



**Department of Floriculture and Landscape  
Architecture**  
**ASPEE College of Horticulture**  
**Navsari Agricultural University,**  
**Navsari – 396 450**



## Activities and Achievements

### ACADEMIC ACTIVITIES:

#### List of Courses offered by the Department for Under Graduate Programme (As per 5<sup>th</sup> Dean's Committee)

B. Sc. (Hons.) Horticulture				
SN	Sem.	Course No.	Title of Course	Credit hrs
1	II	*FLA 2.1	Ornamental Horticulture	2 (1+1)
2	III	*FLA 3.2	Commercial Floriculture	3 (2+1)
3	IV	*FLA 4.3	Principles of Landscape Architecture	2 (1+1)
4	VI	FLA 6.4	Breeding and Seed Production of Flower and Ornamental Crops	3 (2+1)
5	VI	FLA 6.5	Medicinal and Aromatic Crops	3 (2+1)
<b>Sub Total (A)</b>				<b>13 (8+5)</b>
<b>STUDENT READY-I: Experiential Learning Programme</b>				
1	VII	HWE 7.1	Protected Cultivation of High Valued Horticultural Crops	10 (0+10)
2	VII	HWE 7.1.1	Production of High Valued Crops	6 (0+6)
3	VII	HWE 7.1.2	Packaging and Marketing of High Valued Horticultural Crops	4 (0+4)
4	VII	HWE 7.4	Floriculture and Landscape Architecture	10 (0+10)
5	VII	HWE 7.4.1	Planning, Layout and Design of Landscape	6 (0+6)
6	VII	HWE 7.4.2	Consultancy and Maintenance of Garden	4 (0+4)
<b>Sub Total (B)</b>				<b>20 (0+20)</b>
<b>STUDENT READY-II: Rural Horticultural Work Experience</b>				
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<b>Sub Total (C)</b>				<b>0 (0+0)</b>
<b>Total (A+B+C)</b>				<b>33 (8+25)</b>

\*Courses not offered due to application of 6<sup>th</sup> Dean's Committee in 1<sup>st</sup> and 2<sup>nd</sup> year

#### List of Courses offered by the Department for Under Graduate Programme (As per 6<sup>th</sup> Dean's Committee)

B. Sc. (Hons.) Horticulture				
SN	Sem.	Course No.	Title of Course	Credit hrs
1	I	FLS 1.1	Commercial Production of Flower crops	3 (1+2)
2	II	FLS 2.2	Plant Propagation and Nursery Management in	3 (1+2)

			Vegetables, Flowers and Medicinal crops	
3	IV	FLS 4.3	Urban and Peri-urban Horticulture	2 (1+1)
		<b>SEC</b>	<b>Skill Enhancement Courses</b>	
1	II	SEC-4	Landscape Gardening (6 <sup>th</sup> Dean's Committee)	2 (0+2)
2		SEC 10	Turf and Turf Management	2 (0+2)
		<b>EC</b>	<b>Elective Courses</b>	
1	VII	EC-15	Turf Management	2 (1+1)
2	VII	EC-16	Protected Cultivation of Flower crops	3 (2+1)
3	VII	EC-17	Value Addition in Floriculture	3 (2+1)
4	VII	EC-18	Breeding of Ornamental crops	3 (2+1)
5	VII	EC-19	Principles of Landscape Architecture	3 (1+2)
6	VII	EC-20	Commercial Floriculture and Landscaping	3 (2+1)
7	VII	EC-21	Post-harvest handling of Floriculture crops	3 (2+1)
<b>Sub Total</b>				<b>32 (15+17)</b>

**List of Courses offered by the Department for Post Graduate Programme  
(As per BSMA Committee)**

<b>M. Sc. Horticulture</b>				
<b>SN</b>	<b>Sem.</b>	<b>Course No.</b>	<b>Title of Course</b>	<b>Credit hrs</b>
1	Odd	FLS – 501*	Systematic of Ornamental Plants	2 (1+1)
2	Even	FLS – 502*	Breeding of Ornamental Plants	3 (2+1)
3	Odd	FLS – 503*	Commercial Production of Cut Flowers	3 (2+1)
4	Even	FLS – 504*	Commercial Production of Loose Flowers	3 (2+1)
5	Odd	FLS – 505*	Ornamental gardening and Landscaping	3 (2+1)
6	Even	FLS- 506	Indoor Plants and Interiorscaping	2 (1+1)
7	Odd	FLS – 507	Nursery Management in Ornamental Plants	3 (2+1)
8	Even	FLS - 508	Turf Grass Management	3 (2+1)
9	Odd	FLS- 509	Value Addition in Floriculture	3 (2+1)
10	Even	FLS – 510	Protected Cultivation of Flower Crops	3 (2+1)
11	Odd	FLS- 511	CAD for Landscaping	3 (1+2)
12	Even	FLS- 512	Seed Production in Flower Crops	2 (1+1)
<b>Sub Total (A)</b>				<b>33 (20+13)</b>
<b>COMPULSORY NON-CREDIT COURSES</b>				
1	Odd	PGS 501	Library and Information Services	1 (0+1)
2	Even	PGS 502	Technical Writing and Communication Skills	1 (0+1)
3	Odd	PGS 503	Intellectual Property and its Management in Agriculture (e-Course)	1 (1+0)
4	Even	PGS 504	Basic Concepts in Laboratory Techniques	1 (0+1)
5	Odd	PGS 505	Agricultural Research, Research Ethics and Rural Development Programmes (e-Course)	1 (1+0)
6	Odd	PGS 506	Disaster management	1 (1+0)
<b>Sub Total (B)</b>				<b>6 (3+3)</b>
<b>Total (A + B)</b>				<b>39 (23+16)</b>

**\*\*Compulsory Courses**

**List of Courses offered by the Department for Ph. D. Programme  
(As per BSMA Committee)**

Ph.D. Horticulture				
SN	Sem.	Course No.	Title of Course	Credit hrs
1	Odd	FLS- 601 **	Crop Regulation in Ornamental Crops	3 (2+1)
2	Even	FLS- 602 **	Postharvest Biology of Floricultural Crops	3 (2+1)
3	Odd	FLS- 603	Specialty Flowers, Fillers and Cut Greens	2 (1+1)
4	Even	FLS- 604	Biotechnological Approaches in Floricultural Crops	3 (2+1)
5	Odd	FLS- 605 **	Vertical Gardening	3 (1+2)
6	Even	FLS- 606	Advances in Breeding of Flower Crops	3 (2+1)
7	Odd	FLS- 607	Advances in Production Technology of Flower Crops	3 (2+1)
8	Even	FLS- 608	Advances in Protected Cultivation of Flower Crops	3 (2+1)
9	Odd	FLS- 609	Advances in Landscape Gardening	3 (1+2)
Sub Total (A)				26 (15+11)
<b>COMPULSORY NON-CREDIT COURSES</b>				
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Sub Total (B)				0 (0+0)
Total (A + B)				26 (15+11)

\*\*Compulsory Courses

**Activities under ELP**

Protected Cultivation of Hi-Value Horticultural Crops		
Year	Students	Revenue Generated (Rs.)
2011-12	13	96974
2012-13	12	92745
2013-14	11	59126
2014-15	21	99891
2015-16	24	61005
2016-17	25	104905
2017-18	06	107427
2018-19	19	172180
2019-20	20	179805
2020-21	27	52070
2021-22	46	197079
2022-23	45	232900
2023-24	43	397075
2024-25	50	237212





Planting of Chrysanthemum by ELP students



Preparation of planting material by ELP students



Exhibition of prepared plants by ELP students



Production of Tomato





Production of exotic vegetable crops

### Number of students awarded degree since commencement of PG programme in the Department

M.Sc. Horticulture	Ph. D. Horticulture
139	36

### Number of students enrolled in PG Programme (2024-25)

M.Sc. Horticulture	Ph. D. Horticulture
28	12

### Medalist Students of the Department

SN	Name of Student	Name of Medal	Year
1	Meghalakshmi Guddad	Chancellor's Gold Medal	2019-20
1	Ugale Hemant	ASPEE Foundation Gold Plated Silver Medal M.Sc. Horticulture	2011-12
2	Radhika Jadeja		2012-13
3	Roshni Agnihotri		2015-16
4	Parvathi Bennurmth		2018-19
5	Sangeetha Priya S.		2020-21
6	Vidyashree S.		2021-22
7	Gangani Navneet Ranjitbhai		2023-24
8	Sushmita Halagali		2024-25
1	PriyankaPrajapati	ASPEE Foundation Gold Plated Silver Medal for Ph.D.Horticulture	2012-13
2	Mamilla Sindhuja		2021-22
1	Roshni Agnihotri	SRF	2015
2	MaguluriSree Devi		2016
3	Parvathi Bennurmth		2017
4	Erathi Sathyanarayan		2017
5	Sangeetha Priya S.		2019
6	Alka		2020

7	Vidyashree S.		2020
8	Zala Kuvarsinh Ravisinh		2020
9	Chandana Shivaswamy		2021
10	Sindha Mallikaben Ravjibhai		2021
11	Mangroliya Ronak Mukeshbhai		2021
1	Neelima Palagani	Best Thesis awardee at National level	2018-2019
1	Dr. Saryu J. Trivedi	Best Ph. D. Thesis award	2024
1	Baraiya Ajay Himmatbhai	Best M.Sc. Thesis Award	2023
1	Dr. SumathiTatte	ISHRD Budding Scientist Award	2019-20
1	Sangeetha Priya S.	Dr. NC Gautam Best M.Sc. Thesis Award in Horticulture	2019-20
2	Ranjita Kulkarni		2019-20



Parvathi Benurmth receiving ASPEE Foundation Gold plated silver medal



Meghalakshmi Guddad received Gold Medal M. Sc. (Hort.) Floriculture and Landscape Architecture



Sangeetha Priya S. conferred ASPEE Foundation Gold Plated Silver Medal M. Sc. (Hort.) Floriculture & Landscape Architecture 2020-21



Vidyasree S. conferred ASPEE Foundation Gold Plated Silver Medal M. Sc. (Hort.) Floriculture & Landscape Architecture 2021-22



Dr. Sumathi Thatte receiving ISHRD budding scientist award during Progressive Horticulture Conclave-2019at Lucknow



Sangeetha Priya receiving Dr. N C Gautam Best M.Sc. Thesis Award



Dr. N C Gautam Best M.Sc. Thesis award

## RESEARCH ACTIVITIES

### Research Schemes in Operation

SN	Title of Research Project	Year of Commencement & Budget Head	PI & Co-PI	Funding Agency
1	Establishment of Research Project on Floriculture	Year:1998-99 B.H. :329/12046-01	PI : Dr. S. L. Chawla Co-PI: Dr. M. A. Patel Dr. Sudha Patil	State Govt.
2	Landscaping at University Campus	Year: 1998-99 B.H. :12712/02	PI :Dr. M A. Patel	State Govt.
3	Landscaping and Gardening Training Programme ( <i>Mali Talim</i> )	Year: 1998-99 B.H. : 329/12508	PI: Dr. H. P. Shah	State Govt.
4	Establishment of Practical Training Centre of Horticulture Students for the Hi-tech Horticulture	Year:2004-05 Cont. B.H. :329/12970	PI : Dr. Alka Singh Co-PI : Dr. H. P. Shah	State Govt.
5	Model Nursery for Ornamental plants	Year: 2007-08(One time grant) B.H. : 9510 N - 50 : (RF)	Dr. M. A. Patel	NHM
6	ELP on Hi- Tech Protected Cultivation of Horticultural Crops	Year: 2008-09 (One time grant) B.H. : 9510-N-60 (RF)	PI : Dr. Alka Singh	ICAR
7	Advanced Technology Centre for Soilless System for Production of Various Crops	Year:2014-2015 B.H. :329/12041	PI : Dr. Alka Singh Co-PI : Dr. G. D. Patel	State Govt.

8	AICRP on Floriculture	Year:2015 B.H. :329/2100/00	PI: Dr. S. L. Chawla Co-PI: Dr. Dipal Bhatt	ICAR
9	Certificate Course in Turfgrass Management	Year: 2015-16 B.H. : 9510- N – 83	PI: Dr. S. L. Chawla Co-PI: Dr. M. A. Patel Dr. H. P. Shah	Self-financed
10	Floriculture Mission for south Gujarat	Year: 2023-24 329/12086	PI: Dr. S. L. Chawla Co-PI: Dr. M. A. Patel, Dr. R. A. Gurjar	State Govt.
11	Development of DUS guideline for Adenium	Year: 2024 B.H. : 329/18271	PI: Dr. Alka Singh Co-PI: Dr. G. D. Patel, Dr. A. K. Pandey, Dr. V. B. Patel	PPV & FRA, GoI, New Delhi

### : ResearchRecommendations:

Year: 2023

S.N.	Title of Experiment and Recommendation				Name of PI / Co-PI/ Associate
1	<b>Effect of different bio-stimulants on growth, quality and yield of <i>Dendrobium</i> orchid under NVPH</b>  <b>Recommendation for farmers</b> Farmers of Gujarat growing <i>dendrobium</i> orchid under naturally ventilated polyhouse are recommended to spray Novel Prime @ 2% (20 ml in 1 L water) at every 15 days interval to obtain higher cut flower yield and better quality.				<b>PI:</b> Dr. H. P. Shah <b>Co-PI:</b> Dr. Alka Singh Dr. G.D. Patel
2	<b>Studies on phenophase based nutrient scheduling on flower yield and quality in China aster</b>  <b>Recommendation for farmers</b> Farmers of South Gujarat agro climatic zone growing China aster are recommended to apply 180:120:60 kg NPK/ha. Wherein, 25% should be applied as basal dose and remaining 75 % through drip system in three splits in the following manner for higher yield as well as net realization.				<b>PI:</b> Dr. S. L. Chawla <b>Co-PI:</b> Dr. Sudha Patil, Dr. Dipal S. Bhatt Dr. M.A. Patel <b>Associate:</b> Dr.P.K.Dubey
	<b>Splits of NPK</b>	<b>Pheno</b>	<b>75% RDF through fertigation (kg/ha)</b>	<b>Remarks</b>	



		<b>phase</b>	Urea	12:6 1:00 (MA P)	00:0 0:50 (K <sub>2</sub> S O <sub>4</sub> )		
	First (40:20: 20 %)	Vegetative phase	109.49	29.52	18.00	Three equal splits of fertilizers at weekly interval	
	Second (30:40: 40 %)	Bud phase	72.51	59.04	36.00	Two equal splits of fertilizers at weekly interval	
	Third (30:40: 40 %)	Flowering phase	72.51	59.04	36.00	Two equal splits of fertilizers at weekly interval	
	<b>Note:</b> <ul style="list-style-type: none"> <li>➤ 25% of RDF (Urea:97.65 kg, SSP: 187.50kg and KCl: 25.05 kg/ha) should be applied as basal dose.</li> <li>➤ Paddy straw @ 7.5 t/ha as much should be applied on raised beds.</li> </ul>						
3	<b>Collection and evaluation of filler (Asparagus)</b>  <b>Recommendation for farmers</b> The farmers of South Gujarat agro climatic zone growing asparagus ( <i>Asparagus densiflorus</i> Sprengeri) as cut greens are recommended to grow in pot under 50 % green shade net house for getting higher cut foliage production and net profit.						<b>PI:</b> Dr. Sudha Patil <b>Co-PI:</b> Dr. Dipal S. Bhatt Dr. S. L. Chawla
4	<b>Collection and evaluation of filler (Dracaena)</b>  <b>Recommendation for farmers</b> Farmers of South Gujarat agro climatic zone growing dracaena ( <i>Dracaena fragrans</i> ‘Massangeana’) as cut foliage are recommended to grow in pot under 50 % green shade net house to obtain higher production and net realization.						<b>PI :</b> Dr. Dipal S. Bhatt <b>Co-PI :</b> Dr. Sudha Patil Dr. S. L. Chawla
5	<b>Collection and evaluation of filler (Fern)</b>  <b>Recommendation for farmers</b> Farmers of South Gujarat agro climatic zone growing fern ( <i>Nephrolepis exaltata</i> ) as cut foliage are recommended to grow in pot under 50 % green shade net house to obtain higher						<b>PI:</b> Dr. Dipal S. Bhatt <b>Co-PI:</b> Dr. S. L. Chawla Dr. Sudha Patil

	production and net realization.	
6	<p><b>Effect of IBA and season on rooting of African marigold (<i>Tagetes erecta</i> L.) cv. Pusa Narangi Gaiinda cutting under poly tunnel</b></p> <p><b>Recommendation for farmers</b> The farmers and nurserymen of the Gujarat growing marigold are advised that the lower portion of tip cuttings treated with IBA 1500 mg/L for 5 (five) seconds and insert in slanting position in sand under poly tunnel gave higher number of rooted cuttings, number of roots per rooted cutting and higher survival percentage of marigold in all the seasons.</p>	<p><b>PI:</b> Dr. M.A. Patel <b>Co-PI:</b> Dr. Dipal S. Bhatt Prof. Parmeshvari K. Chaudhari</p>
7	<p><b>Integrated weed management in African marigold (<i>Tagetes erecta</i> L.) var. Pusa Narangi Gaiinda</b></p> <p><b>Recommendation for Scientist</b> It is inform to scientific community that spray of early post emergence pendimethalin 30 % EC@ 0.75 kg a.i./ha (3.33 L/ha) within 24 hours of transplanting followed by mulching of paddy straw (5 cm thickness layer) and one hand weeding at 50 days after transplanting effectively controls weed and gives higher yield in African marigold var. Pusa Narangi Gaiinda during <i>Kharif</i> season.</p>	<p><b>PI:</b> Prof. Parmeshvari K. Chaudhari <b>Co-PI:</b> Dr. M. A. Patel Dr. S. L.Chawla</p>
8	<p><b>Adenium variety Gujarat Adenium 5 (GAd-5: Shashank)</b></p> <p><b>Recommendation for farmers</b> The nursery men dealing with ornamental plants, landscape designers and plant lovers are recommended to grow adenium variety GAd5 (Shashaank) under polyhouse for higher commercial value as well as in garden and house plant. Adenium variety GAd 5 is novel that it bears white coloured flowers having multipetalous flower form with dual whorls of petals (10) in each flower along with more flowers per cluster and flowering duration. It can be propagated by grafting on local pink root stock.</p>	<p><b>PI:</b> Dr. Alka Singh <b>Co-PI:</b> Prof. A. J. Bhandari Dr. H. P.Shah Dr. G.D. Patel</p>
9	<p><b>Turfgrass variety: Gujarat Turf Grass 1 (GTG 1: Arna)</b></p> <p><b>Recommendation for farmers</b> The farmers, nurserymen and professional landscapers of the Gujarat state are advised to grow turf grass (Lawn) variety Gujarat Turf Grass 1 (GTG 1: Arna) with early establishment rate (minimum days taken for 90% coverage), high turfing ability, root depth and lower shoot- root ratio than the check Selection 1. The proposed variety having good aesthetic appearance, require less number of mowing and less incidence of pest and disease in proposed variety.</p>	<p><b>PI:</b> Dr. M. A. Patel <b>Co-PI:</b> Dr. Bimal Desai Dr. S. L. Chawla Dr. H. P. Shah Dr. A. I. Patel</p>

Year: 2024

S.N.	Title of Experiment and Recommendation	Name of PI / Co-PI/ Associate
1	<p><b>Evaluation of Ferns in different growing media under benching system in Orchid (<i>Dendrobium</i>) NV polyhouse</b></p> <p><b>Recommendation for farmers</b> Farmers growing orchid in NV polyhouse are recommended to grow <i>Nephrolepis exaltata</i> fern as a secondary crop in cocopeat growing media under benching system for obtaining better plant growth and yield as cut greens. <b>Note:</b> Fertilizer application: Urea- 50 mg/l of 100 ml/pot (Once a month in the first week) 19:19:19 NPK-50 mg/l of 100 ml/pot (Once a month in third week) Pot size : Height 19 cm, top diameter 19 cm, bottom diameter:15 cm</p>	<p><b>PI:</b> Dr. H. P Shah <b>Co-PI:</b> Dr. Alka Singh Dr. G. D. Patel</p>
2	<p><b>Effect of type and height of rootstock for grafting in Moon Cactus</b></p> <p><b>Recommendation for farmers</b> Nurserymen raising cactus under naturally ventilated polyhouse are recommended to graft <i>Gymnocalycium mihanovichii</i> (as Scion) cactus on 3 edged and 5 cm height of <i>Hylocereus monacanthus</i> rootstock to develop moon cactus for higher graft survival, more number of flowers and baby cactus.</p>	<p><b>PI:</b> Dr. Alka Singh <b>Co-PI:</b> Dr. G. D. Patel Prof. Ankit Bhandari Dr. H. P. Shah</p>
3	<p><b>Evaluation of new crosses in Adenium for profuse flowering habit</b></p> <p><b>Recommendation for the scientists</b> The germplasm NASDUS2 profusely bears red coloured flowers having single whorl. It can be further utilised in breeding program.</p>	<p><b>PI:</b> Dr. Alka Singh <b>Co-PI:</b> Dr. H. P. Shah, Dr. G. D. Patel Prof. Ankit Bhandari <b>Associate:</b> Dr. A. I. Patel Dr. Vipul Parekh</p>
4	<p><b>Effect of pinching and foliar application of nutrients on growth, quality and yield of African marigold (<i>Tagetes erecta</i> L.)</b></p> <p>Farmers of South Gujarat, growing African marigold are recommended to pinch at 20 and 35 days after transplanting along with Novel Organic Liquid Nutrients @ 1% (1 liter/100 liter water) spray during 6<sup>th</sup> and 7<sup>th</sup> week of transplanting with the recommended dose of fertilizer (150:100:100 kg NPK/ha) along with 10 ton of well rotten Farm Yard Manure (FYM) per hectare to achieve maximum production and profit.</p>	<p><b>PI:</b> Dr. R. A. Gurjar <b>Co-PI:</b> Dr. S. L. Chawla Dr. M. A. Patel <b>Associates:</b> Dr. Narendra Singh</p>

Year: 2025

S.N.	Title of Experiment and Recommendation	Name of PI /
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		<b>Co-PI/ Associate</b>
1	<p><b>Optimization of micronutrient doses for aster</b></p> <p><b>Recommendation for farming community:</b> Farmers of Gujarat growing China aster are recommended to apply micronutrients viz., Zn (2.5 kg/ha) + Mn (2.5 kg/ha) + B (1 kg/ha) + Fe (1.25 kg/ha) in soil at the time of planting along with FYM @ 20 t/ha + 180:120:60 kg NPK/ha as RDF and 200 kg of neem cake enriched with 1 kg of <i>Trichoderma harzianum</i> to get higher yield and net realization. Moreover, full dose of P and K should be applied as basal dose while N in three equal splits viz., first dose as basal, second dose at pinching and third dose at one month after pinching.</p>	<p><b>PI:</b> Dr. Sudha Patil <b>Co-PI:</b> Dr. S. L. Chawla Dr. Dipal S. Bhatt <b>Associates:</b> Dr. Sonal Tripathi Dr. Narendra Singh</p>
2	<p><b>Standardization of planting time and geometry on growth and flowering of gaillardia (<i>Gaillardia pulchella</i> Foug.)</b></p> <p><b>Recommendation for farming community:</b> Farmers of South Gujarat are recommended to plant gaillardia at 45 cm x 45 cm spacing in the 1<sup>st</sup> week of January for getting higher production of flowers as well net realization.</p>	<p><b>PI:</b> Dr. Dipal S. Bhatt <b>Co PI:</b> Dr. S. L. Chawla Dr. Sudha Patil</p>
3	<p><b>Effect of plant growth retardants on growth and flowering in pot Kalanchoe</b></p> <p><b>Recommendation for farming community:</b> Nurserymen and garden amateur are recommended to apply Cycocel at 750 ppm (750 mg/L) as foliar application on kalanchoe at 30 and 45 days after pot planting for obtaining compact plant growth, profuse flowers and better visual appearance. <b>Note:</b> Plastic pot size: 17 cm-top diameter, ht 13 cm Potting media: Cocopeat: sand: vermicompost (7:2:1 v/v) Fertilizer application: NPK 19:19:19 @50 mg/L of 100 ml/pot (once in 15 days) NPK 13:0:45 @50 mg/L of 100 ml/pot (once in 15 days)</p>	<p>PI : Dr. Shivam T. Bhatt CO-PI: Alka Singh and Dr. G D Patel</p>
4	<p><b>Standardization of N and K doses under fertigation in rose under NVPH</b></p> <p><b>Recommendation for farming community:</b> Farmers of Gujarat growing cut rose under naturally ventilated polyhouse are recommended to apply 300:100:100 mg/m<sup>2</sup>/week NPK through fertigation to obtain higher yield and net return.</p>	<p>PI: Dr. H. P. Shah Co- PI: Dr. Alka Singh, Dr. G. D. Patel and Prof. Parmeshvari Chaudhari</p>
5	<p><b>Effect of different potting media on gerbera cultivation in NV polyhouse</b></p> <p><b>Recommendation for farming community:</b> Farmers of Gujarat growing gerbera under naturally ventilated polyhouse are recommended to use local black soil + leaf mold + rice husk + sand ( 2:2:1:1 v/v) as growing media for pot culture to obtain higher yield and better quality.</p>	<p>PI: Dr. H. P. Shah Co- PI: Dr. Alka Singh, Dr. G. D. Patel and Prof. Parmeshvari Chaudhari</p>

	<b>Note:</b> Drenching 19:19:19 NPK-50 mg/l of 100 ml/pot (Monday every week) Drenching 13:0:45 NPK-50mg/l of 100 ml/pot (Thursday every week) Size of Pot : Height – 13 cm, Diameter – 19 cm	
6	<b>Snake plant variety: GSP1 (Navsari Vasari)</b> <b>Recommendation for the farmers:</b> Nurserymen of Gujarat and plant lovers are recommended to grow Gujarat Snake Plant 1 (Navsari Vasari) variety of snake plant for higher commercial value as well as for indoor pot plant. GSP1 (Navsari Vasari) is a phytoremedial medium stature snake plant variety having dark green broad and stout leaves with whitish greyish variegated margin, produces 16.46% and 26.03% more suckers than local checks (Tall Yellow and Dwarf) and is efficient in indoor air quality purification by faster removal of TVOCs and HCHO.	PI: Dr. Dr. Alka Singh Co- PI: H. P. Shah, Dr. G. D. Patel, Prof. Parmeshvari Chaudhari, Dr. Vipul Patel, Dr. A. I. Patel and Dr. Viral Prajapati

## Our Products

S.N.	Planting material	Crop and Cultivar	Quantity
<b>B.H.: 12046-1 (Plan Project)</b>			
1	Seeds/Bulbs/Corms	Tuberose bulbs, lily bulbs, gladiolus corms, Heliconia rhizomes, Ornamental ginger rhizomes (No.)	75203
2	Nursery plants,	Rooted cuttings & seedlings of different ornamental plants (No.)	6095
3	Cut flowers	Gladiolus, rose, tuberose, goldenrod, orchid, heliconia ornamental ginger etc. (No.)	5541
4	Loose flowers (kg)	Marigold, Chrysanthemum, Rose, gaillardia etc.	558 kg
5	Flower decoration	Flower bouquets (small, medium & big), bowl and Channels (No.)	510
<b>B.H. 12970</b>			
1	Cut flowers	Gerbera	-
		Dendrobium Orchid (small)	-
		Dendrobium Orchid (big)	-
2	Flower bouquet	Small, medium, large, floral bowl etc.	71
3	Plants	Small bags (7" -5")	46
		Medium bags (10"-8")	11
		Large bags (14"-12")	02
		Euphorbia	9
		Hanging basket	14
		Haworthia	22

		Indoor plants	15
B.H. 12041			
1	Nursery plants	Grafted Adenium	100
		Haworthia (Small pot)	77
		Cactus	4
		Succulents	14
		Indoor Plant Pot	2
		Portulaca	23
		Palm	16
		Euphorbia	31
		Lettuce	120
		Coriander	260
		Ixora	4
		Hanging plant	4
		Small bags (7'' -5'')	410
		Medium bags (10''-8'')	24
		Large bags (14''-12'')	43
B.H.: 9510 N - 50 (Revolving Fund)			
1	Nursery plants	Ornamental plants	2427
		Medicinal plants	324
		Trees	65
		Palms	375
2	Rooted cuttings	Ornamental plants	340
3	Seedlings	Flower crops	4900
4	Seeds/bulbs/corms	Heliconia rhizomes, Ornamental ginger rhizomes (No.)	04
5	Boarder plants	Ornamental plants	1120
B.H.: 9510 N - 60 (Revolving Fund)			
1	Cut flowers	Gerbera, orchid etc.	11
2	Flower bouquet	Small, medium, large, floral bowl etc.	270
3	Dish garden	Small (6''),	2
		Medium (8'')	15
		Large (10'')	10
4	Terrarium	Large (10'')	-
		Small (6''-8'')	15
5	Hanging basket	Plastic	97
		Coco-coir	42
		Bamboo	10
6	Plants	Large bags (14''-12'')	482
		Medium bags (10''-8'')	333
		Small bags (7''-5'')	484
		Plastic pots (10''-12'')	7
		Ceramic pot (10'')	8
		Pot plant on rent 12''	990
		Indoor plants	173
		Haworthia	10
		Succulents	10
7	Channel	Channel	29



<b>B.H.: 329/2100/00 (AICRP on Floriculture)</b>			
<b>1</b>	Cut flowers	Tuberose, cut greens like dracaena, golden rod etc.	548
<b>2</b>	Flower decoration	Flower bouquets (small & big) & bowl (No.)	178

## EXTENSION ACTIVITIES

- 1) **Dr. Alka Singh** delivered a lecture on “*Scope & Importance of Garden Skill Development*” in Ten days students’ Training Programme on ‘Gardening Skill’ organized by ASPEE College of Horticulture, Navsari Agricultural University, Navsari and JNV, Tapi from 03-18 April, 2024 for the students of PM Shri School, Jawahar Navodaya Vidyalaya, Tapi (Std. 9<sup>th</sup> and 11<sup>th</sup>) on 3<sup>rd</sup> April 2024 at ASPEE College of Horticulture, NAU, Navsari.
- 2) **Dr. Hardik P. Shah** delivered lecture on “*Classification and Identification of plants*” in Ten days students’ Training Programme on ‘Gardening Skill’ organized by ASPEE College of Horticulture, Navsari Agricultural University, Navsari and JNV, Tapi from 03-18 April, 2024 for the students of PM Shri School, Jawahar Navodaya Vidyalaya, Tapi (Std. 9<sup>th</sup> and 11<sup>th</sup>) on 3<sup>rd</sup> April 2024 at ASPEE College of Horticulture, NAU, Navsari.
- 3) **Dr. M. A. Patel** delivered lecture on “*Lawn –Land Preparation & planting*” in Ten days students’ Training Programme on ‘Gardening Skill’ organized by ASPEE College of Horticulture, Navsari Agricultural University, Navsari and JNV, Tapi from 03-18 April, 2024 for the students of PM Shri School, Jawahar Navodaya Vidyalaya, Tapi (Std. 9<sup>th</sup> and 11<sup>th</sup>) on 18<sup>th</sup> April 2024 at ASPEE College of Horticulture, NAU, Navsari.
- 4) **Dr. Gaurang D. Patel** delivered lecture on “*Garden – Role of Trees & Environment*” in Ten days students’ Training Programme on ‘Gardening Skill’ organized by ASPEE College of Horticulture, Navsari Agricultural University, Navsari and JNV, Tapi from 03-18 April, 2024 for the students of PM Shri School, Jawahar Navodaya Vidyalaya, Tapi (Std. 9<sup>th</sup> and 11<sup>th</sup>) on 3<sup>rd</sup> April 2024 at ASPEE College of Horticulture, NAU, Navsari.
- 5) Hands on Training have been given by **Dr. Gaurang D. Patel** on “Preparation of Soilless Media for Raising of Seedling” at GST, Kharel on 25<sup>th</sup> May, 2024.



Hands on training on Preparation of Soilless Media for Raising of Seedling given by Dr. G. D. Patel at GST, Kharel on 25<sup>th</sup> May, 2024

- 6) **Dr. Dipal S. Bhatt** delivered lecture on “*Garden components: Plant (Living) Components*” in Ten days students’ Training Programme on ‘Gardening Skill’ organized by ASPEE College of Horticulture, Navsari Agricultural University, Navsari and JNV, Tapi from 03-18 April, 2024 for the students of PM Shri School, Jawahar Navodaya Vidyalaya, Tapi (Std. 9<sup>th</sup> and 11<sup>th</sup>) on 3<sup>rd</sup> April 2024 at ASPEE College of Horticulture, NAU, Navsari.
- 7) **Dr. Sudha Patil** delivered lecture on “*Pot Plant- care and maintenance*” in Ten days students’ Training Programme on ‘Gardening Skill’ organized by ASPEE College of Horticulture, Navsari Agricultural University, Navsari and JNV, Tapi from 03-18 April, 2024 for the students of PM Shri School, Jawahar Navodaya Vidyalaya, Tapi (Std. 9<sup>th</sup> and 11<sup>th</sup>) on 18<sup>th</sup> April 2024 at ASPEE College of Horticulture, NAU, Navsari.
- 8) **Prof. Parmeshvari Chaudhari** delivered practical lecture on “*Use of Garden Flowers*” in Ten days students’ Training Programme on ‘Gardening Skill’ organized by ASPEE College of Horticulture, Navsari Agricultural University, Navsari and JNV, Tapi from 03-18 April, 2024 for the students of PM Shri School, Jawahar Navodaya Vidyalaya, Tapi (Std. 9<sup>th</sup> and 11<sup>th</sup>) on 18<sup>th</sup> April 2024 at ASPEE College of Horticulture, NAU, Navsari.



Practical lecture given by Prof. Parmeshvari Chaudhari on Use of garden flowers on 18<sup>th</sup> April, 2024 to students of JNV, Tapi (Std. 9<sup>th</sup> and 11<sup>th</sup>)

- 9) **Dr. Alka Singh** delivered a lecture on “*Greenhouse ma Gulabni kheti*” in Ten days farmers’ Training Programme on ‘Greenhouse/ net house (*Rakshit kheti*)’ organized by Directorate of Extension Education, Navsari Agricultural University, Navsari from 18-27 September, 2024 on 19<sup>th</sup> September 2024 at ATIC, NAU, Navsari.
- 10) **Dr. S. L. Chawla** delivered a lecture on “*Gerbera ane Gulab sivayana anya fulpakoni shakyata*” in Ten days farmers’ Training Programme on ‘Greenhouse/ nethouse (*Rakshit kheti*)’ organized by Directorate of Extension Education, Navsari Agricultural University, Navsari from 18-27 September, 2024 on 21<sup>th</sup> September 2024 at ATIC, NAU, Navsari.
- 11) **Dr. Hardik P. Shah** delivered a lecture on “*Greenhouse ma Gerberani kheti*” in Ten days farmers’ Training Programme on ‘Greenhouse/ nethouse (*Rakshit kheti*)’ organized by Directorate of Extension Education, Navsari Agricultural University, Navsari from 18-27 September, 2024 on 19<sup>th</sup> September 2024 at ATIC, NAU, Navsari.
- 12) **Dr. Hardik P. Shah** delivered a lecture on “*Greenhouse ma Orchid ni kheti*” in Ten days farmers’ Training Programme on ‘Greenhouse/ nethouse (*Rakshit kheti*)’ organized by Directorate of Extension Education, Navsari Agricultural University, Navsari from 18-27 September, 2024 on 19<sup>th</sup> September 2024 at ATIC, NAU, Navsari
- 13) **Dr. M. A. Patel** delivered a lecture on “*Floriculture vibhagni mulakat*” and “*Prayogik–fulpako mate midiya taiyar karavu*” in Ten days farmers’ Training Programme on ‘Greenhouse/ nethouse (*Rakshit kheti*)’ organized by Directorate of Extension Education, Navsari Agricultural University, Navsari from 18-27 September, 2024 on 18<sup>th</sup> September 2024 at ATIC, NAU, Navsari.



- 14) **Dr. M. A. Patel** carried out a practical on “*Fulpako mate midiya taiyar karavu*” in Ten days farmers’ Training Programme on ‘Greenhouse/ nethouse (*Rakshit kheti*)’ organized by Directorate of Extension Education, Navsari Agricultural University, Navsari from 18-27 September, 2024 on 20<sup>th</sup> September 2024 at ATIC, NAU, Navsari.
- 15) **Dr. Gaurang D. Patel** carried out a practical on “*Greenhouse ma soilless kheti*” and in Ten days farmers’ Training Programme on ‘Greenhouse/ nethouse (*Rakshit kheti*)’ organized by Directorate of Extension Education, Navsari Agricultural University, Navsari from 18-27 September, 2024 on 21<sup>th</sup> September 2024 at ATIC, NAU, Navsari.
- 16) **Dr. Gaurang D. Patel** delivered a lecture on “*Hydroponiksh khetini shakyata ane samaq*” and in Ten days farmers’ Training Programme on ‘Greenhouse/ nethouse (*Rakshit kheti*)’ organized by Directorate of Extension Education, Navsari Agricultural University, Navsari from 18-27 September, 2024 on 25<sup>th</sup> September 2024 at ATIC, NAU, Navsari.
- 17) **Dr. Dipal S. Bhatt** delivered a lecture on “*Fulpakoni nikasna dharadhoran*” and in Ten days farmers’ Training Programme on ‘Greenhouse/ nethouse (*Rakshit kheti*)’ organized by Directorate of Extension Education, Navsari Agricultural University, Navsari from 18-27 September, 2024 on 23<sup>th</sup> September 2024 at ATIC, NAU, Navsari.
- 18) **Dr. Dipal S. Bhatt** carried out a practical on “*Ful ane shakbhaji utaravani padhdhati ane utarya pachhini mavjat*” and in Ten days farmers’ Training Programme on ‘Greenhouse/ nethouse (*Rakshit kheti*)’ organized by Directorate of Extension Education, Navsari Agricultural University, Navsari from 18-27 September, 2024 on 27<sup>th</sup> September 2024 at ATIC, NAU, Navsari.
- 19) **Dr. Alka Singh** delivered a talk on “Urban Oasis: Maximizing Green Spaces in Minimal City Spots” in the training programme on “ECHO Urban Agriculture for Nutrition Security” through Online mode at MANAGE, Hyderabad on 17<sup>th</sup> April 2025.
- 20) **Dr. Alka Singh** delivered a lecture on “*Greenhouse ma Gulabni kheti*” in Ten days farmers’ Training Programme on ‘Greenhouse/ nethouse (*Rakshit kheti*)’ organized by Directorate of Extension Education, Navsari Agricultural University, Navsari from 5 - 14 May, 2025 on 13<sup>th</sup> May 2025 at ATIC, NAU, Navsari.
- 21) **Dr. Gaurang D. Patel** delivered a lecture on “*Hydroponiksh khetini shakyata ane samaq*” and in Ten days farmers’ Training Programme on ‘Greenhouse/ nethouse (*Rakshit kheti*)’ organized by Directorate of Extension Education, Navsari Agricultural University, Navsari from 5 - 14 May, 2025 on 13<sup>th</sup> May 2025 at ATIC, NAU, Navsari.
- 22) **Dr. Gaurang D. Patel** carried out a practical on “*Greenhouse ma soilless kheti*” and in Ten days farmers’ Training Programme on ‘Greenhouse/ nethouse (*Rakshit kheti*)’ organized

by Directorate of Extension Education, Navsari Agricultural University, Navsari from 5 - 14 May, 2025 on 13<sup>th</sup> May 2025 at ATIC, NAU, Navsari.

23) **Dr. Dipal S. Bhatt** carried out a practical on “*Fulpakona grading, packing, mulyavardhan, vahanni pratyaksh Talim ane nikasna dharadhoran*” in Ten days farmers’ Training Programme on ‘Greenhouse/ nethouse (*Rakshit kheti*)’ organized by Directorate of Extension Education, Navsari Agricultural University, Navsari from 5 - 14 May, 2025 on 13<sup>th</sup> May 2025 at ATIC, NAU, Navsari.

24) **Ms. Parmeshvari Chaudhari** carried out a practical on “*Greenhouse ma Fuloni kheti*” in Ten days farmers’ Training Programme on ‘Greenhouse/ nethouse (*Rakshit kheti*)’ organized by Directorate of Extension Education, Navsari Agricultural University, Navsari from 5 - 14 May, 2025 on 11 May 2025 at ATIC, NAU, Navsari.

## TRANSFER OF TECHNOLOGY (ToT)

		
Interaction with farmers in <i>Rabi Krishi Mahotsava -2024</i> during 6-7 December, 2024 at Ta-Uchhal, Dist-Tapi		
		
Interaction with farmers in <i>Rabi Krishi Mahotsava-2024</i> during 6-7 December, 2024 at Ta-Chikhli, Dist-Navsari		

## Infrastructure Available

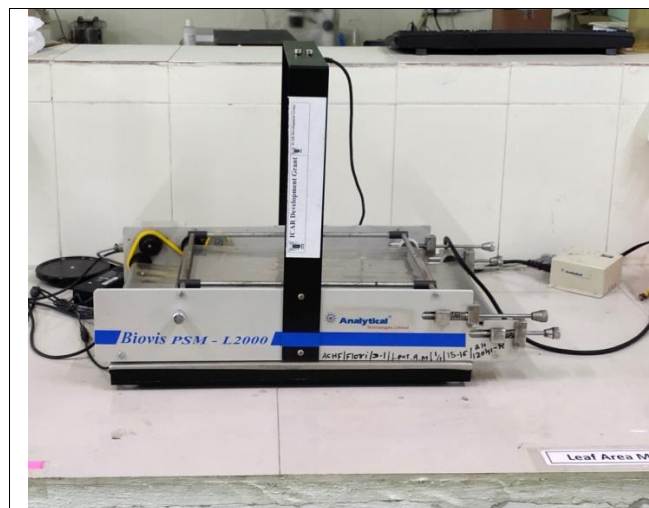
**Infrastructure or Facilities available at Department of Floriculture & Landscape Architecture**

Sr. No.	Infrastructure or Facilities available	Area/No.
1.	Laboratory-FLA 7	1

	(For Biochemical work)	
2.	Laboratory-FLA 6 (For general Floriculture work)	1
3.	Gardens (Rooftop garden, Zen garden, Sand garden, Strolling garden, Courtyard garden)	5
4.	Laboratory-FLA 5(For Value Addition in Flowers)	1



**Laboratory - FLA 5**  
**(For Value Addition in Flowers)**



**Laboratory-FLA7**  
**(For Biochemical work)**





**College garden**



**Roof Top garden**



**Bio wall**

**Miniature Garden**



**Sand Garden**

**Zen Garden**





**Strolling Garden**



***“Tsubo-niwa” Courtyard garden***

### **Infrastructure or Facilities created at Research Farm in Floriculture department**

<b>Sr. No.</b>	<b>Infrastructure or Facilities available</b>	<b>Area/No.</b>
<b>1.</b>	<b>Floriculture Research farm</b>	
	Total area	4 ha
	Naturally Ventilated Polyhouse for orchid	500 m <sup>2</sup>
	Net house for Heliconias	1500 m <sup>2</sup>
	Net house for Bird of Paradise	500 m <sup>2</sup>
	Selling unit net house	750 m <sup>2</sup>
	Net house for cut greens, foliage plants etc.	175 m <sup>2</sup>
	Rain shelter for chrysanthemum, gypsophila etc.	200 m <sup>2</sup>
	Propagation unit	550 m <sup>2</sup>
	Net house for orchids and anthurium	150 m <sup>2</sup>
	Godown cum store	22 m <sup>2</sup>
	Propagation unit with rain shelter	175 m <sup>2</sup>
	Poly tunnel (covered with UV stabilized plastic sheet)	54.0 sq. m
<b>2.</b>	<b>Green House Complex</b>	
	Naturally Ventilated Polyhouse	2 nos.
	Fan and Pad type Polyhouse	2 nos.
	Net house	2
<b>3.</b>	<b>Advanced Training Centre on Soilless Growing system for various crops</b>	
	Total area	2 acres
	Naturally Ventilated Polyhouse	1
	Polyhouse with Fan and Pad system	1
	Ornamental Plant Nursery	1





**Rain shelter**



**Store room**

**Floriculture Research Farm**



**Chrysanthemum**



**Gladiolus**

**Floriculture Research Farm**

**Infrastructure or Facilities created at Green House Complex**



**Fan & Pad Polyhouse**



**NV Polyhouse**

**Green House Complex**



## Infrastructure or Facilities created at ATC Soilless System for various crops



**Haworthia**



**Adenium**

**ATC Soilless System for various crops**

## Dignitaries Visit: Glimpses



Dr. Sudhakar Pandey, ADG (Horticulture), ICAR, New Delhi visited Advance Training Centre of Soilless growing system, ACH, NAU, Navsari on 27/06/2024



Dr. Sudhakar Pandey, ADG (Horticulture), ICAR, New Delhi visited Advance Training Centre of Soilless growing system, ACH, NAU, Navsari on 27/06/2024





Dr. Rajiv Kumar, Principal Scientist, ICAR-IIHR, Bengaluru visited Floriculture Research Farm, ACH, NAU, Navsari on 09/09/2024



Dr. Alka Singh (Project Incharge) presented progress report on “*Development of DUS testing Guidelines for Adenium*” in front of Task Force Committee headed by Dr. Ramesh Kumar (Former Director ICAR-DFR), Pune during April 11-12, 2025



Visit of PPVFRA, New Delhi sponsored project “*Development of DUS testing Guidelines for Adenium*” by Dr. Ramesh Kumar, Dr. S.S. Sindhu, Dr. Naveen Kumar, Dr. D. S. Pilania, Dr. Dilip Patel escorted by Dr. Alka Singh (Project Incharge) and Co-PI on 11<sup>th</sup> April, 2025