

Annual Report 2019-20



**College of Horticulture
Anand Agricultural University
Anand**

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1. Introduction:

The formation of Horticulture Wing was approved by Government of Gujarat vide their letter No. AKV-122011-3207-K-2, dated 17th April 2012. It is affiliated to Anand Agricultural University, Anand under the B.A. College of Agriculture, AAU, Anand and started functioning as an independent college since 01st April 2017, with intake capacity of 77 undergraduate students and approx. total 150 students have earned their degree from this college since its inception and most of them have been continuing their higher studies and also working in the various fields of horticulture in India and abroad. The following are mandates and functions of the college:

1.1 Mandate

The prime mandate of College of Horticulture is to impart education in the field of horticulture science coupled with research and extension activities. Following objectives have been decided in order to achieve these mandates.

1.2. Objectives:

- ❖ To create the facilities for imparting UG education in Horticulture discipline like fruit, vegetable, flower, plantation and medicinal crops as well as on post harvest technology.
- ❖ To conduct the research on various aspects of Horticulture.
- ❖ To develop skill in the students and gaining knowledge through experiential learning in Horticulture and through rural horticulture work experience.
- ❖ To integrate and coordinate the teaching with research and extension activities of the university.
- ❖ To provide integrated education at all level for creating skill and imparting knowledge among students.
- ❖ To organise horticultural based trainings for the benefits of farmers & rural youth.

2. Management and Administration:

2.1 Staff positions:

Sr. No.	Name of post	Sanctioned	Filled	Vacant
1.	Professor	02	01	01
2.	Associate Professor	04	02	02
3.	Assistant Professor	09	09	00
Total		15	12	03

2.2 (a) Budget Heads:

Sr. No.	Budget Head No.	Sanction grant		Expenditure		Note
		Recurring	Non-Recurring	Recurring	Non-Recurring	
1.	12987-16	37,00,000/-	7,86,000/-	35,49,637/-	7,63,718/-	Main plan budget
2.	12712-02	11,50,236/-	-----	11,50,236/-	-----	Land saping at auu
3.	12865	80,000/-	-----	65,834/-	-----	For sport activities
4.	12967	50,000/-	-----	47,675/-	-----	For sport activities
5.	12967-02	56,000/-	-----	36,790/-	-----	For game organization
6.	18273	25,000/-	-----	24,487/-	-----	For NSS activities
		22,500/-	-----	-----	-----	For NSS activities
7.	4862	15,000/-	-----	15,000/-	-----	For game organization
8.	4862(B)	26,000/-	-----	8,875/-	-----	For game organization
9.	12600	3,95,000/-	-----	2,06,515/-	-----	contruction work

2.2 (b) Purchased following instruments in the Year 2019-20:

Sr. No.	Name	Quantity	Amount Rs.
1	Computer	10 Nos.	3,49,400/-
2	S. S. Tray 12' x 8'	10 Nos.	4166/-
3	S. S. Tray 15' x 12'	10 Nos.	9180/-
4	S. S. Tray 18' x 12'	10 Nos.	9700/-
5	Mini Tray Draying Oven / Mini Dehydrator	1 Nos.	94,400/-
6	Willey Grayinder/ Lab. Willey Mel	1 Nos.	45,500/-
7	Multi Utility Lab. Work Table	1 Nos.	69,980/-
8	Panetro meter	1 Nos.	18,880/-
9	Printer	2 Nos.	17,449/-
10	Counter balance	3 Nos.	8785/-
11	Table	3 Nos.	29,943/-
12	Chair	3 Nos.	20,250/-
13	Rack	3 Nos.	14,691/-
14	Cabinet (Tijori)	3 Nos.	35,400/-
15	File cabinet	3 Nos.	35,994/-
Total Rs.			7,63,718/-

3. Education

3.1. Under Graduate

3.1.1. Semester-wise no. of students in UG programme B. Sc. (Hons.) Horti.during academic year 2019-20

Sr. No.	Semester	Boys	Girls	Total
1	First/ Second	33	15	48
2	Third/ Fourth	24	35	59
3	Fifth/ Sixth	20	18	38
4	Seventh/ Eighth	21	30	51
	Total	98	98	196

3.1.2. Semesterwise courses offered for UG programme: B. Sc. (Hons.) Horti. (Vth Dean)

Semester –I		Credits
FRT 1.1	Fundamentals of Horticulture	3(2+1)
VEG 1.1	Tropical and Subtropical Vegetables	3(2+1)
NRMH 1.1	Fundamental of Soil Science	3(2+1)
PHT 1.1	Fundamentals of food science and nutrition	2(1+1)
BSC 1.1	Elementary Plant Biochemistry	2(1+1)
BSC 1.2	Principles of Genetics and Cytogenetics	3(2+1)
BSC 1.3	Introductory Microbiology	2(1+1)
SSC 1.1	Information and communication technology	2(1+1)
SSC 1.2	Economics and Marketing	3(2+1)
SSC 1.3	Physical and Health Education	1(0+1)(NC)
Total		23(14+09)+1=24
Semester –II		
FRT 2.2	Plant Propagation and Nursery Management	2(1+1)
FLA 2.1	Ornamental Horticulture	2(1+1)
NRMH 2.2	Soil Fertility and Nutrient Management	2(1+1)
NRMH 2.3	Water Management in Horticultural Crops	2(1+1)
PPT 2.1	Fundamentals of Plant Pathology	3(2+1)
NRMH 2.4	Agro-meteorology and Climate Change	2 (1+1)
BSC 2.4	Introductory Crop Physiology	2(1+1)
BSC 2.5	Principles of Plant Breeding	3(2+1)
SSC 2.4	Elementary Statistics and Computer Application	3(2+1)
SSC 2.5	Communication Skills and Personality Development	2(1+1)
SSC 2.6	National Service Scheme/National Cadet Corp	1(0+1)(NC)
Total		23(13+10)+1=24
Semester –III		
FRT 3.3	Temperate Fruit Crops	2(1+1)
VEG 3.2	Temperate Vegetable Crops	2(1+1)
VEG 3.3	Precision Farming and Protected Cultivation	3(2+1)
FLA 3.2	Commercial Floriculture	3(2+1)

NRMH 3.5	Organic Farming	2(1+1)
PPT 3.2	Fundamentals of Entomology	3(2+1)
PPT 3.3	Nematode pests of Horticultural crops and their Management	2(1+1)
BSC 3.6	Elementary Plant Biotechnology	2(1+1)
BSC 3.7	Growth and Development of Horticultural Crops	2(1+1)
Total		21(12+9)
Semester –IV		
FRT 4.4	Tropical and Subtropical Fruits	3(2+1)
FRT 4.5	Plantation Crops	3(2+1)
FRT 4.6	Breeding of Fruit and Plantation Crops	3(2+1)
VEG 4.4	Spices and Condiments	3(2+1)
FLA 4.3	Principles of Landscape Architecture	2(1+1)
PPT 4.4	Diseases of fruit, Plantation, Medicinal and Aromatic Crops	3(2+1)
PPT 4.5	Insect Pests of Fruit, Plantation, Medicinal & Aromatic Crops	3(2+1)
NRMH 4.6	Farm Power and Machinery	2(1+1)
NRMH 4.7	Soil, Water and Plant Analysis	2(1+1)
Total		24(15+09)
Semester – V		
FRT 5.7	Orchard and Estate Management	2(1+1)
FRT 5.8	Dry land Horticulture	2(1+1)
VEG 5.5	Potato and Tuber crops	2 (1+1)
VEG 5.6	Breeding of Vegetable, Tuber and Spice Crops	3 (2+1)
PHT 5.2	Postharvest Management of Horticultural Crops	3(2+1)
NRMH 5.8	Weed Management in Horticultural Crops	2 (1+1)
PPT 5.6	Diseases of Vegetables, Ornamentals and Spice Crops	3 (2+1)
PPT 5.7	Insect Pests of Vegetable, Ornamental and Spice Crops	3(2+1)
SSC 5.7	Fundamentals of Extension Education	2 (1+1)
Total		22(13+9)
Semester – VI		
VEG 6.7	Seed production of Vegetable, Tuber and Spice Crops	3(2+1)
FLA 6.4	Breeding and Seed Production of Flower and Ornamental Plants	3(2+1)
FLA 6.5	Medicinal and Aromatic Crops	3 (2+1)
PHT 6.3	Processing of Horticultural Crops	3(1+2)
NRMH 6.9	Introduction to Major Field Crops	2 (1+1)
NRMH 6.10	Introductory Agroforestry	2 (1+1)
NRMH 6.11	Environmental Studies and Disaster Management	3(2+1)
PPT 6.8	Apiculture, Sericulture and Lac culture	2(1+1)
SSC 6.8	Horti-Business Management	2(2+0)
SSC 6.9	Entrepreneurship Development and Business Management	2(1+1)
Total		25(15+10)

Semester – VII Experiential Learning Programme (ELP)

Following modules were finalized by SAU's under ELP as per Vth dean where student undergoing ELP may be allowed to register for maximum two modules:

Course No.	Title of the Course	Credit Hours
HWE 7.2	Commercial production of Horticultural planting materials	0+10
HWE 7.3	Post Harvest Handling and Value addition in Horticultural crops	0+10

Semester – VIII Rural Horticultural Work Experience Programme(RHWE)

Following RHWE courses offered for UG programme in Eighth Semester:

Course No.	Title	Credit Hours
RHWE 8.1	Visit to progressive farmer's field and NGO	0+2
RHWE 8.2	Educational tour	0+2
RHWE 8.3	University farms (JAU) and Visit to horticulture based industries of Saurashtra region	0+4
RHWE 8.4	University farms (AAU) and Visit to horticulture based industries of Middle Gujarat region	0+4
RHWE 8.5	University farms (SDAU) and Visit to horticulture based industries of North Gujarat region	0+4
RHWE 8.6	University farms (NAU) and Visit to horticulture based industries of South Gujarat region	0+4

3.1.3. Details of Experiential Learning Programme (ELP) and Rural Horticulture Work Experience (RHWE) offered during VII & VIII semester by college:

This section is further subdivided into following parts:

3.1.3.1 Experiential Learning Programme (ELP)

I. HWE 7.2: Commercial production of Horticultural planting materials

Details of Experiential Learning Unit (Year 2019-20)		
Students practically gain hands on expertise under the ELP module in the 7 th semester		
1	Name of Department and College	Department of Post Harvest Technology, College of Horticulture
2	Name of the University	Anand Agricultural University
3	Title of the Experiential Learning Unit	(Laboratory Experimental Base) Post Harvest Handling and Value Addition in Horticultural Crops; under the courses subtitled, 1.HWE 7.3.1 Preparation and Evaluation of Processed Products. 2.HWE 7.3.2 Packaging and Marketing of Processed Products.
4	Year of establishment	2017-18

5	Location of the EL Unit	College of Horticulture, AAU, Anand
6	Whether ICAR sponsored/State sponsored	State /University Sponsored
7	Total cost of the EL Unit establishment	Experimental Base Laboratory.
8	Total profit earned/year (if running in Business mode)	Only Laboratory Experimental Base. Not Running in Business Mode.
9	Total number of students trained	51 Nos.
10	Major skill imparted	Market survey, sources for procurement of raw materials, preparation of processed products, calculation of costs, quality analysis of raw and processed products, packaging, labelling, pricing and marketing of product.
11	Product being developed under ELP	RTS, Squash, Syrup , Juice, Syrup, Candy, Pickle etc., from fruits and vegetables.
12	Highlight of processed products prepared by the students during ELP courses	As per following...



Preparation of Lime Squash



Preparation of Tutti -Frutti





Preparation of Fruit Pickle



Preparation of Mango RTS



Preparation of Aonla Pure Juice

II. HWE.7.3: Post Harvest Handling and Value Addition in Horticultural crops

Details of Experiential Learning Unit (Year 2019-20) Students practically gain hands on expertise under the ELP module in the 7 th semester		
1	Name of Department and College	Department of Fruit science and Department of Floriculture & Land scape architecture, College of Horticulture, AAU., Anand
2	Name of the University	Anand Agricultural University
3	Title of the Experiential Learning Unit	(Experimental Base) Protective Cultivation for High-Tech Horticulture Propagation and production of propagules (HWE 7.2.1) Packing and marketing of planting material (HWE 7.2.2)
4	Year of establishment	2013-14
5	Location of the EL Unit	Horticulture Research Farm, College of Horticulture, AAU, Anand
6	Whether ICAR sponsored/State sponsored	ICAR Sponsored

7	Total cost of the EL Unit establishment	50 Lac.
8	Total profit earned/year (if running in Business mode)	32 thousand
9	Total number of students trained	51 Nos.
10	Major skill imparted	<ol style="list-style-type: none"> 1. Commercial seedling development of papaya, lime and drumstick in under net house condition 2. Different cutting propagation methods for various ornamental plants grow under different tunnel. 3. Different grafting methods particularly layering in guava and soft wood grafting in mango and custard apple rise under poly house.
11	Product being developed under ELP	Quality planting materials of Guava, Mango, Custard apple, Papaya, Drum strict, Lime and various ornamental plants developed through seedling, cuttings and grafting.
12	Highlight of products prepared by the students during ELP courses	As per following...



Sowing papaya seeds



Sowing drumstick seed in bag



Watering papaya seedling





Ornamental cutting and sowing in nursery bed

4. Research carried out by College of Horticulture:

During the year 2019-20 following experiments were conducted under College of Horticulture:

Vegetable Science Dept.:

- i. Evaluation of vegetables during different season under different shade net condition

Fruit Science Dept.:

- i. Effect of different organic manures and PGPR consortium on growth, yield and quality of sapota (*Manilkara hexandra L.*) cv. Kallipatti
- ii. High density plantation and canopy management in mango cv. Kesar

Floriculture and Landscape Architecture Dept.:

- i. Effect of spacing and nitrogen on growth, flowering, yield and shelf life of desi rose under middle Gujarat conditions
- ii. Evaluation of different chrysanthemum genotypes (loose flower) for yield and growth parameters
- iii. Feasibility of use of Reverse Osmosis (RO) waste water in gaillardia

Natural Resource Management Dept.:

- i. Nutrient management through organics in broccoli (*Brassica oleracea var.italica L.*)

Plant Protection Dept.:

- i. Bio-efficacy of botanicals against powdery mildew of fenugreek.
- ii. Evaluation of insecticides against aphid infesting in chrysanthemum
- iii. Validation and promotion of sustainable and adaptable IPM technology for brinjal crop

- iv. Management of aphid in coriander through insecticidal seed treatments and bio-pesticides
- v. Survey and identification of causal organism of Mango malformation

Crop Improvement Dept.:

- i. Induction of mutation in rose and lilly

Post Harvest Technology Dept.:

- i. Technology for production of Indian gooseberry (aonla) murabba
- ii. Development of production technology for vegetable based juice from carrot and tomato
- iii. Standardization of moringa pulping technique using brush type pulper

Basic Science Dept.:

- i. Comparison of Different Statistical Models to forecast the Area, Production and Productivity of Major Fruit Crops of Gujarat
- ii. Modeling of area, production and productivity of castor crop for Anand/Kheda district using statistical data mining techniques

Research recommendations with photographs (2019-20):

I. Floriculture and Landscape Architecture Dept.:

Effect of rooting media on propagation of African marigold (*Tagetes erecta* L.) cv.

Calcutta Selection through herbaceous shoot tip cutting under net house:

Recommendation for farming community

Farmers/nurserymen cultivating marigold in middle Gujarat agroclimatic zone are recommended to propagate 4-5 cm long herbaceous shoot tip cuttings of African marigold cv. Calcutta Selection in plug tray media of Sandy loam soil + FYM (1:1) OR FYM alone OR Sandy loam soil + Vermicompost (1:1) OR Vermicompost alone for getting higher survival of plants/cuttings and net profit.

Note: Cuttings of marigold are to be planted into the plug tray after dipping them in 150 mg/L IBA solution for 10 min. under 50% green shade net condition.



Overview of experiment

II. Vegetable Science Dept.:

Effect of different plant spacing on growth and yield of capsicum under open ventilated poly house:

Recommendation for farming community

The farmers of middle Gujarat agro climatic zone growing capsicum under open ventilated polyhouse are advised to transplant capsicum in paired row system with spacing of 45 – 85 – 45 cm × 30 cm in raised bed for getting higher yield and net return. The bed should be prepared 40 cm apart with 90 cm base width, 75 cm top width and 45 cm height. The farmers of middle Gujarat agro climatic zone growing capsicum under open ventilated polyhouse are advised to transplant capsicum in paired row system with spacing of 45 – 85 – 45 cm × 30 cm in raised bed for getting higher yield and net return. The bed should be prepared 40 cm apart with 90 cm base width, 75 cm top width and 45 cm height.



Overview of experiment

III. Natural Resource Management Dept.:

Nutrient management through organics in onion *Allium*:

Recommendation for farming community

The farmers of middle Gujarat agro climatic zone growing onion organically in sapota orchard during initial years are recommended to apply either 75 kg N/ha through FYM + bio NPK consortium 1 L/ha in soil or 75 kg N/ha through vermicompost + bio NPK consortium 1 L/ha in soil for getting higher yield and net return, and maintaining soil health.



Overview of experiment

IV. Plant Protection Dept.:

Bio-efficacy of agrochemical against bacterial canker (*Xanthomonas axonopodis* pv. *citri*) in citrus:

Recommendation for farming community

Farmers of Middle Gujarat (Agro-climatic zone III) are advised to spray tank mixed solution of streptomycin sulphate 90% + tetracycline hydrochloride 10% SP, 100 ppm (1gm/10litre) (streptocycline) and copper oxychloride 50WP, 0.1% (20gm/10litre), first at initiation of disease and subsequent three sprays at 20 days interval for effective and economical management of bacterial canker in citrus.



Overview of experiment

5. Extension Education: As per Appendices 6 & 7

6. Student welfare:

This section is divided into following parts:

6.1. NSS volunteers participated in Regular and Special activities during year 2019-20

- A. Regular Activities
- B. Special Activities

6.2. Student Activities during year 2019-20

- A. Sports Activities
- B. Other Activities

6.1 NSS volunteers participated in Regular and Special activities during year 2019-20:

Regular Activities:

(1) Regular Activities:

Sr No	Activity	Date	SC		ST		OBC		General		Total		Grand Total
			M	F	M	F	M	F	M	F	M	F	
1	Plantation Programme	20.07.2019	7	6	5	7	12	15	13	16	37	44	81
2	Swachh Bharat Abhiyan	1 st week August	8	6	6	8	14	16	15	18	43	48	91
3	Health awerness programme	30.08.2019	5	4	4	5	9	10	13	15	31	34	65
4	Workshop on build yourself	07.09.2019	9	7	7	9	14	16	15	18	45	50	95
5	Blood donation camp	25.09.2019	4	3	3	4	8	9	11	13	27	28	55
6	Celebration of Nasabandi saptah	02.10.2019	5	4	4	5	9	9	11	13	29	31	60
7	Thalassemia awareness programme and test	16.11.2019	3	3	2	2	8	6	12	9	25	20	45
8	Republic day	26.01.2020	4	3	3	4	8	9	11	13	27	28	55
9	Yoga Shibir	01.02.2020	5	4	4	5	9	10	13	15	31	34	65

(2) Special Activities of NSS:

Special activities during this year were carried out by volunteers against awareness campaign in COVID-19.

REGULAR ACTIVITIES

Tree plantation programme “Save trees, save life on the earth”

Tree plantation programme was conducted by NSS volunteers of College of Horticulture, AAU, Anand on 20th, July 2019 at Mahatma Gandhi Boys hostel and Maniben Girls hostel with surrounding area of hostels. The programme was graced and guided by Dr. H. C. Patel, Principal and Dean, College of Horticulture. At the beginning of the programme Dr. H. C. Patel, Principal & Dean, gave information about trees, their benefits and how to maintain trees round of the year. He further explained that Oxygen is the basic need of life which we can only get from the plants and trees, so we should take a pledge to plant more trees as well as increase social awareness about ‘save trees’ among common public. The NSS volunteers of the college were actively engaged in tree plantation programme. Other faculties of the college, hostel rectors and wardens also remain present in this programme and motivated the students to make green campus.

“The best way to find yourself is to lose yourself in the service of others”
Mahatma Gandhi

Glimpse of Tree Plantation drive by College of Horticulture





Plantation at Maniben Girls Hostel





Plantation at Mahatma Gandhi Boys Hostel

SWACHH BHARAT ABHIYAN-“CELEBRATION OF SWACHHTA PAKHWARA”

A mega event for celebration of “Swachhta Pakhwara” under National service scheme, College of Horticulture was organized on First week of August, 2019. The programme was inaugurated by Dr.H.C.Patel, Principal and Dean, College of Horticulture. All faculties and volunteers of NSS were remaining present during this programme. On this occasion one motivational lecture was also arranged. Shri. Harishbhai Sani, Manager, S.P. Hostel, V.V.Nagar delivered a talk on current issues of Nation and responsibilities of youth in nation building. At the end of the event all the faculties and volunteers take “Oath” for clean India and how individual can help for cleanness. In this programme all the volunteers participated and they clean the hostel area and their rooms. They also clean the college area, garden and surrounding area of the college. In this programme faculties of the college also join for cleanness of the college and hostel premises.



HEALTH AWARENESS PROGRAMME

National service scheme, College of Horticulture organised “Health Awareness Programme” on 30, August, 2019. In this programme Dr. Alok Kulshrestha, District Malaria Officer gave effective talk. In his talk he awares students about dengue, malaria, cikenguniya diseases. He also describes about what precautions should be taken and how we can improve our immunity against these types of diseases. How these types of diseases spread and which types of cares we should do as volunteers for this awareness. In this workshop Dr.H.C.Patel, Principal and Dean, College of Horticulture, Dr.D.H.Patel, Director Student’s welfare and other faculty members were remain present. This programme was ended by vote of thanks delivered by Dr.C.H.Raval, Programme Officer, NSS, College of Horticulture. In these programme total 65 volunteers were remain present.

Photographs of Health awerness programme



Demonstration of life cycle of such disease spreaders



WORKSHOP ON BUILD YOURSELF

A one day work shop on “Build yourself” was organised by National Service Scheme, College of Horticulture, AAU, Anand under the Auspicious of Shantikunj Haridwar with the help of “Devine India Youth Association”, Anand Chapter on date 07th September, 2019. In inauguration session Dr.H.C.Patel, Principal and Dean, College of Horticulture and other faculty members were remain present.

During this one day workshop different types of group activities and motivational lectures were delivered by different members of “Devine India Youth Association”. In this workshop students also enjoyed ice breaking, team building and group activities as well as different types of lectures viz. Role of Youth and Responsibilities, Goal of Life, Time management and Nation crisis and its solution were delivered by Shri. D.R.Taretiya, Smt. Ashmita Bramhvar, Shri. Dharmeshbhai and Dr. Alpesh Shah respectively, members of “Devine India Youth Association”.

The main aim of this workshop was that students should learn about positivity and work hard and happiness in their life. In this workshop total 95 volunteers of college were remains present.



Blood Donation Camp

Blood donation camp was organized by National Service Scheme, College of Horticulture and B.A.College of Agriculture in collaboration with Red Cross Society, Anand branch on 25.09.2019. The function was inaugurated by Dr.M.V.Patel, Principal and Dean, BACA, Anand and Dr.D.H.Patel DSW, AAU, Anand. Total 55 volunteers of our college were participated in blood donation programme out of that 20 NSS volunteers and 02 faculty members of College of Horticulture donated their blood.



Nashabandhi Jagaruti ane Debate Programme

At University level one programme on “Nasabhandhi Jagaruti and their rules and debate” was organized jointly by AAU, Anand and Nashabandhi ane Abkari Vibhag, Anand on 2nd October, 2019. The main aim of this programme is that students can understand about new rules and regulation about Nashabandhi and how they can avoid such types of drugs drug like tobacco, alcohol etc. They also explained that

education for drug abuse prevention should be seen to include both formal and informal health curricula for the creation of a safe and healthy university environment, the provision of appropriate health services and support as well as the involvement of the family and the community in the planning and delivery of programmes. After that debate and allocation was organized. In this debate student of College of Horticulture won first prize in these competitions. In this programme our 60 volunteers were participate with NSS Programme Officer.



Thalassemia Awareness Programme and Test:

An awareness programme on Thalassemia was successfully organized by National Service Scheme, College of Horticulture and B.A. College of Agriculture, AAU, Anand in collaboration with Indian Red Cross Society, Ahmedabad on 16th November, 2019. In this programme short movie on Thalassemia was display by Red Cross Society and lecture was also delivered on thalassemia. Total 45 volunteers of our college gave their blood samples for Thalassemia test.



Republic Day

Anand Agricultural University, Anand celebrated Republic Day on January 26, 2019 at University Bhavan. All university officers, staffs, students of different faculties and family members were remain present to grace this Republic day. All NCC cadets, NSS volunteers actively participated in this celebration. From College of Horticulture 55 NSS volunteers also participated in this programme.



Yoga Shibir

National Service Scheme college of Horticulture organize Yoga shibir on 1st February, 2020 . The main aim of yoga shibir was NSS volunteers may know the benefits of Yoga in their life for reduction in stress and anxiety. It also helps in improving memory and attention in their study. In this programme total 65 students were actively participated. The Yoga teacher Smt. Shitalben Bhojani handled whole session nicely.



Special Activities of NSS

National Service Scheme, College of Horticulture unit have performed their special activities during this year against awareness campaign in COVID-19. In these pandemic situation students works from their home. They make awareness in their respective villages about corona disease and how individual can protect their family to fight against corona. All the Volunteers downloaded “Arogya setu” app and also create awareness among peoples of their surroundings areas for application of this app and how it helps in health awerness. They also got training from “Dikha” platform regarding this situation. Volunteers also prepared “Masks”. They also prepared awareness videos against Covid-19. The distribution of “Masks” was also carried out by NSS unit in College staff and including labours.





રાષ્ટ્રીય સેવા યોજના
બાગાયત મહાવિદ્યાલય, આણંદ કૃષિ યુનિવર્સિટી, આણંદ - ૩૮૮૧૧૦

કોરોના વાયરસના લક્ષણો

માથાનો દુખાવો
તાવ
ઠંડ, પહેતું નાક
ગળાનો દુખાવો
સરીર દુખવું
અવાસની તકલીફ

આટલું કરો

- ➔ આરોગ્યવાસની મુશળૂત સમયતા પાળો - વિદ્યરસ અને સ્પીક ખાતી વખતે મોંને ઢાંકો
- ➔ વ્યક્તિગત વ્યવસ્થા સારી રીતે જાળવો
- ➔ સાબુ અને પાણીથી વારંવાર હાથ ધોવા
- ➔ સિપીરીટ સાધારીત ટેડપોચાનો ઉપયોગ કરવો
- ➔ માંદગી દરમ્યાન સ્થાન, નાક અને મોં ને સ્પર્શ કરવો નહિ
- ➔ વિટામીન 'સી' શુદ્ધ ખોરાક લેવા

આટલું ન કરો

- ➔ તમને વિદ્યરસ કે તાવ હોય ત્યારે કોઈની બહુ નજીકથી સંપર્કમાં ન રહેવું
- ➔ જાહેર જગ્યામાં સુંઠવું નહિ
- ➔ સંક્રમિત દેશોમાં ખપાસ ટાળવો
- ➔ સ્પર્શી તથા મસાજેટાદ ખોરાક ન ખાવો
- ➔ વધારે ટેડપીણા કે આઈસક્રીમ ન ખાવો
- ➔ ભીડવાળી જગ્યાઓ ન જવું

ગભરાટ નહિં, સમજદારી અને સતર્કતા એ જ આપણી જવાબદારી...

6.2. Student Activities 2019-20:



Students of our college have been actively participated in various events conducted by college, university, state inter-universities and all India interuniversity level during the year 2019-2020.

INTERCOLLEGIATE:

Sr. No	Sport/Event	Award/ Achievement	Photo
1.	Extempore competition	First Position	
2.	Table Tennis (Women)	Champion	
3.	Mime	Champion	
4.	Badminton (Man)	Champion	

5.	Kabaddi	Champion	
6.	Volly Ball (Women)	Runners Up	
7.	Drama	Runners Up	
8.	Drama competition	Best Actor	
9.	Fine Arts competition	First Position	

UNIVERSITY PLAYERS: (Sports)

No	Name	Photo	Games	Date & Place
1	Dangar Dhaval		Volley Ball & Kabaddi	JAU, 05/10/2019 & SDAU, 28/01/2020
2	Prajapati Jeegar		Kabaddi	SDAU, 28/01/2020
3	Chaudhry Hitesh		Kabaddi	SDAU, 28/01/2020
4	Parmar Hina		Volley Ball	JAU, 05/10/2019
5	Patel Purvi		Volley Ball	JAU, 05/10/2019
6	Rajatiya Puri		Volley Ball	JAU, 05/10/2019
7.	Patel Vraj		Badminton	JAU, 05/10/2019

8.	Patel Payal		Badminton	JAU, 05/10/2019
9.	Jasani Rajeshvaridevi		Table Tennis	JAU, 05/10/2019
10.	Verma Anamika		Table Tennis	JAU, 05/10/2019

UNIVERSITY PLAYERS: (Cultural and literary events)

No	Name	Photo	Games	Date & Place
1.	Prajapati Jeegar Arvadiya Dharmesh Padaliya Yogesh Dhuliya Darshit Gohil Vijay Chachpara Bhautik		Mime	AAU, 01/10/2019
2.	Patel Kena		Extempore	AAU, 01/10/2019

National Players in Sports:

Participate in All India Inter Agricultural Universities Sports & Games (2019-20) 02-05/01-2019 at SVVU, Tirupati, Andhra Pradesh.

1.	Patel Purvi	Volley ball	
2.	Parmar Hina	Volley ball	
3.	Rajatiya Puri	Volley ball	
4.	Dangar Dhaval	Volley ball & Kabaddi	
5.	Prajapati Jeegar	Kabaddi	
6.	Jasani Rajeshvaridevi	Table tennis	
7.	Verma Anamika	Table tennis	

National Players in Cultural Events:

Participate in All India Inter Agricultural Universities Youth Festival (2019-2020)
08-12/02/2020 at IGKV, Raipur, Chhattisgarh

1.	Sharma Zeel	Fine Arts	
2.	Darji Dhvani	Folk dance	
3.	Arvadiya Dharmesh	Mime & Drama	
4.	Patel Vraj	Drama	
5.	Patel Kena	Extempore	
6.	Kathad Shradha	Folk dance	
7.	Parikh Sagar	Drama	

STUDENT PARTICIPATION IN DIFFERENT TOURNAMENTS:

The students of College of Horticulture participated in various sports meets during the year 2019-20 as per following details:

No.	Activities	Date	Organizing College of AAU	No. of participants
1	Cultural events	21/09/2019	College of Agriculture, Vaso	25
2	Volley ball (Men)	03/10/2019	College of AIT	10
3	Volley ball (Women)	03/10/2019	College of AIT	12
4	Chess	10/08/2019	College of Agriculture, Jabugam	5
5	Badminton (Women)	8/09/2019	BACA	4
6	Badminton (Men)	28/09/2019	BACA	4
7	Kho-Kho	18/01/2019	College of FPT & BE	12
8	Cricket	04-09/02/2020	CEAT, Godhra	15
8	Kabaddi	19/01/2019	College of Horticulture	12
9	Literary events	21/09/2019	College of Agriculture, Vaso	3
10	Table tennis (Men)	23/08/2019	IABMI	4
11	Table tennis (Women)	23/08/2019	IABMI	4
12	Basket ball	29/09/2019	College of Veterinary & AH	10
Total				120

SRC ACTIVITIES DURING THE YEAR 2019-20



Orientation Programme-2019



Fresher Party-Blossom-2019





Gurupurnima-2019



Celebration of Digvijay Day (Swami Vivekananda speech at Chicago)



Celebration of Raksha bandhan-2019



Celebration of Teacher's Day-2019

Tournament Organized

Inter College Kabaddi on 18-19, January-2020. Total 72 students of different colleges of AAU, Anand were participated. College of Horticulture, Anand became champion and SMC College of Dairy science, Anand became runners up.

INTER COLLEGE KABADDI-2020



Kabaddi 2019-20



7. University Library: Not Applicable

Appendix-1
Civil Works Completed

- ❖ Constructed Class Rooms, Laboratories, Seminar Hall, Offices, Garden, Net house, Garage etc of College of Horticulture.

Appendix-2
Civil Works on hand:NIL

Appendix-3
Budget wise sanction grant and expenditure

Following schemes of college were sectioned under different budget heads:

Sr. No.	Budget Head No.	Sanction grant		Expenditure		Note
		Recurring	Non-Recurring	Recurring	Non-Recurring	
1.	12987-16	37,00,000/-	7,86,000/-	35,49,637/-	7,63,718/-	Main plan budget
2.	12712-02	11,50,236/-	-----	11,50,236/-	-----	Land saping at auu
3.	12865	80,000/-	-----	65,834/-	-----	For sport activities
4.	12967	50,000/-	-----	47,675/-	-----	For sport activities
5.	12967-02	56,000/-	-----	36,790/-	-----	For game organization
6.	18273	25,000/-	-----	24,487/-	-----	For NSS activities
		22,500/-	-----	-----	-----	For NSS activities
7.	4862	15,000/-	-----	15,000/-	-----	For game organization
8.	4862(B)	26,000/-	-----	8,875/-	-----	For game organization
9.	12600	3,95,000/-	-----	2,06,515/-	-----	contruction work

Appendix-4
List of Research papers published

International journal

1. Masu, M. M., Patel, J. S., Shah, N. I. and Patel, H. C. (2019). Effect of integrated nutrient management on growth and flower yield of chrysanthemum (*Chrysanthemum coronarium* L.) cv. Local. *Int. J. Chem. Studies*, 7 (5): 2563-2565.
2. Patel, J. S., Masu, M. M., Shah N. I. and Patel H. C. (2019). Effect of plant growth regulators on growth, flowering anf flower yield of desi red rose (*Rose damascene* L.) *Int. J. Chem. Studies*, 7 (5):1944-46.
3. Parmar, A.B., Patel, H.C., Patel, D. D. and Parmar, J. R. (2019). Effect of pruning and plant growth regulators on fruit quality of guava (*Psidium guajava* L.) cv. Allahabad Safeda, *Int. J. Chem. Studies*, 7(4):858-862.
4. Thakur, Komal, Satodiya B.N.and Parmar S.K.(2019). Effect of integrated nutrient management on growth,yield and economics of brinjal (*solanum menongena*) cv.GABH 3. *Int. J. Chem. Studies*, 7(4): 1440-1442

5. Raut H.R. & Kotecha A.V. (2019). Effect of GA₃,NAA and biofertilizers on seedling growth of custard apple (*Annona squamosa* L.) cv. Local, *Int. J. Chem. Studies*, 8(1):195-99.
6. Nadoda S.R, Kotecha A.V.,Vaghela K.S. and Aal J.M.(2020). Effect of different organic manures and PGPR consortium on quality of bottle gourd (*Lagenaria siceraria* MOL. STANDL.) CV. Anand bottle gourd-1, *Int. J. Chem. Studies*, 8(2): 1842-1845
7. Nadoda S.R, Kotecha A.V.,Vaghela K.S. and Aal J.M.(2020). Effect of different organic manures and PGPR consortium on growth and yield of bottle Gourd (*Lagenaria siceraria* Mol. Standl.) CV.Anand Bottle Gourd-1, *Int. J. Cur. Microbio & App. Scs.* 9(3): 1467-1474
8. Barad A.J., Singh S.K., Bhagora G.J. and Barad, A.H. (2019). Efficacy of Different Fungicides against *Exserohilum turcicum* Causing Turcicum Leaf Blight Disease in Maize. *Int.J.Curr.Microbiol.App.Sci* 8(8): 108-114.
9. Patel, S. J., Parekh, D. D. and Aal, J. A. (2019). Effect of foliar application of humic acid, salicylic acid and novel liquid on fruit drop and yield of mango (*Mangifera indica* L.) cv. Amrapali. *Int. J. Chem. Studies*, 7(5): 4558-4560.

ii. National journal

1. Parmar, S.K., Satodiya B.N., Raval C.H. and Thakur, Komal (2019). Influence of plant geometry and integrated nutrient management on growth and yield of cluster bean (*Cyamopsis tetragonoloba* L. Taub) cv. Pusa Navbahar. *J. pharmacology and phytochemistry*. 8(5):2138-2140.
2. Patel, Hiral and Gajera R.R. (2019). Effect of dehydration on quality of bottle gourd shreds. *Chem. Scs. Review and Letters*, 8(32): 216-219
3. Raol, J.B., Gajera, R.R., and Kumpavat, M.T. (2019). Quality Characteristics of Paneer from Solar Assisted Heat Exchanger. *Chem. Scs. Review and Letters*, 8(31): 132-136
4. Patel Hiral A. and Gajera R.R. (2019). Effect of steam blanching on bottle gourd shreds, *J. Medicinal Plants Studies*, 7(5): 01-03

Books / Book chapters published:

1. Books/ Booklets:

Sr. No.	Name of Book	Name of Authors	Name of Publisher
1.	Hydroponics and Aeroponics	Satodiya B.N., Maheriya P.A., Patel P.C. and Sipae A.S.	Director of Extension Education, Anand Agricultural University, Anand,

2. Book chapter: NIL

Popular Articles:

1. Patel H. C. and Parmar, A. B. (2019). *Falo na chat-pata masaleder athana*, **Krushhi Govidhya**, pp: 19-22.
2. Patel H. C. and Parmar, A. B. (2019). *Savanthi ni kheti padhdhati*, **Gujarat Bagayat vikas parishad**, (76) pp: 4-6.
3. Patel H. C. and Parmar, A. B. (2019). *Seasonal sevanthi ni vaigyanik kheti*, **Gujarat Bagayat vikas parishad**, (76) pp: 10-12.
4. Patel H. C. (2019). *Different uses of coconut*, **Gujarat Bagayat vikas parishad**, pp: 10-12.
5. Patel H. C. and Parmar, A. B. (2019). *Nadiaeri na vividh upayogo*, **Gujarat Bagayat vikas parishad**, (78), pp:48-51
6. Satodiya, B. N. and Paradva, D. R. (2019). *Naliyelna Pakni Ropani Purve Taiyari, ane Ropani*. **Gujarat Bagayat Vikash Parishad**, pp. 10-12
7. Satodiya, B. N. and Paradva, D. R. (2020). *Naliyelna Pakne Anukul Jamin Tatha Havaman*. **Gujarat Bagayat Vikash Parishad**. pp: 7-9.
8. Choudhari U. C and Paradva D. R (2019). *Phuloma seed production*. **Gujarat Bagayat vikas parishad**, pp: 68-71
9. U. C Choudhari and Paradva D. R (2019): *Deshi gulamni kheti paddhati Gujarat Bagayat Vikas Parishad*, Pp:44-46
10. Parekh, D. D., Patel S. J., and Parmar, A. B. (2019). *Gladiolus ni vaigyanik kheti*, **Krushhi go Vidya** Pp: 19-22
11. Parmar, A. B. and Parekh, D. D. (2019). *Spider Lily*, **Fuloni Vyaparic Kheti, Gujarat Bagayat vikas parishad**, Pp:7 – 12.
12. Patel, A. P., Parekh, D. D. and Masu, M. M. (2019). *Fuloni Vyaparic Kheti, Rajnigandhani kheti paddhati*, **Gujarat Bagayat vikas parishad** Pp:21-23.
13. Parekh, D. D., Masu, M. M. and Patel, A. P. (2019). *Fuloni Vyaparic Kheti, Fulakoma vruddhinyantrakono upyog*, **Gujarat Bagayat vikas parishad**, Pp:72-76.
14. Barad, A. H., and Prajapati H.N. (2019). *Ful Pakkoni jivato ane tenu niyantran, Fuloni vyaparic kheti visheshanh*, **Gujarat bagayat vikash Parishad**,(76), pp: 49-54.
15. Prajapati H.N. and Barad, A. H. and (2019). *Ful Pakkona rogo ane tenu niyantran, Fuloni vyaparic kheti visheshanh*, **Gujarat bagayat vikash Parishad**,(76), pp: 55-58.
16. Barad, A. H., and Prajapati H.N. (2019). *Kheti pakkoma udhathi thatu nukshan ane tenu vyavasthapan, one day seminar on krushi ane bagayati pakoma pravartnan pak sarnkshanna prashno ane nirakaran,organized by PPAG, 8 Nov. PP. 20-21.*
17. Gajera R. R. (2019). *Processed food products visheni samaj*, **Krushhi Govidhya**, 72 (08), pp: 37.
18. Gajera R. R. (2019). *Naliyerina pakma mulyavardhan*, In: *Naliyerina pakni adhunik sankalit kheti padhhati*, **Gujarat bagayat vikash Parishad**,(78), pp: 37-42.

19. Gajera R. R. (2019). Naliyerina Pakma Mulyavardhan, *Krusha Govidhya*, 72 (07), pp: 38-41.
20. Gajera R. R. (2019). Bakery Udyog, a box matter, *Krusha Govidhya*, 72 (06), pp:50.
21. Gajera R. R. (2019). Anajno Sangrah, a box matter, *Krusha Govidhya*, 72 (06), pp: 50.
22. Gajera R. R. (2019). Soyabeanma processing ane mulyavardhan, *Krusha Govidhya*, 72(05), pp:22-25.
23. Gajera R. R. (2019). Shakhaji ane tena processing ma enzymenu mahatav, *Krusha Jivan*, 52 (02), pp: 30-32.

Appendix-6

List of Seminar, Symposia, Conferences and Workshop organized: NIL

Appendix-7

List of University teachers who participated in Seminars, Symposia, Conference and training programmes organized by the other Institutions.

Sr. No.	Name of Teacher/ Scientist	Participated	Duration
1.	Dr. H. N. Prajapati	Training programme on “Quarantine pathogens: Seed health testing and molecular diagnostic technique” organised by National Institute of Plant Health Management, Hyderabad, Telangana	06.05.2019 to 10.05.2019
2.	Dr. A. V. Kotecha	Seminar on “Latest production technology in banana” organized by Shri Vansol Satavis Patidar Samaj, V.V.Nagar at Sanskurti Kendra, Bhalej chokadi, Ta. Umreth, Anand	28.07.2019
3.	Dr. A. H. Barad, Dr. H. N. Prajapati and Dr. Amita Parmar	Seminar on “krushi ane bagayati pakoma pravartnan pak sarnkshanna prashno ane nirakaran” held at AAU, Anand	08.09.2019
4.	Dr. H. N. Prajapati	Seminar on “Doubling farmers income through resource management and rural prosperity” held at AAU, Anand	12.10.2019 to 13.10.2019
5.	Dr. R. R. Gajera, Dr. A. V. Kotecha, Dr. D. D. Parekh, Dr. A. H. Barad, Dr. H. N. Prajapati, Dr. C. H. Raval & Dr. Prity Kumari	Seminar on “Biodynamic Farming”, organized by Zonal Chapter GAAS, BACA Alumni Association and Anand Agricultural University, Anand held at FPTBE College, AAU, Anand	09.12.2019
6.	Dr. Prity Kumari	Workshop cum training Programme on “Price forecasting: Methodology & Approaches” under project named "Establishing centre for Agricultural market Intelligence at A.A.U., Anand" sponsored by ICAR, New Delhi and NHAEP-CASST, at AAU	19.12.2019 to 21.12.2019

7.	Dr. Prity Kumari	Workshop cum training Programme on “Remote Sensing, Data science and Agro Block Chain for market Intelligence” under project named "Establishing centre for Agricultural market Intelligence at A.A.U., Anand" sponsored by ICAR, New Delhi and NHAEP-CASST, at AAU	31.01.2020 to 02.02.2020
8.	Dr. Prity Kumari	Workshop cum training Programme on “Role of farmer Producer organization in Enhancing Farmer’s Income” under project named "Establishing centre for Agricultural market Intelligence at A.A.U., Anand" sponsored by ICAR, New Delhi and NHAEP-CASST, at AAU	12.02.2020 to 13.02.2020
9.	B.N. Satodiya	Indian Horticulture Summit-2020, organised by Mahatma Gandhi Chitrakoot Gramodya Vishwavidyalaya, Chitrakoot, MP	14.02.2020 to 16.02.2020

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