

# Dr.Y.S.R. HORTICULTURAL UNIVERSITY



*At a glance*





**COLLEGE OF HORTICULTURE  
VENKATARAMANNAGUDEM**



**COLLEGE OF HORTICULTURE  
RAJENDRANAGAR**

In Andhra Pradesh, several horticultural crops are grown on a commercial scale in all the three regions and provide livelihood to millions of farmers in the state. Horticulture contributes to about 4% of the state GDP. Horticultural crops cover 13% of the gross area in the state. The area under Horticulture is 16 lakh ha. with an annual production of 118 lakh tonnes. Andhra Pradesh with high geographical diversity, 9 agro-climatic zones, varied soil types and good irrigation resources is better placed for production of various horticultural crops such as fruits (6.55 lakh ha; 75.80 MT), vegetables (2.25 lakh ha; 26.91 MT), plantation crops (2.94 lakh ha; 2.07 MT) and spices (3.67 lakh ha; 5.82 MT). Flowers, medicinal and aromatic plants are also grown in sizable area. Andhra Pradesh ranks first in the production of mango, chillies, turmeric, sweet orange and papaya. Coconut, oil palm and cashew are important plantation crops. Mango, sweet orange and banana are the leading fruit crops of Andhra Pradesh and accounts for over 86% of the area under fruit crops and over 77% of the total production. Tomato, brinjal and bhendi are the major vegetables grown in the state. Among the spices, Andhra Pradesh ranks first in area and production of chillies and turmeric. Rose, jasmine, crossandra, chrysanthemum, marigold, tuberose are the traditional flower crops of the state.

However, due to rapid change in the climate, there is 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. Recognizing the importance of horticulture and its growth potential in Andhra Pradesh, a full fledged university, the 'Andhra Pradesh Horticultural University (APHU) second of its kind in the country, was established in June 2007 at Venkataramannagudem, West Godavari District, Andhra Pradesh



by the Act No.30 of 2007, carving out from the Acharya N G Ranga Agricultural University (ANGRAU), Hyderabad for the benefit of all the stake holders dealing with horticulture and allied sectors like processing industries, landscape designing etc. in the state of Andhra Pradesh and it has renamed as Dr.Y.S.R. Horticultural University by the Act No.13 of 2011. The university has the mandate for research, education and extension related to horticulture and allied subjects. The university has the mandate for research, education and extension related to horticulture and allied subjects. The university at present has 4 Horticulture colleges, 5 polytechnics, 3 KVKs and 27 research stations located in 9 agro-climatic zones of the state.

## MANDATE

- Train manpower through imparting education.
- Conduct location specific research.
- Organize extension activities for the benefit of personnel of line departments of the government, NGOs, farmers and others.

## SPECIFIC FUNCTIONS

- Develop Human Resources needed for horticulture and allied sectors like storage, processing, value addition etc. for the development of the state.
- Constantly refine and generate technologies for increasing production, processing and marketing of horticultural crops.
- Assist the Government, NGOs and line departments for disseminating the improved technologies to the farmers.
- Promote international trade of fruits, vegetables, spices, flowers and processed food.



## TEACHING

Imparting quality education and training in horticulture to the students to develop well trained personnel is the main objective of the university. The university offers B.Sc (Hons.) in Horticulture, M.Sc. (Horticulture) with specialization in (i) Fruit Science (ii) Vegetable Science (iii) Floriculture & Landscape Architecture and (iv) Spices, Plantation, Medicinal & 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.

### Colleges

1. College of Horticulture, Anantharajupet, Kadapa District.
2. College of Horticulture, Mojerla, Mahaboobnagar District.
3. College of Horticulture, Rajendranagar, Hyderabad.
4. College of Horticulture, Venkataramannagudem, West Godavari District.

### Departments

1. Fruit Science.
2. Vegetable Science.
3. Floriculture and Landscaping.
4. Spices and Plantation Crops.
5. Post-harvest Technology.
6. Entomology.
7. Plant Pathology.
8. Genetics and Plant Breeding.
9. Agronomy and Soil Science.
10. Physiology, Bio-chemistry and Microbiology.
11. Extension, Economics and Social Sciences.
12. Engineering and Environmental Sciences.

Students will have to complete 52 courses totaling to 165 credits in six semesters. They shall also undergo two 'Hands on Training' of 14 weeks each on specialized subjects dealing with commercialization of horticulture in addition to rural training for the award of Bachelor's degree.

## Polytechnics

1. Horticulture Polytechnic, Ramachandrapuram, East Godavari District.
2. Horticulture Polytechnic, Dasnapur, Adilabad.
3. Horticulture Polytechnic, Ramagirihilla, Kamanpur, Karimnagar, District.
4. Horticulture Polytechnic, Madakasira, Anantapur District.
5. Horticulture Polytechnic, Kalikiri, Chittoor District.

## RESEARCH

The Horticultural University is conducting basic, applied, location/region specific and anticipatory research for the overall development of horticultural crops in the state at 27 Research Stations located in 9 agro-climatic regions of the state. The research programmes are covered under 3 categories namely, Non Plan Projects/University Projects, ICAR Plan Projects under All India Coordinated Research projects and Externally funded projects such as SHM, DBT, NAIP and RKVY Projects.

### Thrust areas of research

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



## Research Stations

1. Horticultural Research Station, Chintapalle, Vishakapatnam District.
2. Horticultural Research Station, Peddapuram, East Godavari District.
3. Horticultural Research Station, Pandirimamidi, East Godavari District.
4. Horticultural Research Station, Ambajipeta, East Godavari District.
5. Horticultural Research Station, Kovvur, West Godavari District.
6. Horticultural Research Station, Venkataramannagudem, West Godavari District.
7. AICRP on MAP & Betelvine, Venkataramannagudem, West Godavari District.
8. Horticultural Research Station, Vijayarai, West Godavari District.
9. Mango Research Station, Nuziveed, Krishna District
10. Horticultural Research Station, Lam, Guntur District.
11. Cashew Research Station, Bapatla, Guntur District.
12. Horticultural Research Station, Darsi, Prakasam District.
13. Horticultural Research Station, Adilabad, Adilabad District.
14. Horticultural Research Station, Aswaraopet, Khammam District.
15. Turmeric Research Station, Kammarapally, Nizamabad District.
16. Horticultural Research Station, Mallepally, Nalgonda District.
17. JVR Horticultural Research Station, Malyal, Warangal District.
18. AICRP on Floriculture , Rajendranagar, Ranga Reddy District.
19. Grape Research Station, Rajendranagar, Ranga Reddy District.
20. Herbal Garden Scheme, Rajendranagar, Ranga Reddy District
21. Vegetable Research Station, Rajendranagar, Rangareddy District.
22. Fruit Research Station, Sangareddy, Medak District.
23. Horticultural Research Station, Anantapur, Anantapur District.
24. Horticultural College & Research Institute, Anantharajupet, Kadapa District.
25. Horticultural Research Station, Mahanandi, Kurnool District
26. Citrus Research Station, Petlur, Nellore District.
27. Citrus Research Station, Tirupati, Chittoor District.

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# SALIENT ACHIEVEMENTS

## A. Varieties released

Mango



Manjeera, KMH-1, Neeleshan, Neeluddin, Neelgoa, Swarna Jehangir, AU Rumani

Acild lime



Balaji

Banana



Kovvur Bontha (cooking type)

Guava



Safed Jam, Kohir Safeda

Elephant foot yam



Gajendra

Colocasia



Satamukhi, Bhavapuri

Sweet potato



Samrat, Kiran, RNSP-1

Coconut



Godavari Ganga, Double Century, Gouthami Ganga, Kera Bastar, Kalpa Pratibha

Cashew



BPP -1, BPP-2, BPP -3, BPP -4, BPP -5, BPP -6, BPP -8, BPP -9

Brinjal



Bhagyamati, Gulabi, Shyamala

Okra



Janardhan

Ash gourd





Shakti



# SALIENT ACHIEVEMENTS

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Snake gourd		Swetha
Dolichos bean		RND -1
Cooking melon		RNSM - 1, RNSM - 2, RNSM - 3
Amaranthus		RNA - 1
Pumpkin		APR - 1
Tomato		RNTH - 1
Chillies		G1, G2, G3, G4 (Bhagyalakshmi), G5 (Andhra Jyothi), CA-960 (Sindhur), LCA-200(Kiran),LCA-1068 (Aparna). LCA-235 (Bhaskar), LCA-206 (Prakash), LCA-305 (Lam 305) LCA-334 (Lam 334), LCA-353
Coriander		Sindhu, Sadhana, Swathi, Sudha APHU-Dhaniya-1
Fennel		Lam Selection-1, Lam Selection-2
Fenugreek		Lam Selection 1
Ajowan		Lam Selection 1
Turmeric		KTS-3 (CV 21A)

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*Manjeera*



*Neeleshan*



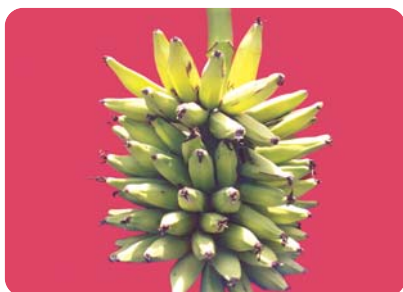
*Neelgoa*



*Swarna Jehangir*



*Acid lime - Balaji*



*Kovvur Bontha*



*Kohir Safeda*



*Safed Jam*

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Godavariganga



Double Century



Gouthami Ganga



Gajendra



Ash gourd - Shakti



LCA-334



Sudha



KTS-3 (CV 21A)



## B. Agro Techniques Developed.

- Mango cultivar Manjeera suggested for high density planting.
- Detached scion techniques were standardized for rapid multiplication of mango varieties.
- Embedded pot layering technique was standardized for commercial multiplication of guava.
- In acid lime irrigation at 50% CPE through drip is recommended.
- Vertical storing of cassava planting materials enhanced sprouting.
- In mango technologies for regulation of flowering and tree vigour, rejuvenation of senile and over crowded orchards and for off-season fruiting were developed.
- In banana, high density planting, cropping systems, drip irrigation and fertigation standardized.
- Tissue cultured banana commercialized.
- Organic cultivation of banana standardized.
- Agro techniques standardized for medicinal plants such as Coleus, Aswagandha and Gloriosa.
- Fertigation schedules standardized for crops like Papaya, Turmeric, Betelvine etc.
- Top working and grafting with elite lines for rejuvenation of old/senile cashew trees was standardized.
- Technologies for increasing the vase life of cut flowers standardized.
- Location specific technologies for increasing the production and productivity of various horticultural crops were developed.
- Rangpur lime identified as disease resistant rootstock for commercial multiplication of sweet orange.
- Fertilizer schedules for sathgudi sweet orange standardized.
- Agro techniques for rainfed as well as irrigated chilli standardized.
- Agro techniques for production of grain spices standardized.

## C. Plant Protection

- Banana dual purpose tetraploid hybrid, FHIA and Yangambi Km-5 are identified resistant to panama wilt.
- Balaji variety of acid lime is identified canker tolerant selection
- Sweet orange accessions RGPL Brazil and RGPL Texas are tolerant to dry root rot and can be profitable used as rootstocks.
- Standardized ELISA based diagnostic protocols for banana bract virus and Ganoderma disease in coconut.
- Developed IPM technologies for the management of coconut black headed caterpillar, rhinoceros beetle, red palm weevil, eriophid mites.
- Developed IDM technologies for the management of basal stem rot, stem bleeding, bud rot, tatipaka disease.
- Use of light trapes identified as an effective mechanical method for control of coconut slug caterpillar and mango fruit borer.
- IDM technologies standardized for the control of bacterial blight of pomegranate.



- IDM technologies including use of bioagents standardized to reduce disease incidence in Elephant Foot Yam.
- New protocol for isolation of DNA of citrus yellow mosaic and citrus greening bacterium developed.
- DAC-Elisa, DAS-Elisa and Dot blot Elisa techniques are developed for large scale indexing of bud wood.
- Plant protection measures for the management of citrus diseases like bacterial canker of acid lime, leaf minor citrus and pre harvest stem end rot are standardized.
- Plant protection measures for the management of pests and diseases chilli standardized.

#### D. Post Harvest Technology

- Standardized a simple technique for preparation of coconut chips.
- Technology developed for bioconversion of tender coconut waste and coconut coir pith in to high quality organic manure.
- Polyhouse solar dryer was developed in collaboration with ITC for drying ripe chilli pods.
- Standardized technology to store Banganpalli mangoes upto 35 days after harvest.
- Irradiation doses standardized for improving self life of mango cv. Banganpalli, Suwarnarekha, Totapuri and Dashahari.

### COLLABORATIVE RESEARCH

The university takes up collaborative research programmes with other organizations like ICAR Institutes, State Horticultural Mission, National Horticultural Board on important national problems of horticultural crops.

### EXTENSION

Education of rural youth in horticulture and allied areas is the main function of the horticultural extension. This University has established 3 Krishi Vigyan Kendras at Pandirimamidi (East Godavari Dist.), Venkataramannagudem (West Godavari Dist.) and Ramagirikhilla (Karimnagar Dist.). The extension activities of the University includes the following.

- Technology assessment and refinement
- Training master trainees and farmers.
- Organizing *Kisan melas*, *Exhibitions*, *Rythu sadassulu* etc.
- Horticultural information centers for single window delivery.
- Dissemination of information through electronic media.
- Conducting on-farm research, demonstration of technologies in the farmer's fields.
- Supply of disease free quality seeds and planting materials to the farmers.



## INFRASTRUCTURE FACILITIES

Dr.YSRHU has created the following Infrastructure facilities from 2008-09 to 2010-11.

- Administrative block, Academic block, Girls and Boys hostels, Staff quarters and International hostel at University head quarters, Venkataramannagudem.
- Academic block, Girls and Boys hostels at College of Horticulture, Rajendranagar, Hyderabad.
- Academic block, Girls and Boys hostels at College of Horticulture, Mojerla.
- Academic block, Girls and Boys hostels at College of Horticulture, Anantharajupet.
- College building, Girls and Boys hostels at Horticulture Polytechnic, Madakasira.

## BUDGET

The Government of Andhra Pradesh has released budget for the period from 2008-09 to 2011-12 towards salaries and contingency expenses on state government schemes are as follows:

Rs. 000'

S.No.	Particulars	2008-09	2009-10	2010-11	2011-12	Grand Total
1.	Salaries	63654	84876	191851	427500	767881
2.	Contingencies	52500	254500	70000	50000	427000
3.	NABARD	0	0	116035	0	116035
	<b>Total</b>	<b>116154</b>	<b>339376</b>	<b>377886</b>	<b>477500</b>	<b>1310916</b>

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