

**UNIVERSITY OF HORTICULTURAL SCIENCES,
BAGALKOT, KARNATAKA**



**SELF STUDY REPORT FOR THE
M.Sc. HORTICULTURE IN FRUITS SCIENCE
COH, BENGALURU, 2014-15 to 2018-19**

SUBMITTED TO
Indian Council of Agricultural Research,
Krishi Bhavan, New Delhi.

SUBMITTED BY
University of Horticultural Sciences,
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Karnataka

PREFACE

Horticulture - a science of production and management of plants for food, comfort, feed, recreation, and beauty – is potentially vital in raising agricultural production, value addition, farm income and employment in the country. In the context of hazards like climate change, scarcity of water, labour problem etc., Horticulture is contributing incessantly in planning sustainable development goals. After UN General Assembly Summit held on January 1st of 2016, India has adopted 17 SDGs and 169 targets to strengthen health and economy of the nation. Modern era of digitalization has introduced new perspectives like digital horticulture, precision farming, climate smart farming, and nutritional security into the prospectus of horticulture.

Karnataka was the first state in the country to recognize the potential of horticulture sector to bring prosperity to the farmers. To increase the focus on the sector, the state took the lead and created the country's first Horticulture Department and other states followed the example of Karnataka. Presently Karnataka is placed second in horticulture performance in the entire country and the state received 'Best State in Horticulture' award in 2015. Karnataka is the highest exporter of cashew, roses, gherkins, rose onions, spices and condiments. The state has achieved remarkable progress in many fronts from production to storage, packaging and marketing of fruits, vegetables, flowers and plantation crops.

The horticulture sector, which includes a wide variety of crops such as fruits, vegetables, spices, plantation crops, floriculture, medicinal and aromatic plants etc., is recognized as an important sector for potential diversification and value addition for the sustainability of the farmers. It has been recognized that growing horticulture crops is now an ideal option to improve livelihood security; enhance employment generation; attain income and food security; and increase income through value addition.

After its establishment in 2008, University of Horticultural Sciences, Bagalkot established RHREC in a newly transferred land of 125 acres at its campus in Bengaluru in the year 2010 and in the year 2011 Post Graduation Centre was established. Initially the campus was called as Post Graduation Centre but with the commencement of Bachelor's degree programme and two year diploma course in the year 2014, it was re-christened as College of Horticulture.

The college is striving hard to impart quality education in terms of theory, research and extension. The college is gathering laurels through the performance of teachers as well as the students. The college has an excellent track record in both academics and co-curricular activities.

ICAR, through an accreditation procedure of its own is assessing facilities available and to improve the quality of education rendered by the college. After accreditation, by the financial

support of ICAR and State Government, the growth and developmental activities of the college will be improved further to a greater extent. Since the college is due for accreditation by ICAR the present report provides all the necessary information about the college activities performed during last five years.

The University level task force and steering committee is gratefully acknowledged for the help, guidance and suggestions given in preparing the report. The College level steering committee and task force have done a great job in compiling information and bringing out this report to be submitted to Accreditation Board of ICAR. I gratefully thank all those who have helped in preparing this report.



Dean

(Vishnuvardhana)

College of Horticulture, Bengaluru

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6.4.SELF STUDY REPORT OF DEPARTMENT OF FRUIT SCIENCE

6.4.1. BRIEF HISTORY OF THE DEGREE PROGRAMME

The department of fruit science was started during the year 2010-11. Among horticulture crops, fruit crops is one of the fast growing sector in India gaining greater importance due to its nutritional security, export demand, sustainable income and generation of employment. The major activity of the department is to impart quality education to PG students, conduct research to improve production, productivity and quality of different fruit crops in the state.

There is a strong emphasis on human resource development for horticultural research through post-graduate teaching and organizing training programmes in the frontline areas of production, crop improvement through different approaches in fruit crops. Many of our students joined various jobs like ASRB scientists in renowned institutes, selected as officers through KPSC, pursued job in banking sector by passing IBPS examination and working in private sectors. Training and entrepreneurial development, advisory consultancy to farmers and extension functionaries are regularly conducted for the stake holders.

Major activities of the department:

1. The diversification of fruit crops, varieties and rootstocks for varying agro-climatic conditions of the state.
2. The development of efficient propagation and nursery management techniques for multiplication of elite planting material of fruits and to supply to the needy farmers.
3. The standardization of planting density and photosynthetically efficient canopy architecture.
4. The development of eco-friendly orchard floor management practices.
5. The integrated nutrient and water management in fruit crops.
6. Use of growth regulators for regulation of flowering, cropping and quality production of fruit crops.
7. The validation and promotion of low cost, ITK (Indigenous technology knowledge
8. The skill oriented hands on training programme to master's and doctoral students.
9. The consultancy services to farmers in person, phone and field visits.
10. Organizing field days/exhibitions and exposure visits to students and extension functionaries.

M. Sc. students admitted to Fruit Science department 2016-17 to 2018-19

Year of Admission	Admitted			Dropped			Passed			Degree awarded during the year	Remarks
	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total		
2013-14	3	3	6	-	-	-	3	3	6	2014-15	
2014-15	4	1	5				4	1	5	2015-16	
2015-16	4	3	7				4	3	7	2016-17	
2016-17	3	3	6	01			2	3	6	2017-18	
2017-18	5	4	9				5	4	8	2018-19	
2018-19	4	6	10							2019-20	Yet to complete during 2019-20
Grand Total	23	20	43				22	20	42		

Gold Medals received by the Post Graduate students

Department	No. of Gold Medals				
	2013-14	2014-15	2015-16	2016-17	2017-18
Fruit Science	-	-	-	-	01
TOTAL	-	-	-	-	01

Award of UHS, Bagalkot, GOI & BCM authorities' Scholarships for the academic year 2017-18

Scholarship Type	M.Sc.(Fruit Science.)				
	2013-14	2014-15	2015-16	2016-17	2017-18
Merit Scholarship	01	01	01	01	01
Students Aid fund				01	
GOI Scholarship (SC+ST)			01	01	01
Vidyasiri food & Accommodation			01	01	01
TOTAL	01	01	03	04	03

6.4.2. FACULTY STRENGTH**Faculty Strength (Cadre-wise)**

Designation / Cadre	2014			2015			2016			2017			2018		
	S	F	V	S	F	V	S	F	V	S	F	V	S	F	V
Professor	01	01	00	01	01	00	01	01	00	01	01	00	01	01	00
Associate Professor	01	00	01	01	00	01	01	00	01	01	00	01	01	00	01
Assistant Professor	02	00	02	02	01	01	02	01	01	02	01	01	02	01	01
Total	04	01	03	04+ 01*	02	02	04	02+ 01*	02	04	02+ 01*	02	04	02	02

S-Sanctioned, F-Filled, V-Vacant

*-one professor deputed from College of Horticulture, Koppal

Faculty Strength (2017-18)

Department	Sanctioned Faculty			Faculty in place			Vacant position			Recommended by ICAR			Diversion from ICAR recommendation		
	Prof	Assoc. Prof.	Asst. Prof.	Prof	Assoc. Prof.	Asst. Prof.	Prof	Assoc. Prof.	Asst. Prof.	Prof	Assoc. Prof.	Asst. Prof.	Prof	Assoc. Prof.	Asst. Prof.
Fruit Science	01	01	02	01	00	01	00	01	01	01	01	02			
Total	01	01	02	01	00	01	00	01	01	01	01	02			

6.4.3. TECHNICAL AND SUPPORTING STAFF

Sl. NO.	Post	2017-18				
		Sanctioned	Filled	Vacant	Recommended by UHS	Diversion from recommendation (Sanctioned)
1.	Field Assistants	01	01	00	01	00
2.	Lab. Assistants	01	01	00	01	00
3.	Messenger	00	00	00	00	00
4.	Farm Labour	00	00	00	03	00
	Gross total	02	02	00	05	00

6.4.4. CLASSROOMS AND LABORATORIES

Classrooms

Sl. No.	Class room No.	Area (M2)	Seating capacity	Other facilities (LED, Projectors, Computers, Smart board etc.)
1.	Fruit Science	80 .00	50	LCD, Projectors, Computers
2.	Seminar Hall*	120.00	80	LCD, Projectors, Computers

* Common Seminar Hall for all the departments in the college

Laboratories

Sl. No.	Class room No.	Area (m2)	Seating capacity	Other facilities (LED, Projectors, Computers, Smart board etc.)
1.	Fruit Science	101.624	50	LCD, Projectors, Computers

Major functional equipments

Sl. No.	Name of the equipment	Quantity	Cost	Working condition
1.	Wheel barrow	01		working
2.	Tree pruner	01		working
3.	Power operated sprayer	01		working
4.	Iron plate	38	122/ plate	working
5.	Thermometer	02		working
6.	Weighing balance	02		working
7.	Ph meter pentype	02	8200	working
8.	Hand refractometer 0-32 %	02	8200	working
9.	Digital vernier Callipers 6 "/ 150 mm	02	2200	working
10.	Digital thermohygrometer with clock	02	2200	working
11.	Grafting tape - 90' Roll (1" - One Inch)	1 bundle	135	working
12.	Plastic rope	2 KG	350	working
13.	Plastic mulching sheet (black 90*120 cm-100 micron)	20 KG	4,000. '	working
14.	Transplanting trowel	10 Nos.	1,450	working
15.	Dibler	30 Nos.	4,650	working

Sl. No.	Name of the equipment	Quantity	Cost	Working condition
16.	Plastic pots of different sizes (cm)	\$ each	1420	working
17.	Power operated sprayer (2 stroke)	5 Nos.	20,750	working
18.	Wheel barrow	2 Nos.	11,500	working
19.	Tree pruner	5 Nos.	2,475	working
20.	Pot-stands different sizes (small, medium & big)	100 each	13,300	working
21.	Buckets 20 lts capacity	10 Nos	1,850	working
22.	Mug 1 lts. Capacity	10 Nos	450	working
23.	Tool rack	2 Nos.	350	working
24.	Hand gloves	30 pairs	6,300	working
25.	Plastic trays (seed)	30 nos.	2,400	working
26.	Microtubes (different discharge capacity)	1 bundle	650	working
27.	Sprinklers (different discharge capacity) 2 each	10 no	5,750	working
28.	Drippers (different discharge capacity) 10 each	100 no	350	working
29.	Hose pipe (3/4 inch)	1 Roll	1,350	working
30.	Spaghnum moss	10 kg	2,500	working
31.	Coir pith	50 kg	400	working
32.	Vermiculite	5kg	250	working
33.	Polythene Bags - 5" x 8"	10 kg	1,950	working
34.	Secateur (Falcon)	30		working
35.	Grafting Knife (Falcon)	30		working
36.	Scissor (Falcon)	5		working
37.	Scissor (Falcon)	2		working
38.	Garden Hoe (Falcon)	5		working
39.	Garden Hoe (Falcon)	5		working
40.	Cultivator (Falcon)	5		working
41.	Rake (Falcon)	5		working
42.	Hand Wheel Hoe Single Tyne (Falcon)	1		working
43.	Hand Wheel Hoe Three Tyne (Falcon)	1		working
44.	Looping Shear (Falcon)	1		working
45.	Looping Shear (Falcon)	1		working
46.	Pruning Saw (Falcon)	3		working
47.	Pruning Saw (Falcon)	3		working
48.	Hand Tool (Shovel) (Falcon)	5		working
49.	Hand Tool (Shovel) (Falcon)	5		working
50.	Hand Tool (Shovel) (Falcon)	10		working
51.	Hand Tool (Shovel) (Falcon)	10		working
52.	Long Reach Pruner (Falcon)	1		working

Sl. No.	Name of the equipment	Quantity	Cost	Working condition
53.	Aluminium Folding Lader (Falcon)	1		working
54.	Seed Cum Fertilizer Drill (Falcon)	1		working
55.	High Pressure Hose 1 MT Duplon	150		working
56.	Aspee HTP Pump with 2 Guns	1		working
57.	Honda Engine	1		Working
58.	Refrigerator	1	30,720	working
59.	Digital Balances	2	13,924	Working
60.	Hot Hair Oven	1	28,320	Working
61.	Incubator	1	20,060	Working
62.	PH meter	1	7,560	Working
63.	Digital Vernier Calipers	3	4,248	Working
64.	Binocular microscope	2	31,860	Working

Farm facilities

The college has total area of 120 hectares, out of which 4.5 hectares area is available for cultivation in fruit science department. All the fields are well connected with approach roads and internal roads. Entire farm is irrigated by using bore well, farm pond and by purchasing water from outside during summer. The perennial crops are irrigated through drip irrigation.

Sl. No.	Name of the Department	Farm Area	Irrigated / Non-irrigated	Crops grown
1	Fruit Science	4.5 Acres Polyhouse- 1 No. Shadehouse-2 No. Farm shed- 1 No. Sump- 1 No. Bore- 1No. Farm pond- 1No	Irrigated	<ol style="list-style-type: none"> 1. Mango - <ul style="list-style-type: none"> • Mallika-50 plants • Dasehari-50 plants • Badami-50 plants • Thothapuri-50 plants 2. Jack fruit- <ul style="list-style-type: none"> • Gumless-90 plants • Thubgere -100 plants 3. Jamun <ul style="list-style-type: none"> • Konkan bahadoli-215 plants 4. Lime <ul style="list-style-type: none"> • Balaji-100 plants 5. Cashew <ul style="list-style-type: none"> • Ullal-3-50 plants • Ullal-7-50 plants • Bhaskara-50 plants • Vengurla -50 plants

P.G research facility availability: Research facilities like inputs (Seeds, fertilizers, irrigation and pesticides) and workforce required for conducting PG research are facilitated from the college and RHREC Bengaluru.

Establishment of instructional fruit block

The department has established instructional fruit block of Tropical, Sub tropical, Temperate and Underutilized fruit crops with different types of variety in an area of 2 acres for practical and research purpose for undergraduate and post graduate students.

Sl. No.	Name of fruit plant	Number
1.	Malwana	2
2.	Durian	2
3.	Salak	2
4.	Pulasan	1
5.	Marang	1
6.	Kesar (Mango)	5
7.	Beneshan (Mango)	5
8.	Badami (Mango)	5
9.	Lalbagh Madura (Jack)	5
10.	IIHR (Jack)	5
11.	HMT(Jack)	5
12.	Janagere(Jack)	5
13.	Raja rudrakshi(Jack)	5
14.	Ramachandra(Jack)	5
15.	All season kerala(Jack)	5
16.	BasasruruJenubake (Jack)	5
17.	Kalashree (Jack)	5
18.	Balaji lime	10
19.	Custard apple-balanagar	5
20.	Apple	2
21.	Pear	2
22.	Fig-Puna	2
23.	Fig-Diana	2
24.	Coorg mandarin	2
25.	Peach	2
26.	Litchi	2
27.	Mangosteen	2
28.	Papaya varieties	15

Average Number of Students in Theory and Practical Classes

Postgraduate students as they are less in number are grouped into one theory batch and one practical batch.

Sl. No.	Name of the department	Theory Batch	Practical Batch
1.	Fruit Science	Full strength	Full strength

6.4.5. CONDUCT OF PRACTICAL AND HANDS ON TRAINING

Sl. No.	Department	Method of hands-on-training
01	Fruit science	Production technology of fruit crops. Identification of nutrient deficiencies in fruit crops. Breeding aspects of fruit crops. Molecular breeding of fruit crops Post harvest management of fruit crops. Management of pest and diseases of fruit crops. High Density Planting (HDP), Canopy architecture in fruit crops Crop regulation in fruit crops Precision Farming Technologies Intercropping systems in fruit crops, Optimization of nutrients and water level for higher production and productivity, Knowledge on germplasm biodiversity and geographical indicator/prominent fruit crops and improvement Growth and yield dynamics of prominent fruit crops pertaining to agro-climatic condition, Training, pruning techniques, crop geometry and canopy management, Diagnostic techniques for different nutrient status of fruit crops, nutrients supplements through fertigation and foliar applications Visit to commercial, precision and protected cultivation orchards, research centers, Visit to the entrepreneur and “Awarded” farmers

- The courses in PG of Fruit Science disciplines have been framed to include more of research oriented lab and field experiments.
- PG students are thoroughly exposed to specific and need based hands-on trainings and they are trained to review, plan and formulate the research programmes under the guidance of advisory committee.
- Course curriculum for PG has been designed with special emphasis on specialized Horticultural techniques.
- Further as a part of their course curriculum, the PG students are taken to exposure visits to different research institutes, progressive farmers’ field and private industries.
- A study tour of seven days to different research institutes and commercial hubs specifically engaged in Fruit crops research field is organized by the department which is contributing for better understanding of the subject and to enrich their practical knowledge.

Method of hands-on-training

2+1 (2 theory + 1 practical): For each credit of practical two and half hour.

1+1 (1theory + 1 Practical): For each credit of practical two and half hour.

0+1 (Only practical): For each credit of practical two and half hour.

Note: Clearly mention about how the hands-on-training is being imparted to the students as per course curricula for different courses

6.4.6. SUPERVISION OF STUDENTS IN PG PROGRAMMES

Every student shall have Advisory Committee with a Major Advisor and at least four members among whom two members shall be from outside the major field of specialization. Advisory Committee for Ph.D. student shall consist of at least five members of whom three are from outside the major field of specialization. Programme of Research proposed by the Advisory Committee and approved by the Dean (Post Graduate Studies) will be carried out by the student under the supervision of Advisory Committee.

Totally 38 M.Sc. Students are passed out from the Department of Fruit Science, College of Horticulture, Bengaluru from 2010 to 2018. Research work was carried out by students on the major crops which are grown in this area viz., Mango, Banana, Grapes, Papaya, Pomegranate, Guava, Lime, Amla, Custard apple, Surinam cherry, Strawberry, Tamarind, Karonda, Jamun and Pommello etc and Research related to nursery techniques, crop production, crop improvement, post harvest management etc. are being carried out.

The major advisor shall not be given more than 6 PG students and also the PG teacher shall not be a member of the advisory committee for more than 12 PG students.

Sl. No.	Year	No. of PG recognized teachers			Intake of students	Teacher to Student ratio
		COH, Bengaluru	Off Campus	Total	M.Sc.	
1.	2013-14	1	3	4	6	1:1.50
2.	2014-15	2	3	5	5	1:1.00
3.	2015-16	3	2	5	7	1:1.40
4.	2016-17	1	3	4	6	1:1.50
5.	2017-18	3	3	6	9	1:1.50
6.	2018-19	5	3	8	10	1:2.67

The department is offering the courses for Under graduate and Post Graduate degree programs. The Students of Fruit Science department guided by scientists of Indian institute of Horticulture Research, Hessargatta, Bengaluru, UAS-Bengaluru, College of Horticulture, Mysuru and College of Horticulture, Kolar for conducting quality research based on priority of burning problem facing by the farmers on fruit production.

6.4.7. FEEDBACK OF STAKEHOLDERS (STUDENTS, PARENTS, INDUSTRIES, EMPLOYERS, FARMERS, ETC.)

Sl.No.	Name	Year of completion	Important remarks/feed back
M.Sc. Passed out students			
1.	Hari Kishore	2015	Teaching facility as well as faculty was very good for recent studies. Good quality of research conducted and given more importance to the research work. Excellent in guiding the irrespective students.
2.	Abhijith Y C	2016	A good platform for practical studies well-equipped lab facilities are required
3.	JasmithaB.G	2017	Teaching facility is good Lab facility is also good lab facility for molecular studies is required
4.	Pavithra S	2017	Excellent teaching faculty Required good laboratory facilities
5.	Shivakumar A P	2017	Everything is good here, but give attention in giving research under project works it helps student lot.

**6.4.8. STUDENT INTAKE AND ATTRITION IN THE PROGRAMME FOR
LAST FIVE YEARS**

Master degree programme

Year	Sanctioned seats	Actual intake	Attrition	% Attrition
2014-15	5	6	0	0
2015-16	7	7	0	0
2016-17	6	6	0	0
2017-18	9	9	0	0
2018-19	10	10	0	0

6.4.9. ICT APPLICATION AND CURRICULA DELIVERY

The department uses various ICT methods for teaching PG students. The department has wi-fi and LAN connection. The classroom is fitted with LCD projector for presentation of videos and short movies related to the topic to enhance the learning skills and to impart knowledge related to various fruit crops.

ICT facilities established in the department

Sl.No.	Name of Lab	Equipment	Usage
1	ICT Enabled Class Room	1 PG Class room with Computer System and LCD Projector	For educational video, PPT, conferencing, teaching and learning
2	Computer Lab	16 HP Computers Systems	Statistical software programmes for research data analysis
3	ICT Enabled Smart Boards	One Smart Board installed in PG class room	Imparting skills
4	ICT Enabled Conference Hall	High Definition CISCO Camera System with High Speed Internet of 4 Mbps lease Line connectivity	For online interaction with University key officials by students and staff, online interaction with different subject experts in different streams

Library:-Digitalized college library

KOHA, CeRA, e- books, e-Journals, Krishikosh

The KOHA (library management) open wear software is implemented to automate the library activities. The charging and discharging of documents is automated and e-mail reminder facility has been introduced.

CeRA and other online e-resources

CeRA is the ICAR Consortium of e-resources in Agriculture. This covers more than 3500 scholarly journals pertaining to the Agriculture and allied sciences which are available in full text.

e - books & e - journals

Library is having access to Springer e-books for the copy right years 2014-16, which covers nearly 1900 books in virtual format with full text availability and at a time 25 users can open an e-book. In addition library has access to 200 Indian e-books and also library having excess to e-journals for Hortsci and Journal of American society for Horticulture Science.

Krishikosh

Krishikosh is database of thesis submitted to the Agriculture universities and ICAR institutions. The UHS Library is a member for Krishikosh and all the thesis submitted to the UHS are being uploaded regularly.

Internet

The library is provided with separate internet link line with speed of 100mbps. There is a separate digital library section made in the library which is equipped with 05 computers with facility of internet connected to all computers. Web OPAC of Kittur Rani Channamma College of Horticulture, Arabhavi library is available in the net. EZ-proxy remote access server is installed in main campus library through which we are accessing the e-resources, CeRA, and Agristat.

Wi-Fi facility

Wi-Fi is available in the library premises. One can have net facility in the campus through IP based network. Through which students and faculty members can browse CeRA and e-resources of the library and college premises.

Different ICT Softwares used by PG students

Sl. No	ICT Application	Usage
1	Academic Management System Software	Online PG Student Admission, POW, POR, Thesis Submission, Qualifying Examination etc. Complete activities of Student, Staff, Academic section activities, automated in this software
2	Horti App	Provide information about the horticulture trends, technologies and methods being used. HortiApp is a useful app in cultivation of all kinds of crops, where it gives detailed information of each crop.
3	SYSTAT	Statistical Software for analysis of Statistical Data
4	Window STAT	Statistical Software for analysis of Statistical Data
5	HERBIQ	Windows Form Application that stores data in encrypted XML files to track the progress of plants, nutrient levels, environment, smoke effects, strain characteristics for breeding, etc. Output to single file with embedded images like a pdf file or some open format to show others
6	English Digital Laboratory	16 HP P-IV Computer Systems for English Learning

Accomplishments:**P.G. student's research outcomes which are helpful for the farming community:**

Sl. No	ID No.	Name of the Student	Title of thesis	Year of Completion	Chairpers on
1	UHS14P GM514	Hari Kishore	Morpho- physiological and molecular characterization of pomegranate genotypes	2016-17	Dr. B. N. S. Murthy
2	UHS14P GM516	Mahammadnazi m. J. Nadugadde	Effect of growth regulators, macronutrients, biofertilizers and media on seedling growth of mango	2016-17	Dr. T. R. Guruprasad
3	UHS14P GM517	Namitha P	Mutagenic studies in mango	2016-17	Dr. M. R. Dinesh

Sl. No	ID No.	Name of the Student	Title of thesis	Year of Completion	Chairperson
4	UHS15P GM655	Abhijith Y C	Effect of foliar application of micronutrients on growth and yield of aonlaCv, Neelum	2016-17	Dr. J. Dinakara Adiga
5	UHS15P GM656	Alfia M A	Studies on utilization of wild species of guava for crop improvement	2017-18	Dr. C. Vasugi
6	UHS15P GM657	Esmathullahah madi	Studies on integrated nutrient for growth, yield and quality of strawberry Cv. Sabrina under polyhouse	2016-17	Dr. M. K. Honnabyraiah
7	UHS15P GM658	Harsha H R	Effect of growth regulators, macronutrients, biofertilizers and media on seedling growth of pummelo	2016-17	Dr. T. R. Guruprasad
8	UHS15P GM659	Manjula S K	Study on evaluation of strawberry cultivar under polyhouse condition	2016-17	Dr. M. K. Honnabyraiah
9	UHS15P GM660	Sandesh H J	Studies on propagation of dragon fruit through seed and cutting	2016-17	Dr. G. S.K.Swamy
10	UHS15P GM661	Swathi hegde	Studies on effect of paclobutrazol on growth and yield of jamun Cv. Chintamani	2016-17	Dr. J. Dinakara Adiga
11	UHS16P G809	Devaraj R P	Effect of bunch feeding on yield and quality attributes of tissue culture banana cv. Grand nine	2017-18	Dr. M. K. Honnabyraiah
12	UHS16P G810	JasmithaB.G	Effect of enriched biochar on seedling growth of mango, jack and jamun	2017-18	Dr. M. K. Honnabyraiah
13	UHS16P G811	Jome Rime	Evaluation and characterization of putative mutant populations in mango (Mangifera indica)	2017-18	Dr. Shankaran
14	UHS16P G812	Pavithra S	Exploration of Surinam cherry as a rootstock for jamun, guava and rose apple	2017-18	DR. G. S. K. Swamy
15	UHS16P G813	Shivakumar A P	Effect of gibberellic acid and assisted pollination on fruit yield and quality of custard apple cv. Arkasahan	2017-18	Dr. Venkat roa

P.G. student's research topics linked with staff research projects:

Sl. No.	ID No.	Name of the Student	Title of thesis	Year of Completion	Chairperson
1.	UHS15PGM655	Abhijith Y C	Effect of foliar application of micronutrients on growth and yield of aonlaCv, Neelum	2016-17	Dr. J. Dinakara Adiga
2.	UHS15PGM661	Swathi hegde	Studies on effect of paclobutrazol on growth and yield of jamun Cv. Chintamani	2016-17	Dr. J. Dinakara Adiga

P.G research publications:

	Research papers published in > 4 NAAS ratings	Research papers published in < 4 NAAS ratings
PG students paper publications	29	5

Research / review article published by students

SI #	Name of the Student	Title of Research Article	Authors	Journal Name Volume, Issue and Page number	Year of Publication	NAA S Rating
1.	Vinay, G. M.	Nutrients changes during off-season flowering in custard apple cv. ArkaSahan induced by pruning and defoliation	Vinay, G. M., Chithiraichelvan, R., EnetteGeethika, S. and Jaganath, S.	Green Farming, 7 (3): 698-701.(International Journal of Applied Agricultural & Horticultural Sciences)	2016	4.38
2.	Vinay, G. M.	Nutrients changes during off-season flowering in Custard apple (Annona squamosa L.) Cv. Balanagar Induced by pruning and defoliation	Vinay, G. M., Chithiraichelvan, R. and Halesh, G. K.,	The Bioscan, 10(4): 1605-1610.(An International Quarterly Journal of Life Sciences)	2015	5.26
3.	Vinay, G. M.	Biochemical changes during off-season flowering in custard apple (Annona squamosa L.) Cv.ArkaSahan induced by pruning and defoliation	Vinay, G. M., Praneeth, Y. S., Chithiraichelvan, R., Upreti, K. K. and Venugopalan, R.	International Journal of Agriculture Sciences, 8 59: 3314-3317	2016,	4.20
4.	Vinay, G. M.	Influence of Media and Biofertilizers on Seed Germination and Seedling Vigour of Aonla	Chiranjeevi, M. R., ShivanandHongal, Vinay, G. M., Muralidhara, B. M. and Sneha, M. K.	International Journal of Current Microbiology and Applied Science, 7(1),587-593.	2018	5.38
5.	Vinay, G. M.	Correlation Studies in Muskmelon for Growth, Yield and Quality Attributes	Shivaprasad, M. K., Vasanth, M. Ganiger, Halesh, G. K., Buvaneshwari, G. and	International Journal of Pure and Applied	2017	4.74

SI #	Name of the Student	Title of Research Article	Authors	Journal Name Volume, Issue and Page number	Year of Publication	NAA S Rating
			Vinay G. M	Bioscience, 5(4):1913-1916		
6.	Vinay, G. M	Recent Advances in Annona Breeding: A Review	Vinay, G. M., Sakhivel, T. and Priyanka, H. L.	International Journal of Pure and Applied Bioscience, 5(2): 1168-1181	2017	4.74
7.	Vinay, G. M.	Biochemical changes during off-season flowering in custard apple (Annona squamosa L.) cv. Balanagar induced by pruning and defoliation	Vinay, G. M., Praneeth, Y. S., Halesh, G. K. and Chithiraichelvan, R.	Research in Environment and Life Science, 9(8): 914-916.	2016	4.09
8.	Vinay, G. M.	Induction of off-season flowering in custard apple (Annona squamosa L.)	Vinay, G. M., Chithiraichelvan, R. and EnetteGeethika, S.	Research in Environment and Life Science, 8(4): 801-804.	2015	4.09
9.	Vinay, G. M.	Induction of off-season flowering in custard apple (Annona squamosa L.) cv. Balanagar	Vinay, G. M. and Chithiraichelvan, R.	Journal of Horticultural Sciences, 10(1): 13-17.	2015	3.43
10.	Vinay, G. M.	Seed storage methods, germination and growth studies in karonda (Carissa carandas L.)	Muthanna, K. T., Praneeth, Y. S., Vinay, G. M. and Mahadevamma, M.	Research in Environment and Life Science, 9(6) : 651-654.	2016	4.09
11.	Pavithra, S.	Effect of growth regulators and chemicals on germination of surinam cherry (Eugenia uniflora L.) seeds	S. Pavithra., G. S. K. Swamy., G. J. Suresh., Vishnuvardhana, S. V. Patil and G. K. Halesh	International Journal of Current Microbiology and Applied Sciences, 7(9)	2018	5.38
12.	Y. C. Abhijith	Effect of micronutrients on yield and quality of Aonla	Y. C. Abhijith., J. Dinakara Adiga, H. Kishor and C. Sindhu	International Journal of Current Microbiology	2018	5.38

SI #	Name of the Student	Title of Research Article	Authors	Journal Name Volume, Issue and Page number	Year of Publication	NAA S Rating
		(<i>Emblica officinalis</i> Gaertn.) cv. NA7		and Applied Sciences, 7(3): 140-145		
13.	HarikanthPorika	Effect of pruning intensity on physiology and quality of Red Globe Grapes in summer season	HarikanthPorika, R. M. Vijayakumar, M. Jagadeesha and C. Deepika	Indian Journal of Ecology, 42(2): 394-396	2015	4.96
14.	HarikanthPorika	Studies on Season and Intensity of Pruning on Leaf Nutrient Status in Grapes (<i>Vitis vinifera</i> L.) cv. Red Globe	HarikanthPorika, R. M. Vijayakumar, K. and Soorianathasundaram	International Journal of Current Microbiology and Applied Sciences, 6(11): 558-562	2017	5.38
15.	Esmatullah Ahmadi	Effect of Integrated Nutrient Management on Soil Nutrient Status, and Leaf Nutrient Status of Strawberry (<i>Fragaria × ananassa</i> Duch.) CV. "Sabrina" under Polyhouse	Esmatullah Ahmadi, Honnabyraiah, M. K., Venkat Rao, and Sreekanth H. S.	International Journal of Pure & Applied Bioscience, 6 (2): 287-291.	2018	4.74
16.	Alfia M. A.	Phenological stages of wild species and cultivated species of Guava (<i>Psidium guajava</i> L.)	Alfia M. A., Vasugi C., M. K., Honnabyraiah, J. DinakaraAdiga, M. Shivapriya and Linta Vincent	International Journal of Pure and Applied Bioscience, 5 (6): 464-474	2017	4.74
17.	Esmatullah Ahmadi	Impact of Integrated Nutrient Management on Yield and Quality Parameters of Strawberry (<i>Fragaria × ananassa</i> Duch.) Cv. "Sabrina" under Polyhouse.	Esmatullah Ahmadi, M. K. Honnabyraiah, Ashok, S. Alur, J. DinakaraAdiga and Venkat Rao.	International Journal of Current Microbiology and Applied Sciences, 6(9): 3481-3487	2017	5.38

SI #	Name of the Student	Title of Research Article	Authors	Journal Name Volume, Issue and Page number	Year of Publicati on	NAA S Rati ng
18.	Abdul Hakim	Effect of biofertilizers and Auxin on Total Chlorophyll content of leaf and leaf area in Pomogranate (Punicagranatum L.) cuttings	Abdul Hakim, Jaganath, S., Honnabyraiah, M. K., Mohan Kumar S., S. Anil Kumar and K. J. Dayamani.	International Journal of Pure and Applied Bio-sciences, 6 (1): 987-991	2018	4.74
19.	Abdul Hakim	Influence of Biofertilizer and Auxin on Growth and Rooting of Pomegranate (Punicagranatum L.) Cuttings	Abdul Hakim, S.Jaganath, M. K., Honnabyraiah, Mohan Kumar. S, S. Anil Kumar and K. J. Dayamani	International Journal of Current Microbiology and Applied Sciences, 7(2): 1187-1193	2018	5.38
20.	Mohammad Gulab Omari	Influence of pruning level on bud fertilities in flame seedless and sharad seedless grape varieties under mild tropics.	Mohammad Gulab Omari, Rashad Ahmad Sherzad& M. K. Honnabyraiah	International Journal of Agricultural & Bio-chemical Sciences. 1 (2): 1-8	2017	4.74
21.	Mohammad Gulab Omari	Effect of pinching levels on sub can development in flame seedless and sharad seedless.	Mohammad Gulab Omari, Rashad Ahmad Sherzad& M. K. Honnabyraiah	International Journal of Agricultural & Bio-chemical Sciences. 1 (2); 1-8: 9-14	2017	4.74
22.	Shivakumar A. P.	Effect of gibberellic acid and assisted pollination on fruit characters of custard apple cv. Arkasahan.	Shivakumar, A. P., Venkat Rao, Honnabyraiah, M. K., Sakthivel, T.,Patil, S. V., Vasudeva, K. R., DinakaraAdiga, J. and Sreekanth, H. S.	International Journal Of Current Microbiology And Applied Science. 7(8): 2543-2549	2018	5.43
23.	Devraj R. P.	Effect of bunch feeding of macro and micronutrients on yield of tissue culture Banana cv. Grnad Nine.	Devraj R. P., Honnabyraiah, M. K., Swamy G. S. K., Shivanna, M. and Halesh G. K.	International Journal Of chemical studies. 7(2):252-256.	2019	5.34

SI #	Name of the Student	Title of Research Article	Authors	Journal Name Volume, Issue and Page number	Year of Publicati on	NAA S Rati ng
24.	Pavithra S.	Effect of growth regulators and chemicals on germination of Surinam cherry (<i>Eugeniauniflora</i> L.) seed.	Pavithra S., Swamy, G. S. K., Suresh, J. S., Vishnuvardhana, patil, S. V. and Halesh, G. K.	International Journal Of Current Microbiology And Applied Science. 7(9):546-551.	2018	5.43
25.	Jasmitha B. G.	Effect of enriched biochar on growth of Mango seedlings in nursery .	Jasmitha B. G., Honnabyraiah, M. K., Anil Kumar,S., Swamy, G. S. K., Patil, S. V. and Jayappa, J.	International Journal Of chemical studies. 6(6):415-417.	2019	5.34
26.	Vinay, G. M.	Nutrients changes during off-season flowering in custard apple cv. ArkaSahan induced by pruning and defoliation	Vinay, G. M., Chithiraichelvan, R., EnetteGeethika, S. and Jaganath, S.	Green Farming, 7 (3): 698-701. (International Journal of Applied Agricultural & Horticultural Sciences)	2016	4.38
27.	Vinay, G. M.	Nutrients changes during off-season flowering in Custard apple (<i>Annona squamosa</i> L.) Cv. Balanagar Induced by pruning and defoliation	Vinay, G. M., Chithiraichelvan, R. and Halesh, G. K.,	The Bioscan, 10(4): 1605-1610. (An International Quarterly Journal of Life Sciences)	2015	5.26
28.	Vinay, G. M.	Biochemical changes during off-season flowering in custard apple (<i>Annona squamosa</i> L.) Cv.ArkaSahan induced by pruning and defoliation	Vinay, G. M., Praneeth, Y. S., Chithiraichelvan, R., Upreti, K. K. and Venugopalan, R.	International Journal of Agriculture Sciences, 8 59: 3314-3317	2016,	4.20
29.	Vinay, G. M.	Influence of Media and Biofertilizers on Seed Germination and Seedling Vigour of Aonla	Chiranjeevi, M. R., ShivanandHongal, Vinay, G. M., Muralidhara, B. M. and Sneha, M. K.	International Journal of Current Microbiology and Applied Science,	2018	5.38

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				7(1),587-593.		
30.	Vinay, G. M.	Correlation Studies in Muskmelon for Growth, Yield and Quality Attributes	Shivaprasad, M. K., Vasanth, M. Ganiger, Halesh, G. K., Buvaneshwari, G. and Vinay G. M	International Journal of Pure and Applied Bioscience, 5(4):1913-1916	2017	4.74
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32.	Vinay, G. M.	Biochemical changes during off-season flowering in custard apple (Annona squamosa L.) cv. Balanagar induced by pruning and defoliation	Vinay, G. M., Praneeth, Y. S., Halesh, G. K. and Chithiraichelvan, R.	Research in Environment and Life Science, 9(8): 914-916.	2016	4.09
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36.	Pavithra, S.	Effect of growth regulators and chemicals on germination of	S. Pavithra., G. S. K. Swamy., G. J. Suresh., Vishnuvardhana, S.	International Journal of Current Microbiology	2018	5.38

SI #	Name of the Student	Title of Research Article	Authors	Journal Name Volume, Issue and Page number	Year of Publication	NAA S Rating
		surinam cherry (Eugenia unifloraL.)seeds	V. Patil and G. K. Halesh	and Applied Sciences, 7(9)		
37.	Y. C. Abhijith	Effect of micronutrients on yield and quality of Aonla (Emblicaofficinalis Gaertn.) cv. NA7	Y. C. Abhijith., J.Dinakara Adiga, H. Kishor and C. Sindhu	International Journal of Current Microbiology and Applied Sciences, 7(3): 140-145	2018	5.38
38.	HarikanthPorika	Effect of pruning intensity on physiology and quality of Red Globe Grapes in summer season	HarikanthPorika, R. M. Vijayakumar, M. Jagadeesha and C. Deepika	Indian Journal of Ecology, 42(2): 394-396	2015	4.96
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40.	Esmatullah Ahmadi	Effect of Integrated Nutrient Management on Soil Nutrient Status, and Leaf Nutrient Status of Strawberry (Fragaria × ananassaDuch.) CV. "Sabrina" under Polyhouse	Esmatullah Ahmadi, Honnabyraiah, M. K., Venkat Rao, and Sreekanth H. S.	International Journal of Pure & Applied Bioscience, 6 (2): 287-291.	2018	4.74
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		Parameters of Strawberry (Fragaria × ananassa Duch.) Cv. "Sabrina" under Polyhouse.	Venkat Rao.	and Applied Sciences, 6(9): 3481-3487		
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46.	Mohammad Gulab Omari	Effect of pinching levels on sub can development in flame seedless and sharad seedless.	Mohammad Gulab Omari, Rashad Ahmad Sherzad & M. K. Honnabyraiah	International Journal of Agricultural & Bio-chemical Sciences. 1 (2); 1-8: 9-14	2017	4.74
47.	Shivakumar A. P.	Effect of gibberellic acid and assisted pollination on fruit characters of custard apple cv. Arkasahan.	Shivakumar, A. P., Venkat Rao, Honnabyraiah, M. K., Sakthivel, T., Patil, S. V., Vasudeva, K. R., Dinakara Adiga, J. and Sreekanth, H. S.	International Journal Of Current Microbiology And Applied Science. 7(8): 2543-2549	2018	5.43
48.	Devraj R. P.	Effect of bunch feeding of macro and micronutrients on yield of tissue	Devraj R. P., Honnabyraiah, M. K., Swamy G. S. K., Shivanna, M. and	International Journal Of chemical studies.	2019	5.34

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		culture Banana cv. Grnad Nine.	Halesh G. K.	7(2):252-256.		
49.	Pavithra S.	Effect of growth regulators and chemicals on germination of Surinam cherry (Eugeniauniflora L.) seed.	Pavithra S., Swamy, G. S. K., Suresh, J. S., Vishnuvardhana, patil, S. V. and Halesh, G. K.	International Journal Of Current Microbiology And Applied Science. 7(9):546-551.	2018	5.43
50.	Jasmitha B. G.	Effect of enriched biochar on growth of Mango seedlings in nursery .	Jasmitha B. G., Honnabyraiah, M. K., Anil Kumar,S., Swamy, G. S. K., Patil, S. V. and Jayappa, J.	International Journal Of chemical studies. 6(6):415-417.	2019	5.34

6.4.12.

CERTIFICATE

I the Dean, College of Horticulture, Bengaluru hereby certify that the information contained in the Section 6.4.1 to 6.4.9 are furnished as per the records available in the college and degree awarding university.

Date: March, 2019



DEAN
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