. College, Madakasira.

Horticultural Research Station, Kovvur

- Dr.B.V.K.Bhagavan, Principal Scientist (Hort.) & Head and Smt. K. Mamatha, Scientist (Hort.) participated in exhibition for Rytu kosam chandranna at Tadepalligudem on 15th September, 2015.

- Dr.B.V.K.Bhagavan, Principal Scientist (Hort.) & Head along with Dr.M.L.N.Reddy, Dean of Horticulture, Dr.J.Dilip Babu, Director of Research and Dr.A.Sujatha, Associate Dean, CoH, V.R.Gudem attended Rythu Sadassu at Horticultural research Station Ambajipeta organized by final year B.Sc (Hort.) students during their RAWE programme on 24.11.2015.

- Dr.M.L.N.Reddy, Dean of Horticulture, Dr.A.Sujatha, Associate Dean, COH, V.R.Gudem, Dr.B.V.K.Bhagavan, Principal Scientist (Hort.) & Head, HRS, Kovvur, Smt.Usha Kumari, Assistant Professor and In charge of RAWEP, COH, V.R.Gudem, Smt.R.Naga Lakshmi, Scientist (Hort.), HRS,

Kovvur, Ms.T.Sowmya, RA (PP) and Sri M.Thirupal, RA (Hort.) attended the Rythu sadassusu at Pasivedala and Kalavalapalli villages organized by final year B.Sc Hort students during their RAWE programme under Horticultural research Station, Kovvur on 30.11.2015.

- Smt.R.Naga Lakshmi, Scientist (Hort.) attended Rythu sadassu on 'Improved practices in coconut cultivation' organized by Lions club, Palkol and exhibited banana bunches and tissue culture plants in the exhibition stall on 01.03.2016.

K. Polam Pilustondi/Rythu Kosam Chandranna programmes/T&V programmes

Citrus Research Station, Tirupati

Dr.L.Mukunda Lakshmi, Scientist (Hort.), attended "Polam Pilustondi Programme 2015" In Ithepalli and Agarala villages of Chandragiri mandal on 30.06.2015 and educated the mango farmers on zinc and iron deficiencies.

Horticultural Research Station, Mahanandi

- Sri M.Tagore Naik, Scientist (Hort.) participated in "Polam Pilusthondi" programme along with line department officers at Nandipalli and Sithrampuram villages, Mahanandi mandal on 25.06.2015 and visited onion, brinjal and chilli crops and suggested how to prepare the Nursery beds and suitable remedial measures to chilli Thrips and Mites, brinjal fruit and shoot borer and onion fertilization.

- Sri M.Tagore Naik, Scientist (Hort.), participated in "Polam Pilusthondi" programme along with line department officers at Allinagaram and Srinagaram villages, Mahanandi mandal on 26.06.2015 and visited turmeric, banana and mango fields and suggested suitable remedial measures to turmeric seed treatment against rhizome rot, banana fertilization and mango training & pruning aspects.

- Sri M.Tagore Naik, Scientist (Hort.) participated in Polam Pilusthondi programme at Bollavaram and Thammadapalli villages on 14.07.2015 and later visited flower crops like tube rose, marigold and jasmine and suggested suitable remedial measures.

- Sri M.Tagore Naik, Scientist (Hort.) participated in Polam Pilusthondi programme at Gajulapalli and Gopavaram villages on 21.07.2015 and later visited banana, turmeric, mango, bhendi and brinjal fields and suggested suitable management practices.

- Sri M.Tagore Naik, Scientist (Hort.) attended Polam Pilusthondi programme at Gajulapalli and Abbipuram villages on 05.08.2015 and later visited turmeric, banana and chilli fields and suggested suitable remedial measures to nutrient deficiencies in turmeric, weed management and sigatoka leafspot management in banana and thrips and nutrient management in chilli.

Krishi Vigyan Kendra, Pandirimamidi

- On 02.09.2015 Dr.A.Srinivas, Programme Coordinator attended Polam Pilustondi programme at Ginnepalli vilage of Rampachodavarm mandal and explained about the KVK activities in agency area and pest and disease management in paddy and Cashew. Visited paddy fields in the village and suggested need based recommendations followed by distrinution of soil health cards to the tribal farmers.

- On 08.09.2015, Dr.A.Srinivas, Programme Coordinator attended Polam Pilustondi programme at E.Ramavaram vilage of Gangavaram mandal along Agricutural Officer, MPEO and ATM- ATMA and visited Sorghum and Cashew fields in the village and explained the good management parctices, scheems & department programmes under Tribal Sub Plan.

- On 29.09.2015, Dr.A.Srinivas, Programme Coordinator attended Polam Pilustondi programme at B.ramannapalem village, Rampachodavaram mandal and explained the management practices in cashew, mango, paddy and importance of seasonal vaccination in small and large animals with special reference to HS & BQ, F&M.

Horticultural Research Station, Pandirimamidi

- Dr.K.Rajendra Prasad, Scientist (Hort.) attended Polam Pilustondi Programme and delivered a lecture on care and maintenance of cashew young orchards at Bolagonda & Nimmapalem on 30.06.2015.

- Dr.K.Rajendra Prasad, Scientist (Hort.) attended Polam Pilustondi Programme and delivered a lecture on maintenance of cashew young orchards, nursery management in Vegetables at Pedageddada & Dharagudem on 08.07.2015.

- Dr.G.Narasimha Murthy, Scientist (Hort.) attended Polam Pilustondi Programme and delivered a lecture on Production technology of cashew and mango at Rampa village, Rampachodavaram mandal on 29.07.2015.

- Dr.K.Rajendra Prasad, Scientist (Hort.) attended Polam Pilustondi Programme and delivered a lecture on Care and management of Vegetable Nursery at Kannaram & Devarathigudem on 05.08.2015.

- Dr.G.Narasimha Murthy, Scientist (Hort.) attended in Polam Pilustondi Programme and delivered a lecture on management of cashew and mango orchards at Burugubanda and Bandapalli on 11.08.2015.

- Dr.G.Narasimha Murthy, Scientist (Hort.) participated in Polam Pilustondi Programme and delivered lecture on Production technology of cashew and mango at B.V.Kota on 25.08.2015.

- Dr.G.Narasimha Murthy, Scientist (Hort.) attended Polam Pilustondi Programme and delivered lecture on “Management of cashew and mango orchards” at Ginnepalli on 02.09.2015.

- Dr.G.Narasimha Murthy, Scientist (Hort.) attended Polam Pilustondi Programme and delivered lecture on Production technology of cashew and mango at Vootla and seethapalli on 09.09.2015.

- Dr.G.Narasimha Murthy, Scientist (Hort.) attended Polam Pilustondi Programme and delivered lecture on Management of cashew and mango orchards at Pedabaarangi and Musurumilli on 16.09.2015.

Cashew Research Station, Bapatla

- Sri K.Umamaheswararao, Scientist (Hort.) attended Polam Pilustondi Programme and delivered lecture on 'Cultivation of Vegetables' at Etheru, Mulukuduru on 03.06.2015.

- Sri K.Umamaheswararao, Scientist (Hort.) attended Polam Pilusthondi Programme and delivered the message on cultivation of cucurbits at Appikatla, Etheru on 16.06.2015.

- Sri K.Umamaheswararao, Scientist (Hort.) attended Polam Pilusthondi Programme and delivered the take on cultivation of cucurbits at Marripudi and Pundla on 17.06.2015.

- Sri K.Umamaheswararao, Scientist (Hort.) attended Polam Pilustondi Programme and delivered a lecture on cultivation of Flowers at Murukondapadu, Bethapudi on 25.06.2015.

- Sri K.Umamaheswararao, Scientist (Hort.) attended the Polam Pilustondi Programme and gave a lecture on cultivation of Flowers at Gudipudi and Barthipudi on 26.06.2015.

- Sri K.Umamaheswararao Scientist (Hort.) attended Polam Pilustondi Programme and delivered lecture on cultivation of Vegetables and flowers in different villages of Karlapalem mandal on 21.07.2015.

Horticultural Research Station, Venkataramannagudem

- Smt.P.Sunitha, Scientist (Ento.) participated as resource person for the Kisanmela programme at HRS, Nuzivid on 19.03. 2016.

Citrus Research Station, Tirupati

- Dr.L.Mukunda Lakshmi, Scientist (Hort.) participated in 'Kisan Mela' at HRS, Darsi on 12.03.2016 to 13.03.2016 along with Scientist (Pl.Path) and suggested suitable remedies to various cultivation problems faced by the farmers in sweet orange and acid lime.

- Dr.L.Mukunda Lakshmi, Scientist (Hort.) and Smt.G.Sarada, Scientist (Ento.) have participated in 'Kisan Mela' at RARS, Tirupati on 16.03.2016 and displayed Citrus germplasm in the exhibition and also explained the research activities and nursery production technology to farmers and Department of Horticulture officials of Nellore district.

- Dr.T.Rajasekharam, Scientist (Pl.Path.) has attended Kisan Mela at HRS, Nuzvid on 19.03.2016 and suggested solutions to cultivation problems in various horticultural crops.

Horticultural Research Station, Anantapuramu

Dr.B.Srinivasulu, Senior Scientist (Hort.) & Head, attended Kisan Mela on the eve of World Soil Day and farmers meet organized by KVK, Reddipalli on 05.12.2015. Displayed fruit samples in exhibition.

Horticultural Research Station, Darsi

HRS, Darsi organized Kisan mela in farm premises on 13.03.2016 and about 350 farmers and line department officers attended the mela. Hon'ble MLA Yeluri Sambasiva Rao, Garu, Hon'ble Vice-Chancellor Dr.B.M.C.Reddy, Dr.J.Dilip Babu, Director of Research, and Dr. M.M.Naidu Senior Scientist (Horti.) & Head, participated in Kisan Mela.

Horticultural Research Station, Kovvur

- Dr.B.V.K.Bhagavan, Principal Scientist (Hort.) & Head, participated in Kisan Mela organized by RARS, Maruteru on 01.04.2015.
- Smt.R.Naga Lakshmi, Scientist (Hort.) participated in "Kisan Sammelan" Rabi-2015 at Krishi Vigyan Kendra, Pandirimamidi, East Godavari district and exhibited banana and tuber crops exhibits on 21.11.2015.
- Smt.K.Mamatha, Scientist (Hort.) attended the "Tuber Crops Food Fest" at CTCRI, Trivandrum from 24th to 25th November, 2015
- Smt.R.Naga Lakshmi, Scientist (Hort.) participated in Udyana Mela held at HC&RI, DrYSRHU, V.R.Gudem as a member of exhibition committee and exhibited commercial cultivars of banana bunches, tissue culture plants, *colocasia* ,elephant foot yam, greater yam tubers , turmeric and tuberose flowers on 30th and 31st December, 2015.
- Smt.K.Mamatha, Scientist (Hort.) participated in Kisan Mela and exhibited the banana and tuber crops exhibits in the exhibition stall at APRRI, Maruteru on 27.03.2016.

Mango Research Station, Nuzvid

- Attended Rythukosam Chandranna programme at Indira Gandhi stadium, Vijayawada on 29.09.2015 along with Dr.P.Prasannakumar, Principal Scientist, PHTRS, Venkataramannagudem. Arranged exhibits like posters and laminations on varities and technologies in the stall to show to the famers.

Horticultural Research Station, Ambajipeta

- Dr.G.Ramanandam, Principal Scientist (Hort.) & Head and Dr.N.B.V.Chalapathi Rao, Senior Scientist (Ento.) participated in 'Rytukosam Chandranna Yaatra' programme at Sports complex JNTU, Kakinada, East Godavari district and arranged exhibition on coconut production and protection technologies and value addition and displayed live samples. Participated in farmer-scientist interaction and briefed the critical impact technology interventions for high yields and clarified the queries raised by the farmers on 14.09.2015.
- Dr.N.B.V.Chalapathi Rao, Senior Scientist (Ento), Participated in Rytukosam Chandranna Yaatra programme at market yard in Tadepalligudem, West Godavari district on 15.09.2015 and arranged exhibition on coconut production and protection technologies and value addition and displayed live samples.

Horticultural Research Station, Anantharajupeta

- Dr.D.Srinivasa Reddy, Scientist (Ento.), Smt.T.Nagalakshmi, Scientist (Pl.Path.) and D.Sreedhar, Scientist (Hort.) attended **"Rythu Kosam Chandranna"** programme at Veterinary Auditorium, Tirupati on 23.09.2015 organised by Department of Agriculture, Government of Andhra Pradesh.

Horticultural Research Station, Lam:

- Dr.S.Surya Kumari, Principal Scientist (Hort.) attended **"Rythu Kosam Chandranna" programme at Guntur on 11.09.2015.**

- Dr. L.Naram Naidu, Principal Scientist (Hort.), Dr.K.Giridhar, Scientist (Hort.) and Dr.C.Venkata Ramana, Scientist (Hort.) participated in **"Rythu Kosam Chandranna" programme** on 21.09.2015 at Tenali, Guntur district. Hon'ble Agrl. Minister, Sri Prattipati Pullarao presided over the programme.

Citrus Research Station, Tirupati

- Dr.L.Mukunda Lakshmi, Scientist (Hort.), and Dr.T.Rajasekharam, Scientist (Pl. Path.) have participated in "Rythu Kosam Chandranna Programme" organized at S.V.Veterinary Auditorium, Tirupati on 24.09.2015 and exhibited the citrus germpalsm samples in the stall and enlightened the farmers about the released clonal selections of acid lime and sweet orange.

- Dr.K.T.Venkataramana, Principal Scientist (Hort.) has attended Rythu Kosam programme, a Team building workshop to achieve double digit production in Horticultural crops and chaired Coconut session, at ICRISAT, Hydearabad on 13th and 14th, November, 2015.

Krishi Vigyan Kendra, Pandirimamidi

On 14.09.2015, Sri V.Govardhan Rao, SMS (Pl.Path.) attended "Rythu Kosam Chandranna Programme" at JNTU Grounds, Kakinada, East Godavari District as resource person and exhibited the recent technologies and management practices in horticultural crops in the stall on behalf of Horticultural University.

Sri.V.Govardhan Rao, SMS (Pl.Path.) & Dr.G.Ramanadam, Principal Scientist (Hort.) & Head, HRS Ambajipeta in the stall explaining the farmers

L.EXPOSURE VISITS

Cashew Research Station, Bapatla

- Dr.M.L.N.Reddy, Dean of PG Studies visited Cashew Research Station, Bapatla on 18.09.2015 along with M.Sc. (Hort.) students and he explained the breeding techniques and advanced production technology in cashew to PG students.

Horticultural Polytechnic, Madakasira

- On 28.03.2016, 2nd year students visited Indian Institute of Horticultural Research, Hessara ghatta, Bangalore. Stidents there they went round the Institute orchard blocks, vegetables, flowers, medicinal and Aromatic plants along with concerned scientist and also Post Harvest Technology laboratory. Dr.M.Ramakrishna, Principal and Sri P.Parameswar, Teaching Associate (Hort.) accompanied the Students.

- On 22.03.2016, 1st year students visited College of Horticulture, Anantharajupeta and CRS, Tirupati. Sri.V.Ramana, Technical Officer (Hort.) and Sri P.Parameswar, Teaching Associate (Hort.) accompanied the Students.

Krishi Vigyan Kendra, Venkataramannagudem

- Dr.E.Karunasree, Programme Co-ordinator conducted an exposure visit to Horticultural Research Station, Kovvur and Kadiyapulanka for SMS/RA(Hort.) working in KVK's of Andhra Pradesh on 01.04.2015.


- Farmer's from Ranastalam, Laveru and Narasannapeta mandals of Srikakulam district visited KVK, Venkataramannagudem on 10.06.2015. In this visit Dr.E.Karunasree, Programme Co-ordinator explained about KVK activities, Dr.Ravindrababu, Scientist (Hort.) explained about vegetable cultivation under Shadenet and Polyhouses and Dr.Rameshbabu, Scientist (Hort.) explained about fruit crops cultivation. 240 farmers have participated.


- Farmers from Palakonda, Veeragattam, Pathapatnam, Burja, Amadalavalasa mandals of Srikakulam district visited Dr.YSRHU Campus, Venkataramannagudem on 11.06.2015. In this visit Dr.E.Karunasree, Programme Co-ordinator explained about KVK activities and usage of Bio-fertilizers and Vermicompost, Dr.Ravindrababu, Scientist (Hort.) explained about vegetable crop cultivation under Shadenet and Polyhouses and Dr.Rameshbabu, Scientist (Hort.) explained about fruit crops cultivation. About 100 farmers have participated.


- Palasa and Vajrapukotturu mandals of Srikakulam district farmers visited Dr.YSRHU Campus, Venkataramannagudem on 17.06.2015. Dr.E.Karunasree, Programme Co-ordinator explained about KVK activities and usage of Bio-fertilizers and Vermicompost, Dr.Prasanna Kumar, Principal Scientist (Hort.) explained about Post Harvest Technologies in Horticultural Crops and Dr.P.Ashok, Scientist (Hort.) explained about tapioca cultivation and vegetable crop cultivation under Shadenet and Polyhouses. In this visit 60 farmers have participated.

- About 40 farmers of "Nandi Rythu Samakhya", Nandyal, Kurnool district visited Dr.YSRHU campus, Venkataramannagudem on 08.07.2015. An interaction meeting was organised at KVK, Venkataramannagudem and Dr.R.V.S.K.Reddy, Director of Extension, Dr.YSRHU, Dr.M.Rajasekhar, Senior Scientist (Hort.) & Head, Dr.E.Karunasree, Programme Co-ordinator, Dr.Rameshbabu, Scientist (Hort.) and Sri Ch.Kiran Kumar, SMS (SS&AC) explained about Improved Cultivation Practices in Vegetables, crop regulation and disease management in papaya, pest and disease management in chilli and improved Pulse varieties and fodder crops.

- Dr.Goenka Degree College, Tadepalligudem B.Sc 3rd year students visited to KVK, Venkataramannagudem on 03.09.2015. Dr.E.Karunasree, Programme Coordinator explained about horticultural crops and usage of Soil Health Cards and micro nutrient analysis. Students also visited Bio Fertiliser Production Unit, Venkataramannagudem.

- On 17th November, 2015 about 50 farmers from East Godavari visited KVK and University campus to learn about improved management practices along with post harvest and processing of mango.

- Dr.E.Karunasree, Programme Coordinator went to KVK, Pandirimamidi on 21.11.2015 to participate in Kisan Sammelan and displayed University technologies and improved practices in horticultural crops. Smt.K.Githa Hon'ble Member of Parliament, Smt.T.Rathnabhai, Hon'ble MLC and other dignitaries visited the exhibition to know the technologies and skill improvement activities for the benefit of the tribal farmers for self employment.

- Nearly sixty farmers from Srikakulam came for an exposure visit to KVK Venkataramannagudem on 11.02.2016 where in the KVK activities were explained and a farmer scientist interaction was arranged with the help of scientists from HRS in which Smt.Sunitha (Ento.) and Dr.Ashok Babu, Scientist (Hort.) (AICRP on Tuber crops) from HRS have participated and clarified the farmers doubts on various pests and production practices in horticultural crops.

- Nearly thirty farmers from Srikakulam came on an exposure visit to KVK Venkataramannagudem on 15.02.2016 where in KVK activities were explained and a farmer scientist interaction was arranged with the help of scientists from HRS in which Sri Omprasad, RA (Hort.), HRS, Venkataramannagudem and Sri G.Naveen Kumar, SMA (Agrl.Extn.) have participated and clarified the farmers doubts on various pests and production practices in horticultural crops.

- Eighty five farmers from Pathapatnam village of Srikakulam district came for an exposure visit to KVK Venkataramannagudem on 16.02.2016 where in the KVK activities were explained and a farmer

scientist interaction was arranged and a class on "Integrated Nutrient Management in Horticultural crops and importance of soil testing was taken up by Sri Ch.Kiran Kumar, SMS (SS&AC).

- KVK activities were explained and a farmer scientist interaction was arranged and their doubts were clarified on Production practices in various horticultural crops by Sri M.Ravindrababu, Scientist (Hort.) from HRS and Pest management in horticultural crops was explained by Sri K.Krishna Kanth, SMA (Ento.), KVK, Venkataramannagudem to thirty farmers from Visakhapatnam district on 23.02.2016.

Horticultural Research Station, Lam

- About 50 farmers from Nalgonda district visited HRS, Lam and training on different aspects of chilli and vegetable crops was given to them on 06.10.2015.

- Training on "turmeric cultivation" was given to the turmeric farmers deputed by Spices Board, Warangal at HRS, Lam by Dr.S.Surya Kumari, Principal Scientist (Hort.) on 12.01.2016 twenty farmers have participated.

- As an exposure visit was organized by Department of Horticulture to the farmers from Jalgaon, district of Maharashtra state to HRS, Lam to learn about chilli crop production on 24.01.2016.

- As an exposure visit was organized by Department of Horticulture to the farmers from Prakasam district (30 nos.) to HRS, Lam to learn about chilli and spice crops production technology on 29.03.2016.

VI. PUBLICATIONS

(Books, laboratory, manuals, technical bulletins, research papers etc.)

University Publications

"Udyana Panchangam 2016-17" book in telugu published by the Director of Extension, Dr.YSRHU and released by Sri N.Chandrbabu Naidu Garu, Hon'ble Chief Minister, Government of Andhra Pradesh on the occasion of the state function "Ugadi celebrations" at Vijayawada, Andhra Pradesh. Hon'ble Ministers, Dr.B.M.C.Reddy, Vice-Chancellor, Dr.YSRHU and University Officers have participated in the function.

A. BOOKS/BOOK CHAPTERS

Book chapter "Scope and relevance of nanotechnology in spice, aromatic and drug industry" in book titled 'Sustainable production of seed spices under changing climate scenario' (2016); S.Surya Kumari, K.Giridhar and L.Naram Naidu published by NRCS, DASD, Ajmer.

Book chapter "Sowing window, plant density, nitrogen, phosphorus influence on fatty acid profile of Nigella sativa L." in book titled 'Sustainable production of seed spices under changing climate scenario' (2016); K.Giridhar, G.S.N.Reddy, S.Surya Kumari, A.Lalita Kumari, A.Sivashankar, Praduman Yadav published by NRCS, DASD, Ajmer.

''Pasupu Sagu Marga Nirdesham" a book was published during January 2016 under CSS-MIDH Scheme by HRS, Lam, Guntur.

Rajasekhar M, Ramesh Babu B, Prakash Patil and Bhagwan BVK. 2015. "Status of Sapota cultivation in Andhra Pradesh" in Status of sapota cultivation in India. Ed. Prakash Patil. IIHR, Bengaluru.

Rajasekhar M, Uma Maheswari K, Ramadevi P and Sunitha P. 2016. Oushadha mariyu sugandha taila pantalu: Saagu Padhatulu. Published by Dr.YSRHU (Telugu)

B.RESEARCH PAPERS

Vengaiah PC, Vijaya kumari B, Murthy GN, Prasad KR, 2015. Physico-Chemical Properties of Palmyrah fruit Pulp (*Borassus flabellifer* L). J Nutr Food Sci 5: 391. doi:10.4172/2155-9600.1000391.

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C. ABSTRACTS

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Rama Devi P, Krishna Prasadji J, Srinivas T, Ashoka Rani Y and Ramachandra Rao G (2016), Integrated disease management of early blight (*Alternaria* spp.) of tomato (Lycopersicon esculentum) in Conference on "National Priorities in Plant Health Management" organised by Plant Protection Association of India, from 4th to 5th February, 2016, at S V Agricultural College, ANGRAU, Tirupati.

Giridhar, K., Surya Kumari, S., Sathyanarayana Reddy, G. and L. Naram Naidu- Factors affecting secondary metabolite production in *Nigella sativa* L.: Role of sowing window, nitrogen and phosphorus- Proceedings of SYMSAC VIII, Tamil Nadu Agricultural University, Coimbatore, Tamil Nadu held during 16-18 December 2015, pp. 116.

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Chalapathi Rao, N.B.V., Nischala. A. Snehalatharani, A., Ramanandam, G. and Maheswarappa H.P. 2015. 'Palmyra, Borassus flabellifer an equally preferred host for Coconut black headed caterpillar *Opisina*

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D.TECHNICAL BULLETIENS

"Ethylene- Arati pandlanu pandinchadaniki vaadadagga pramadarahita rasaayanam" Mrs. K.Mamatha, Mrs. R. Naga lakshmi, Dr. BVK Bhagavan, D.Thirupal, Sowmya.T

"Saastriya padhatilo Tissue culture Arati Saagu" Mrs. R. Naga lakshmi, Mrs. K.Mamatha, Dr. BVK Bhagavan, Mr.D.Thirupal, Ms.Sowmya.T

"Jeedimamidi Sagulo – Sssthriya Yajamanya Paddathulau" compiled by Dr. KM. Yuvaraj, K. Thulasi Ram, Dr. L. Naram Naidu and published by Cashew Research Station, Dr YSRHU, Bapatla.

E.LEAFLETS/PAMPHLETS

Padma, E. Snehalatha Rani A. Chalapathi Rao, N.B.V, and Ramanandam G, Kobbarilo Adika Digubadulaku Samagra Yajamanya Paddathulu (pamphlet in telugu) was released in three days Cocoa training programme at HRS, Vijayrai from 15.02.2016 – 17.02.2016.

Chalapathi Rao, N.B.V. Snehalatha Rani, A. Nischala, A. Ramanandam G and Padma, E. Cocoa Saagulo Purugulu Tegulla Yajamayam (pamphlet in telugu) was released in District level seminar on Cocoa Saagu Sikshana Karyakramam at Bapulapadu on 19.02.2016.

F.PARTICIPATION IN INTERNATIONAL AND NATIONAL CONFERENCES/ SYMPOSIUM/ WORKSHOPS & HRD PROGRAMMES

Dr.A.Snehalatharani, Scientist (Pl.Path.), Dr.B.Srinivasulu, Scientist (Hort.), Dr.N.B.V.Chalapathi Rao, Scientist (Ento.), Smt.E.Padma, Scientist (Hort.), Dr.G.Ramanandam, Principal Scientist (Hort.) H.P.Maheswarappa (2015). '*Borassus flabellifer L.*, An Important Collateral Host For Basal Stem Rot And Bud Rot Diseases Of Coconut In Andhra Pradesh'; National conference on Palmyrah Palm, NAU, Navsari, Gujarat, India. p.22-26.

Chalapathi Rao, N.B.V., Nischala. A. Snehalatharani, A., Padma, E., Ramanandam, G. and Maheswarappa H.P. 2015. 'Management and Off season Survival Studies on Slug caterpillar Macroplectra nararia a destructive pest of Coconut *Cocos nucifera* and Palmyra, *Borassus flabellifer* in East Godavari District of Andhra Pradesh'. In National conference on Palmyrah Palm, NAU, Navsari, Gujarat, India. p.48-53

Dr.P.Ashok, Scientist (Hort.) participated and organized 15th Annual Group meeting on AICRP Tuber crops from 23rd to 25th April, 2015 at Dr Y.S.R.H.U, Andhra Pradesh.

Dr.P.Rama Devi, Scientist (Pl.Path.) participated Midterm review meeting of AICRP on MAP&B on 25.05.2015 at DMAPR, Anand, Gujarat.

Sri Ch.Kiran Kumar, SMS (SS&AC) participated in "First International conference on Horticultural and Agricultural Sciences" at New Delhi on 6th to 7th June, 2015.

Mrs.P.Sunitha, Scientist (Ento.) participated round table meeting of consortia on 'Semiochemicals for borer pest management on 6th August, 2015, at IIHR, Bengaluru.

Dr.M.Rajasekhar, Senior Scientist (Hort.) participated in proceedings of 3rd ISHS South East Asia symposium on Quality management in Post Harvest systems held at Siem Reap, Cambodia from 13th to 15th August, 2015.

Dr.P. Rama Devi, Scientist (Pl.Path.) and Mrs. P. Sunitha, Scientist (Ento.) attended XXIII Group meeting on AICRP on MAP & Betelvine from 28.9.2015 to 01.10.2015 at DMAPR, Anand, Gujarat.

Dr.P.Ashok, Scientist (Hort.) attended Tuber Food Fest at CTCRI, Trivendrum from 24th -25th November, 2015.

Dr.P. Rama Devi, Scientist (Pl.Path.) attended Conference on "National Priorities in Plant Health Management from 4th & 5th February, 2016 at SV Agricultural College, Tirupati.

Dr.M.Rajasekhar, Senior Scientist (Hort.) and Dr B.Ramesh Babu, Scientist (Hort.) participated 3rd group discussion of AICRP (Fruits) held at Maharana Pratap University of Agriculture & Technology, Udaipur from 26th Feb, 2016 to 1st March, 2016.

Dr.B.V.K.Bhagavan, Principal Scientist (Hort.) organized 15th Annual group meeting of AICRP on Tuber crops at V.R.Gudem from 23.04.2015 to 25.04.2015.

Smt.K.Mamatha, Scientist (Hort.) participated in 15th Annual group meeting of AICRP on Tuber crops at V.R.Gudem from 23.04.2015 to 25.04.2015.

Dr.B.V.K.Bhagavan, Principal Scientist (Hort.) & Head participated in the work shop on "Value Chain Development and Promotion of Exports of Mango, Banana, Tomato & Chillies from Andhra Pradesh" with all the stake holders - Scientists, Farmers, Exporters, Processors and Consultants which was organised by Dept of Horticulture, Govt of Andhra Pradesh on 6th July, 2015 at Hotel Golkonda, Hyderabad.

On the Eve of Godavari Mahapushkarams a work shop on Agriculture and allied activities was organised by Govt. of Andhra Pradesh on 18th July, 2015 at Anam Kala Kendram, Rajahmundry. Dr. E. Karuna Sree, Senior Scientist & Head, KVK, VR Gudem and Smt.K.Mamatha, Scientist (Hort) participated in the workshop and interacted with the farmers during technical sessions.

Dr.B.V.K.Bhagavan, Principal Scientist (Hort.) & Head, participated in one day Team building workshop for consortium to support Rythu Kosam as a member of the consortium on 24th August, 2015 at ICRISAT, Hyderabad.

Dr.B.V.K.Bhagavan, Principal Scientist (Hort.) & Head participated in "Workshop on Mini mission on Oil palm "and interacted with the farmers, entrepreneurs along with Commissioner of Horticulture and other officers of the concerned Departments at CTRI, Rajamundry on 23rd September, 2015.

Dr.B.V.K.Bhagavan, Principal Scientist (Hort.) & Head, HRS, Kovvur attended and Co-Chaired the Technical Session II in the National Conference - Cum- Workshop on "Advances in Orchid Biology with focus on climate change, Medicinal and Floricultural plants and sustainable economic utilization" organized at Dr.YSRHU, Venkataramannagudem from 26th to 28th February, 2016.

Ms. R. Naga Lakshmi, Scientist (Hort) participated in the National Conference - Cum- Workshop on "Advances in Orchid Biology with focus on climate change, Medicinal and Floricultural plants and

sustainable economic utilization" conducted at DrYSRHU, Venkataramannagudem from 26th to 28th February 2016.

Dr.B.V.K.Bhagavan, Principal Scientist (Hort.) & Head and Ms.Sowmya Tetali, Research Associate (Plant Pathology) participated in 3rd group discussion of AICRP on fruits from 3rd to 6th March 2016 at PAU, Ludhiana

Dr.K.M.Yuvaraj, Senior Scientist (Hort.) & Head and Sri K.Thulasi Ram, Research Associate (Ento.) participated in the Annual Group Meeting of Scientists of AICRP on Cashew Work Shop held from 2nd to 4th November, 2015 at Regional Fruit Research Station, Vengurle, Maharashtra.

Dr.L.Mukunda Lakshmi, Scientist (Hort.), participated in National symposium on "Sustainable citrus production: Way forward" at CCRI, Nagpur from 27th - 29th, November, 2015.

Dr. K.T.V.Ramana, Principal Scientist (Hort.) and Dr.L.Mukunda Lakshmi, Scientist (Hort.), Smt. G.Sarada, Scientist (Ento.), and Dr.T.Rajasekharam, Scientist (Pl.Path.) have attended 3rd Group Meeting on Fruits from 3rd-6th, March, 2016 held at Punjab Agricultural University, Ludhiana.

Dr.L.Mukunda Lakshmi, Scientist (Hort), participated in National Consultation on Science and Technology for development of Indigenous India" organized by Indian Science Congress Association, Tirupati Chapter and displayed fruit samples of citrus germplasm accessions in the exhibition at VEMU Engineering College, Chittoor on 25.03.2016.

Dr.K.Subramanyam, Principal Scientist & Head and Dr.B.Srinivasulu, Senior Scientist (Horti.) attended meeting of Bioveristy 2nd phase project at HRES, Bijapur from 28.04.2015 to 29-04-2015.

Dr.B.Srinivasulu, Senior Scientist & Head attended Third Annual Review Workshop on AICRPDA- NICRA at ARS, Rekulakunta on 01.09.2015.

Dr.B.Srinivasulu, Senior Scientist & Head attended Workshop on Preparation of DPR (Detailed Project Report) for District Cooperative Central Bank, at DCC Bank Anantapuramu on 07.10.2015.

Dr.B.Srinivasulu, Senior Scientist & Head, attended meeting on 'Certification for GAP including infrastructure for mango and pomegranate' at Directorate of Horticulture, Public Gardens, Hyderabad on 10.12.2015.

Dr.B.Srinivasulu, Senior Scientist & Head attended Annual Research Workers Group Meeting and presented the project results pertaining to AICRP on arid zone fruits project at SKRAU, Bikaner from 04.02.2016 to 06.02.2016.

Dr.L.Mukunda Lakshmi, Scientist (Horticulture), has participated in the workshop on mango for production, promotion of Post harvest technologies and marketing of Mango on 08.01.2015 at Vadamalapet, Chittoor dist and delivered a lecture on production technology of Mango organized by DD Horticulture, AEZ, Chittoor.

Dr.C.Madhumathi Senior Scientist & Head, Anantharajupet & Dr.D.Srinivasa Reddy, Scientist (Ento), HC&RI, Anantharajupet. Participated in the interactive meet/workshop with Japanese International Co-operative Agency (JICA) (Govt. of Japan organization) on Agri. value chain in India with focus on Post harvest management of Horticultural crops (Mango, Tomato) on 24.06.2015 at office of Deputy Director of Horticulture (AEZ), Chittoor.

Dr.J.Dilip Babu , Director of Research , Dr.YSR Horticultural University Delivered a Key note address on Post Harvest Management of Mango at Stakeholders consultation Workshop on Strengthening of Post –

Harvest Value Chain Management for Development of Mango Industry in Andhra Pradesh organized by CII and Dept. of Horticulture , Govt. of AP on 7th November, 2015 at Fortune Grand Ridge, Tirupati and Dr.D.Srinivasa Reddy, Scientist (Ento.), HRS Anantarajupet also participated.

Dr.C.Madhumathi, Senior Scientist & Head, Anantharajupet participated in the national conference cum work shop on "Advance in orchid Biology with focus on climate change medicinal and floricultural plants and sustainable exonomic utilization" and orchid show from 26th-28th February 2016, at Dr.Y.S.R.H.U, V.R.Gudem.

Dr.C.Madhumathi, Dr.T.Rajasekharam and Dr.B.Srinivasulu participated the national conference on fruit breeding in tropics 2 sub tropics on Indian "perspective'' at, Bangalore from 27th to 29th April, 2016. Mango varieties were displayed at national conference on fruit bleeding in tropics and sub tropics.

Dr.C.Sarada Senior Scientist (Hort.) and Smt.A. Rajani, Scientist (Hort.) attended XXXIII group meeting on AICRP on vegetable crops at IIVR, Varanasi from 21st to 24th May, 2015.

Dr.L.Naram Naidu, Principal Scientist (Hort.) attended workshop on value chain development and promotion of exports of mango, banana, chilli and tomato organized by Dept. of Horticulture, Hyderabad on 06.07.2015.

Dr.L.Naram Naidu, Principal Scientist (Hort.), Dr.S.Surya Kumari, Principal Scientist (Hort.), Dr. K.Giridhar, Scientist (Hort.) attended XXVI group meeting on AICRP on spices at IISR, Khozikode, from 4th to 7th October, 2015.

Dr.L.Naram Naidu, Principal Scientist (Hort.) attended review meeting with Dept of Agrl. and Dept of Hort. convened by the special chief secretary, Govt. of A.P regarding contingency plans in drought affected areas of Guntur district and to mitigate drought in various horticultural crops on 30.10.2015.

Dr.K.Giridhar, Scientist (Hort.) as a resource person attended workshop on "Double digit growth in horticultural crops" at ICRISAT, Hyderabad from 13th to 14th November, 2015.

Dr.K.Giridhar, Scientist (Hort.) attended National Symposium on spices and aromatic crops (Symsac –VIII) 2015 for oral presentation of the research paper held at TNAU, Coimbatore from 16th to 18th December, 2015.

Dr.S.Surya Kumari, Principal Scientist (Hort.) & Dr.K.Giridhar, Scientist (Hort.) attended National seminar on "new dimensional approaches for enhancement of seed spices productivity and profitability under era of climate change" jointly organized by ICAR, Ajmer, DASD Calicut and ISSS, Ajmer at NRCS Ajmer from 2nd to 3rd February, 2016.

All the scientists of HRS, Lam attended state level brain storming programme on biological diversity Act, 2002, AP, Biological Diversity rules, 2009 & access and benefit sharing (ABC) mechanism at Vijayawada organized by Andhra Pradesh State Bio diversity Board on 04.03.2016.

Sri Ch.Kiran Kumar, SMS (SS&AC) attended the Workshop cum training programme on "Cluster Frontline Demonstrations of Rabi Pulse 2015-16" under NFSM from 22nd-23rd December, 2015 at ICAR-ATARI, Hyderabad.

Dr.E.Karunasree, Senior Scientist & Head participated in "Research and Extension Advisory Council Meeting" and KVK review meeting at RARS, Tirupati from 20th to 21st January, 2015.

Dr.E.Karuna Sree Senior Scientist & Head attended a "Review and Action Plan Meeting of KVKs implementing Tribal Sub Plan (TSP)" at ICAR-ATARI, Hyderabad on 06.02.2016.

Dr.E.Karuna Sree, and Dr. A. Srinivas heads of KVKs participated in review meeting on "Cluster FLDs on Pulses and Oil Seeds" organized by ATARI, Hyderabad. Performance of *Rabi* crop and action plan for *Kharif*, Rabi and summer, 2016-17 reviewed by the DDG (Agrl. Extn.) and Director, DAC, New Delhi from 4th to 5th March 2016.

Dr.T.Rajasekharam, Scientist (Pl.Path.) has participated in one day programme on "Brain Storming Dialogue on Viral & Greening diseases of Citrus: Challenges & Way Forward" on 28.07.2015 at CCRI, Nagpur.

Dr.L.Mukundalakshmi, Scientist (Hort.) has attended National Symposium on "Sustainable Citrus Production: Way Forward" at CCRI, Nagpur from 27th – 29th November, 2015 and presented two research papers.

Dr.A.Srinivas, Programme Coordinator and Sri V.Govardhan Rao, SMS (Pl. Path.) participated and presented Work done report for 2014-15 and Annual Action Plan for the year 2015-16 at Krishi Vigyan Kendra's Annual Action Plan meeting from 11.05.2015 to 12.05.2015 hosted by Dr.Y.S.R.Horticultural University, Venkataramannagudem, Tadepalligudem, West Godavari District..

Dr.E.Karuna Sree and Dr.A.Srinivas, Programme Coordiantors of KVKs have attended Annual Zonal Workshop of KVK's, Zone-V at Jalgaon, and Maharastra from 26th to 28th June, 2015.

Dr.A.Srinivas and Dr. E. Karuna Sree Programme co-ordinators of KVK Pandirimamidi and VR Gudem have attended review meeting on 20th to 21st January, 2016 at RARS, Tirupati and made power point presentation on KVK-Pandirimamidi activities conducted during the year 2015-16.

Dr.L.Naram Naidu, Principal Scientist (Hort.) & Head attended Annual Review Meeting of MIDH programmes of DASD, Calicut organized by Dr.YSRHU from 19th to 20th June, 2015.

Dr. L.Naram Naidu, Principal Scientist (Hort.) & Head attended "Team building workshop of consortium team members" for Rythukosam project at ICRISAT, Hyderabad and discussed on interventions for enhancing the productivity of chilli and other horticultural crops on 20.08.2015.

Dr.R.Rajyalakshmi, Scientist (Hort.) attended workshop on "Improved Production Technologies of Important Horticultural Crops" at Vizianagaram on 07.11.2015 & 08.11.2015.

Dr.B.Prasanna Kumar, Principal Scientist (Hort.) & Head participated in the Stake Holders meeting as a resource person to interact on the components of "Processing, Marketing, Storage and Value addition for Horticulture" at District Co-operative Buildings by Department of Horticulture & NABARD, in West Godavari district on 09.10.2015.

Dr.A.Sujatha, Associate Dean & PI of CRP on borers project attended the meeting on round table meeting on *Conogethus punctiferalis* and presented the report on its occurrence in Andhra Pradesh during May, 2015 at IIHR, Bangaluru.

Dr.A.Sujatha, Associate Dean attended the 24th Annual Group Meeting from 26th-29th May, 2015 on AICRP on Palms held at ICAR-Central Coastal Agricultural Research Institute, Ela, Old Goa, Goa.

Dr.M.Ramaiah, Assistant Professor (Ento.) and Dr.Ch.Ruth, Scientist (Pl.Path.) Horticultural College & Research Institute, Anantharajupeta attended and presented a poster in National Conference on National Priorities in Plant Health Management at RARS, Tirupati.

Smt.G.Thanuja Sivaram, Assistant Professor (Hort.) attended 3 days work shop on "Main streaming climate change and Disaster risk reduction" in Agricultural curriculum, Dr. M.C.R Human Resource Development Institute, Hyderabad on 29th Feb to 2nd March, 2016.

Dr.S.Surya Kumari, Principal Scientist (Hort.) & Dr.K.Giridhar, Scientist (Hort) attended National seminar on "new dimensional approaches for enhancement of seed spices productivity and profitability under era of climate change" during February 2-3, 2016 for the presentation of two research papers.

Dr.K.Giridhar, Sci (Hort.) attended National Symposium on spices and aromatic crops (Symsac –VIII) 2015 held at TNAU, Coimbatore during 16-18 December, 2015 for the presentation of three research papers.

VII. FINANCE AND BUDGET

The major financial grants to Dr.Y.S.R.Horticultural University comes from the A.P.Government under Plan by way of grants-in-aid for running the institution. The bulk grants approved in the budget for the year 2015-16 was Rs71,91,61,853/- including salaries grant and other grants-in-aid.

The ICAR assistance was Rs.8,12,55,837/- (including NAIP) and the Govt. of India assistance was Rs.23,37,018/- while the amount received from other agencies was Rs.11,48,38,998/- and Departmental sponsored schemes (RKVY) Rs.9,06,00,000/-.

Thus, the total budget of the University for the year 2015-16 was Rs.71,91,61,853/- (Rupees seventy one crores ninety one lakhs sixty one thousand eight hundred and fifty three only).

VIII. AWARDS AND HONOURS

Horticultural College & Research Institute, Venkataramannagudem

Ms.P.Asha Devi (VH/12/08) third year B.Sc (Hons.) Horticulture got first prize in Essay writing (Telugu), Debate (English), second prize in Elocution (Telugu) and third prize in Elocution (English) state level competitions held on the eve of Godavari Pushkarams at Acharya Aadikavi Nannayya University, Rajahmundry on 9/7/15. Received gold medals in the above events from Hon'ble Chief Minister of Andhra Pradesh, Sri.Nara Chandra Babu Naidu on 22-07-15 at Anam Kala Kendram, Rajahmundry.

Hon'ble Chief Minister of Andhra Pradesh, Sri. Nara Chandra Babu Naidu Presenting a Gold medal to Ms.P.Asha Devi third year student of Dr.YSRHU in Prantiya Vidya Sadassu-2015 at Rajahmundry

Hon'ble Vice Chancellor, Honoring the Gold Medal Winners of Dr YSRHU

Md.Ayesha Siddikha (VH/15/10) received Pratibha award from District Educational Officer, West Godavari for securing highest marks in Intermediate course.

Md Ayesha Siddikha with Pratibha Award

Horticultural College & Research Institute, Anantharajupeta

- Dr.K.Gopal, Associate Dean, HCRI, Anantharajupeta was awarded the best teacher award by Glacier Journal Research Foundation, Global Management Council, Ahmedabad during 2016.

- Smt.K.Lalitha, Assistant Professor (Agro.) received the young scientist award at "GRISAAS-2015" National Conference on Global Research Initiatives for Sustainable Agriculture, Madhya Pradesh during 2015.

- Smt.K.Lalitha, Assistant Professor (Agronomy) received the Young Achiever Award from SADHNA (Society for Advancement of Human and Nature), Himachal Pradesh during 2015.

Horticultural Research Station, Ambajipeta

- Chaudhary Devi Lal Outstanding All India Coordinated Research Project (AICRP) Award for the year 2014 with its best AICRP centre, Horticultural Research Station, Dr.YSR Horticultural University, Ambajipeta, Andhra Pradesh received from Indian Council of Agricultural Research, New Delhi.

- Chalapathi Rao, N.B.V., Nischala. A. Snehalatharani, A., Padma, E., Ramanandam, G. and Maheswarappa H.P. 2015. Management and Off season Survival Studies on Slug caterpillar Macroplectra nararia a destructive pest of Coconut Cocos nucifera and Palmyra, Borassus flabellifer in East Godavari District of Andhra Pradesh. In National conference on Palmyrah Palm, NAU, Navsari, Gujarat, India. p.48-53

Horticultural Research Station, Lam, Guntur

Dr.S.Surya Kumari, Principal Scientist (Hort.) got best oral presentation award for the paper entitled " Scope and Relevance of Nanotechnology in spice, aromatic and drug industry" in National seminar on "new dimensional approaches for enhancement of seed spices productivity and profitability under era of climate change held at NRCS Ajmer during February 2rd – 3th, 2016.

Citrus Research Station, Tirupati

Dr.Mukunda Lakshmi, Scientist (Hort.), CRS, Tirupati received best third poster award for "Soil analysis based diagnostic norms for Sweet orange (*Citrus sinensis* L Osbeck) cv. Sathgudi in Andhra Pradesh. National Symposium on "Sustainable Citrus Production: Way Forward" at CCRI, Nagpur from 27-29th November-2015.

IX. OTHER SIGNIFICANT EVENTS

Horticultural Research Station, Ananthapuramu

Initiated Bioveristy second phase programme on "Improving nutritional security of rural population through biodiversity" with Rs.5,81,031/- (Rupees five lakhs eight one thousand and thirty one only).

Dr. Mahoob B. Shaik, Professor, Florida A&M University visited Horticultural Research Station, Anantapuramu to discuss on collaborative research in horticulture crops.

Horticultural Research Station, Anantharajupeta

All India Coordinated Research Project on fruits is allotted to the Horticultural Research Station, Anantharajupet. Dr.N.K.Krishna Kumar, Deputy Director General (Hort.) inaugurated the AICRP on fruits at Horticultural Research Station, Anantharajupet on 11.06.2015. Dr.B.M.C.Reddy, Hon'ble Vice-Chancellor, Dr.YSRHU, Dr.M.Lakshmi Narayana Reddy, Dean of Horticulture, Dr.Prakash Patil, Project Coordinator (Fruits), ICAR-AICRP on Fruits, IIHR, Bengaluru, Dr.M.R.Dinesh, Principal Scientist (Hort.) & Head, Division of Fruits, IIHR, Benguluru, Dr.K.Gopal, Associated Dean, HC & RI, Dr.K.T.Venkataramana, Zonal Research Head (Rayalaseema), CRS, Tirupati, Dr.C.Madhumathi, Senior Scientist & Head, teaching staff of HRS and HC&RI are present.

Mango Diversity fair was organized by HC&RI and HRS, Anantharajupet on 11.06.2015, 120 mango varieties were collected and displayed on the occasion of Inauguration of AICRP on Fruits at HRS, Anantharajupet for farmers.

Farmers Interaction Programme at HRS, Anantharajupet was organized with Dr.N.K.Krishna Kumar, Deputy Director General (Hort.) Dr.B.M.C.Reddy, Hon'ble Vice-Chancellor, Dr.YSRHU, Dr.M.Lakshmi Narayana Reddy, Dean of Horticulture, Dr.Prakash Patil, Project Coordinator (Fruits), ICAR, AICRP on fruits, IIHR, Bengulure, Dr.M.R.Dinesh, Principal Scientist (Hort.) & Head, Division of Fruits, IIHR, Benguluru.

Horticultural Research Station, Venkataramannagudem

RKVY project

P.Rama Devi, Scientist (PP) As PI of Bio-fertilizer unit established the laboratory, involved in production and sale of 38.96 t bio-fertlizers worth of Rs.13.45lakhs.

Post Harvest Technology Research Station, Venkataramannagudem

Dr.B.M.C.Reddy, Hon'ble Vice-Chancellor, Dr.YSRHU visited the PHTRS, V.R.Gudem inaugurated the Ripening chamber of Integrated Pack House cum Cold Storage unit where Mango farmer *viz*., Mr.Kottu Narayana, Telikicherla village, kept his Mango fruits for ripening in the Ripening Chamber on 18.05.2015.

Vice-Chancellor's switch the Ripening and Cold Storage chambers

Vice-Chancellor's observing the fruits in the Ripening chamber before ripening

- Sri.Gokaraju garu, Member of Parliament, Narsapur along with the Dr.B.M.C.Reddy, Vice-Chancellor visited the Processing Unit of PHTRS, V.R.Gudem on 15.09.2015.
- Sri.V.Ramachandra Raju, President, Delta Fish Farmers Association, Ch.Ankneedu, Secretary, AP Fish Farmers Association, M.Seetharamaraju, Ch.Srinivasa Rao and K.Surya Prabhakar from Akeevedu, Krishna district and visited the IPHC Unit of PHTRS, V.R.Gudem on 15.09.2015.
- Dr.B.M.C.Reddy, Vice-Chancellor, and Dr.J.Dilip Babu, Director of Research visited the Tomato ketchup/sauce and Pickle unit which was started functioning from 15.12.2015 at PHTRS.

- Mr.P.BhaskaraRao Executive Director, AP Chamber of Commerce, Vijayawada visited the IPHC Unit and |Fruit and Vegetable processing unit and their operation on 15.12.2015.

- Mr.BVS.Ramaprabhu, DDM, NABARD, Eluru and M.Subrahmanyaeswara Rao, LDM, Andhra Bank, Eluru visited the IPHC Unit and Fruit and Vegetable processing unit and their operation on 30.12.2015.
- Dr.T.Janakiram, ADG (Hort.) ICAR, New Delhi visited the Fruit and Vegetable Processing unit of PHTRS, V.R.Gudem on 27.02.2016
- Dr.K.Purushottam, Former Director of Research, Dr.P.Suryanarayanareddy, Former Registrar, Dr.K.Haribabu, Former Dean of Student of Affairs, Dr.P.Venkata Rao, Professor & Head, ANGRAU along with Dr.J.Dilip Babu, Director of Research, Dr.YSRHU who visited the IPHC Unit and Fruit and Vegetable Processing unit on 17.03.2016.

- Dr.B.Prasanna Kumar, Principal Scientist (Hort.) & Head conducted one day demonstration cum training as a part of training to the B.Sc. (Home Science) students of St.Theresa College, Eluru organized by KVK, V.R.Gudem on the functioning and utility of Integrated Pack House cum Cold Storage Unit of PHTRS on 22.04.2015.

Students at Fruit Washing machine

Students at Dried Vegetable with EZIDRY Equipment

- Dr.T.Janakiram, Assistant Director General (Hort.), ICAR, New Delhi visited the Integrated Pack House cum Cold Storage Unit of PHTRS, V.R.Gudem on 23.04.2015 and interacted and applauded on the infrastructure created at this unit with Dr.B.Prasanna Kumar, Principal Scientist (Hort.)& Head.

- Dr.B.Prasanna Kumar, Principal Scientist (Hort.) & Head conducted one day demonstration cum training as a part of training to the farmers of Srikakulam district organized by KVK, V.R.Gudem on the functioning and utility of Integrated Pack House cum Cold Storage Unit of PHTRS on 22.06.2018


- Dr.B.Prasanna Kumar, Principal Scientist (Hort.) with the Dr.Sampath Kumar, Principal Scientist (Hort.), Department of Fruit Science, IIHR, Bangalore and Dr.M.L.N.Reddy, Dean of Horticulture visited the Fruit and Vegetable Processing unit of PHTRS, V.R.Gudem on 30.01.2016


- Dr.B.Prasanna Kumar, Principal Scientist (Hort.) with the Sri.V.Brahmananda Reddy, Chairman, Chaitanya Godavari Grammena Bank, Guntur with other Managers of Tadepalligudem who visited the Fruit and Vegetable Processing unit of PHTRS, V.R.Gudem on 30.01.2016


- Mr.Ramesh Naik, RA (Hort.) along with the Dr.M.Rajashekar, Senior Scientist (Hort.) & Head, HRS, V.R.Gudem and G.Sathya Narayana (Vasavi Engineering College Chairman) explaining the function of to the Integrated Pack House Unit who visited the of PHTRS, V.R.Gudem on 16.02.2016.


- Dr.B.Prasanna Kumar, Principal Scientist (Hort.) & Head attended to the training programme on Post Harvest Management on Mango and Awareness Programme on Calcium carbide free ripening technologies for fruits at Vizianagaram on 16.02.2016.


- Dr.B.Prasanna Kumar, Principal Scientist (Hort.) & Head participated in the Kisan Mela of HRS, Kovvur and explain about products with Hon'ble MLA, Sri K.Javahar Babu, Kovvur on 17.02.2016.

- Dr.B.Prasanna Kumar, Principal Scientist (Hort.) & Head along with the G.Shankara Panda from the office of Directorate of Horticulture, Government of Orissa explaining the function of the Integrated Pack House Unit to the farmers of who visited on 18.02.2016

- Mr.Ramesh Naik, RA(Hort.) along with G.Sonia, Horticulture Officer, Srikakulam explaining the function of to the Integrated Pack House Unit to the farmers of Payakaraopeta, Vizag district who visited the of PHTRS, V.R.Gudem on 23.02.2016

- Mr.G.Rakesh, RA (Agril.Engg.) along with G.Sonia (H.O.) explaining the function of the fruit and vegetable processing unit to the farmers of Payakaraopeta, Visakhapatnam district on 23.02.2016

- Dr. B.Prasanna Kumar, Principal Scientist (Hort.) & Head explaining the function of the fruit and vegetable processing unit to the Dr.T.Janakiram, ADG (Hort.) ICAR, New Delhi, and Dr.B.V.K.Bhagavan, Zonal Head, HRS, Kovvuru who visited on 27.02.2016

- Dr.T.Janakiram, ADG (Hort.) ICAR, New Delhi, displaying and observing the products produced at the unit during his visit 27.02.2016

Cashew Research Station, Bapatla

Director of Research and Zonal Research Head (Costal Zone II) has visited Cashew Research Station, Bapatla on 01.03.2016 for site selection of new office cum laboratory building at CRS, Bapatla and later visited the experimental fields.