

DEPARTMENT OF HORTICULTURE
COLLEGE OF AGRICULTURE, NAVSARI AGRICULTURAL UNIVERSITY,
BHARUCH CAMPUS,
BHARUCH-392 012 (GUJARAT)

1. INTRODUCTION:

With the establishment of College of Agriculture at Bharuch, the Department of Horticulture has been started in the year 2012. Department of Horticulture has been started with multifunctional activities like Teaching, Research and Extension education.

2. OBJECTIVES:

1. To create the facilities for imparting UG education in agricultural discipline.
2. To initiate, plan and conduct the research on various aspects of Horticulture.
3. To allow students to gain experience through hands on practical of Horticulture.
4. To provide integrated Horticulture education at all level for development of efficiency and effectiveness in skill and knowledge among students.
5. To incorporate horticultural based trainings for the farmers.

3. MAJOR ACTIVITIES:

1. TEACHING:

(A) UNDER GRADUATE:

Total 11 courses with 33 (14+19) credit loads are being taught from first to eight semesters B.Sc. (Hons.) in Agriculture.

(B) POST GRADUATE TEACHING: NIL

(C) OTHER ACADEMIC ACTIVITIES:

2. RESEARCH:

This department is also associated with research activities wherein several field and laboratory experiments are being conducted year round under various research experiments working under this department.

3. EXTENSION:

- Department staff is actively participating in Krushi Mahotsav, Krushi mela, Khedut Din, Khedut Shibir, Seminar, Radio and television programme time to time.
- Department is also imparting training to the students of various rural academic institutes.
- This department is also guiding farmers through publishing press notes in daily news paper on the agronomic aspects of major crops of this zone.

4. MAJOR ACHIVEMENTS

1. TEACHING:

(A) UNDER GRADUATE [B.SC. (HONS.) IN AGRICULTURE]

To make the theory and practical note books for U.G. courses are being taught from first to eight semesters B.Sc. (Hons.) in Agriculture.

UNDERGRADUATE COURSES OFFERED DURING ODD SEMESTER:

S. No.	Semester	Course Number	Title of course	Credits
1	1 st	Hort-1.1	Production Technology of Fruit Crops	2+1
2	3 rd	Hort-3.2	Production Technology of vegetable and flower crops	2+1
3	5 th	Hort-5.4	Post Harvest Management & Value Addition of Fruits and Vegetables.	1+1

UNDERGRADUATE COURSES OFFERED DURING EVEN SEMESTER:

S. No.	Semester	Course Number	Title of course	Credits
1	4 th	Hort-4.3	Production technology of spices, aromatic, medicinal and plantation crops.	2+1
2	8 th	Hort-8.6	Commercial Vegetable Production	1+2
3	8 th	Hort-8.7	Commercial Floriculture	1+2
4	8 th	Hort-8.8	Commercial Fruit Production	1+2
5	8 th	Hort-8.9	Nursery Management of Horticulture Crops	1+3
6	8 th	Hort-8.10	Protected Cultivation of Horticultural Crops	1+2
7	8 th	Hort-8.11	Seed Production of Vegetables & Flowers	1+2
8	8 th	Hort-8.12	Processing & Value Addition of Horticultural Crops	1+2

(B) POLYTECHNIC IN AGRICULTURE

To teach following subjects to the students of Polytechnic in Agriculture from third to sixth semester.

COURSES OFFERED DURING ODD SEMESTER:

S. No.	Semester	Course Number	Title of course	Credits
1	3 rd	Hort-3.1	Production Technology of Fruit Crops	1+1
2	5 th	Hort-5.4	Production Technology of Flower crops and Gardening	1+1

COURSES OFFERED DURING EVEN SEMESTER:

S. No.	Semester	Course Number	Title of course	Credits
1	4 th	Hort-4.3	Production Technology of Vegetable crop	1+1
2	6 th	Hort-6.4	Green House Technology	0+4
3	6 th	Hort-6.5	Preservation and Value Addition in Horticultural Crops	0+4

LIST OF M.SC. (AGRI.) STUDENTS WHO HAVE COMPLETED THEIR DEGREE SUCCESSFULLY.

S. No.	Name of student	Title of Thesis	Name of M.Sc. Supervisor	Faculty	Subject	Year of Award of Degree
Within NAU						
1	Jaykishan Jivraj Amarcholi	Induction of flowering and fruiting through foliar application of chemicals in 'Kesar' mango orchard	Dr. Virendra Singh	Horticulture	Fruit Science	Perusing
2	Kapil Mohan Sharma	Effect of foliar application of different chemicals on yield and quality of sapota [Manilkara achras (Mill.)Forsberg] Cv. Kalipatti	Dr. Virendra Singh	Horticulture	Fruit Science	Perusing
3	Patel Ashishkumar Hasmukhbhai	Effect of preharvest spray of different sources and storage temperature on shelf life of mango fruits	Dr. Virendra Singh	Horticulture	Fruit Science	Perusing
4	Parmar Jivabhai Rajshi	Influence of IPNM package , VAM fungi , PSB and time of application on flower drop , fruit drop , yield and quality of sapota cv. Kalipatti.	Dr. Virendra Singh	Horticulture	Fruit Science	Perusing
5	Thakriya Hitesh Ramanlal	Effect of different pre-soaking treatments on mango stone to the success of softwood grafting.	Dr. Virendra Singh	Horticulture	Fruit Science	Perusing
Other than NAU						
1	Miss Rita Markam	Standardization of recipe and juice extraction method for preparation of ready-to-serve beverage from custard apple (Annona squamosa L.) cv. Sindhan.	Dr. Virendra Singh	Horticulture	PHT	Thesis submitted (JAU)
2	Shubham N. Madle	Effect of pre-cooling treatments on storage life and quality of	Dr. Virendra Singh	Horticulture	PHT	Thesis submitted (JAU)

		banana (<i>Musa paradisiaca</i> L.) (<i>Musa</i> AAA) cv. Grand Naine.				
3	Ganesh H. Bhosle	Effect of plant growth regulators on growth, yield and quality of ber (<i>Zizyphus mauritiana</i> Lamk.) cv. Mehrun under Saurashtra region.	Dr. Virendra Singh	Horticulture	Fruit Science	Thesis submitted (JAU)
4	Lokesh Yadav	Effect of plant growth regulators on growth, yield and quality of guava (<i>Psidium guajava</i> L.) cv. Lucknow-49.	Dr. Virendra Singh	Horticulture	Fruit Science	Thesis submitted (JAU)
5	Prabhakar N. Kore	Standerdization of recipe and drying methods for candy making of different fruits.	Dr. Virendra Singh	Horticulture	PHT	Thesis submitted (JAU)

6. FACILITIES:

Well equipped laboratory is running under this department.

Following facilities are to be developed-

1.	Laboratory
2.	Crop museum
3.	Store room
4.	Computer
5.	Laptops
6.	Morden Granite Table
7.	Dryer
8.	Deep freezer
9.	Incubator
10.	Pulper

7. RESEARCH ACTIVITY:

S. No.	Title of experiment	Discipline	Status	Year
1	Integrated nutrient management of guava (<i>Psidium guajava</i> L.) under Saurashtra region.	Fruit Science	Completed	2012
2	Evaluation of guava (<i>Psidium guajava</i> L.) fruit varieties for processing into nectar beverage.	PHT	Completed	2012
3	Effect of pre harvest spray and storage temperature on shelf life and quality of Kesar mango fruits.	PHT	Completed	-
4	Preparation and preservation of lasora (<i>Cardia dichotana</i> Roxb.) in different brine preservatives.	PHT	Completed	2012
5.	Varietal evaluation of strawberry under polyhouse.	Fruit Science	Cont.	-

6.	Effect of boron and NAA on flowering, fruit set and yield of coconut (<i>Cocos nucifera</i> L.) cv. D x T.	Fruit Science	Completed	-
7	Response of different mango cultivars and rootstocks to stone grafting technique.	Fruit Science	Cont.	-
8	Effect of plant growth regulators on growth, yield and quality of ber (<i>Zizyphus mauritiana</i> Lamk.) cv. Gola.	Fruit Science	Cont.	-
9	Preparation and standardized technique of guava (<i>Psidium guajava</i> L.) and papaya (<i>Carica papaya</i> L.) blended RTS.	Fruit Science	Cont.	-
10	Rooting response of pomegranate (<i>Punica granatum</i> L.) cv. Bhagwa to different rooting media and plant growth regulators.	Fruit Science	Cont.	-
11	Effect of chemicals on fruiting behaviour, yield and quality of mango cv. Kesar.	Fruit Science	Cont.	
12	Effect of foliar application of Novel organic liquid fertilizer and micronutrients on yield and quality of mango (<i>Mangifera indica</i> L.) cv. Kesar”	Fruit Science	Cont.	
13	Effect of mulch on moisture conservation in old ber orchard.	Fruit Science	Cont.	
14	Effect of foliar fertilization on old ber orchard.	Fruit Science	Cont.	

8. PUBLICATIONS:

A. RESEARCH PAPERS-PUBLISHED:

(I) RESEARCH PAPERS-PUBLISHED IN INTERNATIONAL JOURNALS:

S. No.	Name of Researchers	Title of Research Paper	Name of Journal	Year, Volume No.,Page No.
1	Pavagadhi, D. C., Patel, R. B., Chawla, S. L., Bhandari, A. J. and Sudha Patil.	Effect of different plant spacing and nitrogen levels on growth and yield of candytuft (<i>Iberis umbellata</i> L.) cv. “Swiss White” under south Gujarat conditions.	<i>International Journal of Green Farming</i>	2014, 5(5): 823-825.

(II) RESEARCH PAPERS-PUBLISHED IN NATIONAL JOURNALS:

S. No.	Name of Researchers	Title of Research Paper	Name of Journal	Year, Volume No.,Page No.
1	Singh Virendra, Marka R., Uikay P. and Shinde, V.	Study on the biochemical, sensory and microbial contamination of custard apple RTS beverage.	<i>HortFlora Research Spectrum</i>	2013, 2(3), 202 –207.
2	Desai, S.S. Chovatia, R.S. and Singh, Virendra	Effect of different plant growth regulators and micronutrients on fruit quality and plant micronutrient content of tomato	<i>International Journal of Agricultural Sciences</i>	2013, 9 (1), 301-304
3	Markam Rita and Singh, Virendra	Studies on microbial and sensory quality of custard apple RTS	<i>The Asian Journal of Horticulture</i>	2012, 7 (2), 460-464

		beverage.		
4	Desai, S.S., Chovatia, R.S. and Singh, Virendra	Effect of different plant growth regulators and micronutrients on fruit characters and yield of tomato cv. Gujarat Tomato-3 (GT-3).	<i>The Asian Journal of Horticulture</i>	2013, 7 (2), 546-549
5	Sangani, S.L., Vaghani, S.N. and Patel, J.M.	Eco-dynamic studies on herbal based Sapota beverages.	<i>The Asian Journal of Horticulture</i>	2013,8 (1), 213-217
6	Bhandari, A. J. Patel, R. B., Chawla, S. L., Pavagadhi, D. C., and Patel, B. B.	Effect of plant growth regulator (PGR'S) on vegetative propagation of Hibiscus <i>Rosa sinensis</i> L.	<i>Bioinfloet</i>	2015, 12(1 A), 121-124.

LIST OF PUBLISHED BOOKS/CHAPTERS:

Sr. No.	Name of Author	Name of Department	Name of Faculty	Title of Book	Name of Publisher	Year of Publication
1	Singh Virendra, Markam Rita and Patel S. R.	Horticulture	Agriculture	Ready- to- serve of custard apple (<i>Annona squamosa</i> L.) blend with Lime: A new concept of natural beverages world.	Abstract Book: Global Conference on “technological challenges and human resources for Climate Smart Horticulture- Issues and strategies” organized by ASM Foundation, New Delhi & ASPEE college of Hort. & Forestry, NAU, Navsari, from May 28-31, 2014, at NAU, Navsari. pp:317	2014
2	Sangani, S.L., Vaghani, S.N., Patel, N. B. and Desai C. S.	Horticulture	Agriculture	Scaling of hedonic score of herbal based Sapota beverages.	International Journal of Processing and Post Harvest Technology. 5 (1), 62-66.	2014
3	Sangani, S.L., Vaghani, S.N., Patel, N. B., J. M. Patel and Desai C. S.	Horticulture	Agriculture	Standardization of herbal instant beverages based on sapota.	poster presented in Global Conference on “technological challenges and human resources for Climate Smart Horticulture.	2014
4	Sangani S. L.	Horticulture	Agriculture	Fla ane shakbhajini vechan	Book of “Fal Ane Shakbaji ma Post	2014

				vyavastha ane vyuhachana”	Harvest Technology in Agro-climatic Zone -1”, One day Seminar held at ASPEE College of Horticulture and Forestry, N.A.U., Navsari. Pub: No: 14/2014-15	
5	Sharma Kapil Mohan, Singh Virendra, Kirti Vardhan, Jaykishan Amarcholi and Patel S. R.	Horticulture	Agriculture	Need for breeding crops for organic farming to get higher productivity: a review.	Abstract Book: Global Conference on “Technological challenges and human resources for Climate Smart Horticulture- Issues and strategies” organized by ASM Foundation, New Delhi & ASPEE college of Hort. & Forestry, NAU, Navsari, from May 28-31, 2014, at NAU, Navsari. pp: 51	2014
6	Patel J. M., Senapati E. K., Shahu., E. F., Sangani, S. L. and Dev Raj “	Horticulture	Agriculture	Fla ane shakbhaji ma mulya vardhan and parirakshan ni takniko.	Book of “Fal Ane Shakbhaji ma Post Harvest Technology in Agro-climatic Zone -1”, One day Seminar held at ASPEE College of Horticulture and Forestry, N.A.U., Navsari. Pub: No: 14/2014-15	2014

ARTICLE PUBLISHED IN VERNACULAR LANGUAGE:

1	Micro-grafting techniques in plants	Dr. Virendra Singh Dr. Sunayan R. Patel Dr. K. G. Patel & Prof. S. L. Sangani	Bhrugukrushak College Magazine - 2014 Vol.I, pp. 47- 49	June-2014
2	A miracle of DNA profiling or finger printing	Dr. Sunayan R. Patel Dr. Sunil S. Patil Dr. Devendra R. Patel Dr. Virendra Singh	Navkrushak College Magazine -2014 Vol. XXXXII, pp.	July -2014

3	જેનેટિક એન્જીનીયરીંગ તકનીક દ્વારા બાગાયતી પાકોમાં આમૂલ પરિવર્તન	ડૉ. સુનયન આર. પટેલ, ડૉ. દેવેન્દ્ર આર. પટેલ, ડૉ. વિરેન્દ્રસિંગ ડૉ. સુનિલ એસ. પાટીલ	ગુજરાત સમાચાર, દૈનિક સમાચાર પત્ર, કૃષિ વિશ્વ.	તા. ૨૨ મી જૂન, ૨૦૧૪
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LIST OF PRACTICAL RECORDS PREPARED

Sr. No.	Semester	Course Number	Title of course
1	First	Hort-1.1	Production Technology of Fruit Crops
2	First	Hort-111	Principals of Horticulture
3	Second	Hort-212	Production Technology of Fruit Crops
4	Third	Hort-314	Production Technology of Flower crops and Gardening
5	Third	AENG-312	Post Harvest Technology
6	Third	Ag. Eco.-314	Fundamental of Agribusiness Management
7	Second	Hort-223	Production Technology of Vegetable crops
8	Second	Hort-226	Green House Technology
9	Third	Hort-325	Preservation and Value Addition in Horticultural Crops

9. TRANSFER OF TECHNOLOGIES:

1. Actively participated in different extension activities viz., Khedut Sibir, Field visit, Krushi Mahotsav, farmers and scientific seminars.
2. Educational tour made by horticulture discipline for the students of Polytechnic in Agriculture Sixth Semester as per requirement of the courses i.e. Green House Technology (Hort-226) and Preservation and Value Addition in Horticultural Crops (Hort-325).

10. TV TALK:

1. Kela ne vaignanik khet paddati (Phone in live). Doordarshan, Ahmedabad.
2. Unalu sakbhaji ni kheti paddatti (Phone in live). BAISAG, Gandhinagar.
3. Unalu sakbhaji ni kheti paddatti (Phone in live). Doordarshan, Ahmedabad.