

EXTENSION EDUCATION

Annual Report

Year : 2020-21



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NAVSARI AGRICULTURAL UNIVERSITY

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EXTENSION EDUCATION

• ANNUAL REPORT 2020-2021 •

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Directorate of Extension Education
Navsari Agricultural University
Navsari-396450

ANNUAL REPORT 2020-21

1. INTRODUCTION

Navsari Agricultural University is a pioneer institute in the South Gujarat region for transferring the agricultural technology to the farmers to increase their agricultural production. The Directorate of Extension Education is actively involved in transfer of latest technologies to the farmer's field and giving its feed back to the research workers. The Directorate of Extension Education has started functioning in 1972 during erstwhile Gujarat Agricultural University. Later on, as a consequence of the separation of Gujarat Agricultural University into four new universities in the State, Navsari Agricultural University (NAU) has come into existence on May 1, 2004. NAU encompasses seven districts, viz., Valsad, Navsari, Dangs, Surat, Tapi, Bharuch and Narmada of South Gujarat.

Geographically, the jurisdiction is stretched over 170 km. seashore on the western side and hilly terrain with dense forest on the eastern side enclosed with high fertile land and ample natural resources. Thus, presently the NAU serves to 4 districts of hills and 3 districts of plains in South Gujarat region. With varied geographical, biophysical and socio economic conditions of the region, the work of validation of newly developed technologies and transfer of technology has become very challenging. The Directorate undertakes extension activities through 5 KVKs (working at grass root level), Training Units (Sardar Smruti Kendra & Training and Visit System) at head quarter, ATIC, extension departments at different colleges along with the State Agricultural Management and Extension Training Institute (SAMETI), Gujarat assisting in extension reform programme.

2. VISION

To make the extension system '**Farmer-Driven**' and '**Market-led**' for augmenting production, productivity and income of the farming community.

3. MISSION

1. To bridge up the agricultural technology gap at grass root level.
2. To educate rural people to attain/participate in development.
3. To create awareness about health, hygiene, environment and bio-diversity conservation for sustainable development.
4. To link farmer with newly emerging globalized world by providing them information and guidance.
5. To develop a system of effective research and extension linkages.
6. To generate employment in the field of agriculture and allied disciplines.
7. To integrate IT in rural system for their development.

4. MANDATES

1. Facilitating planning, implementation, execution and monitoring of extension programmes carried out in South Gujarat region.
2. Emphasizing participatory technology generation, dissemination and utilization.
3. Offering training and field services to public, private, NGOs and corporate sectors.
4. Enhancing the agricultural vocations in the region.
5. Promoting the 'Market-led Extension'.
6. Organizing farm advisory services at the doorsteps of the farmers.
7. Encouraging women to work in groups at the grass root level.
8. Networking of extension and development systems through ICT-mode.

5. FUNCTIONS AND ACTIVITIES

1. Facilitating planning, coordinating, guiding, executing, implementing, monitoring, supervising, evaluating and reporting the various extension programmes carried out in South Gujarat region.
2. Liaison with State Government, Central Government, ICAR, District Development Departments, SAUs, Cooperatives, NGOs etc. for carrying out NAU Extension Programmes.
3. To assist and complement to state government department of agriculture, public sector and voluntary organizations in effective management of extension education systems.
4. To transfer the innovative technology through Krishi Vigyan Kendras.
5. To organize training programmes at headquarters.
6. To serve as a single window system for providing all information regarding agriculture, providing inputs like seeds & planting material through Agricultural Technology Information Center (ATIC).
7. To act as mediator for researchers by updating them with field problems of farmers and to help them in developing "Demand Driven Technology."
8. To publish extension literature and its distribution among farmers & extension functionaries.
9. To handle various collaborative extension projects for transfer of technology.

6. DETAILS OF TECHNICAL STAFF WORKING UNDER EXTENSION UNIT

S.N.	Designation	No. of Posts		
		Sanctioned	Filled	Vacant
1	Director of Extension Education	1	0	1
2	Training Associate	1	1	0
3	Assistant Extension Educationist	4	4	0
4	Agricultural Officer	3	3	0
5	Agriculture Supervisor	1	1	0
6	Agricultural Assistant	2	2	0
	Total	12	11	1

7. TRANSFER OF TECHNOLOGY (ToT) CENTRES & EXTENSION SCHEMES

7.1 ToT Centres : NAU Transfers agricultural technology to the farmers through ToT Centres..

Type	Name of Centre	Location
▶ Training Centres for Farmers/Farm Women /Rural Youths	● Sardar Smruti Kendra	Navsari
	● Advance Training Centre for Soil and Water Management	Navsari
	● Demonstration-cum-Training Centre for Inland Fisheries	Navsari
	● Vegetable and Fruit Demonstration Scheme for Tribal Upliftment	Pariya
	● Tribal Women Training Centre	Dediyapada
	● Extension Wing	Navsari
	● Agro ITI	Navsari
▶ Training Centres for Extension Workers	● Training and Visit System	Navsari
	● Sardar Smruti Kendra	Navsari
▶ Advisory Services	● Farm Advisory Services	Navsari
	● Agricultural Technology Information Centre (ATIC)	Navsari
	● Centre of Agricultural Extension Information System	Navsari
	● University Educational Museum	Navsari
	● Farm Publication	All Centres
▶ 1. On-farm testing 2. Frontline demonstrations 3. Trainings to farmers 4. Resource and knowledge centre of the district.	● Krushi Vigyan Kendra	Vyara, Waghai, Navsari, Surat, Dediyapada



Agriculture Educational Museum (Educatorium)



Agricultural Technology Information Centre (ATIC)

7.2 Vocational Certificate Courses for Rural Youth & Women:

S.N.	Name and location of the courses	Type	Duration	Intake capacity
1.	School of Baking: Navsari	Certificate	20 Weeks	16+16
2.	Landscaping and Gardening training centre: Navsari	Certificate	6 Months	20
3.	Nature and Wild life photography: Navsari	Certificate	1 Year (Weekly)	20
4.	Plant tissue culture training centre for women: Surat	Certificate	6 Months	10
5.	Turf grass management: Navsari	Certificate	6 Months	20
6.	Agro ITI: Navsari	Certificate	1 to 3 Months	20
7.	Certificate in Agricultural Extension Services for Input dealers: Navsari	Certificate	6 Months (Weekly)	40
8.	Certificate Course on Integrated Nutrient Management for Fertilizer dealers	Certificate	15 Days	40
9.	Certificate course in First Aid in Avian Health Management	Certificate	Five months Saturday (First, Third and Fifth)	20

7.3 Short duration Agro ITI courses for Skill Development in Rural Youths:

1. Seed production
2. Organic farming
3. Kitchen gardening
4. Farm management
5. Dairy farming
6. Flower dehydration
7. Tissue culture
8. Poultry farming
9. Gender friendly equipments for farm women
10. Farm power machinery
11. Bio-fertilizers & Bio-pesticides
12. Soil-Water-Plant analysis
13. Productive & beneficial insects
14. Commercial Mushroom production technology
15. Artificial insemination
16. Micro irrigation system

7.4 Ongoing Extension Schemes: *Extension activities through 32 Schemes*

S.N.	Plan Schemes : Development Charges (12)
1	Strengthening of the Directorate of Extension Education, Navsari
2	Upgrading of the existing Sardar Smruti Kendra, Navsari
3	Establishment of Centre for Agril. Extension Information System, Navsari
4	Agricultural Technology Information Centre (ATIC), Navsari
5	Establishment of Agro ITI Centre for Agricultural & Horticulture, Navsari
6	Establishment of University Educational Museum, Navsari
7	Testing of University technologies on farmers' fields through adaptive trials, Navsari
8	Demonstration-cum-Training Centre for Inland Fisheries, Navsari
9	Vegetable & Fruit Crops Demon. Scheme for Tribal Upliftment, Paria
10	Strengthening of Soil and Water Management Training Centre, Navsari
11	Strengthening of Tribal Women Training Centre, Dediypada
12	Strengthening of Extension Wing, Navsari
S.N.	Non-Plan Schemes : Standing charges (05)
1	Directorate of Extension Education
2	Establishment of Sardar Smruti Kendra, Navsari
3	Establishment of Farm Advisory Services, Navsari
4	Establishment of School of Baking, Navsari
5	Upgrading of School of Baking, Navsari
S.N.	Other Agency (08)
1	Training & Visit System, Navsari (Non-Plan) , Navsari
2	Training & Visit System, Navsari (Plan) , Navsari
3	Green/Net house Farmers' Training, Navsari
4	Diploma in Agricultural Extension Services for Input Dealers, Navsari
5	Certificate in Agricultural Extension Services for Input Dealers, Navsari
6	Certificate Course on Integrated Nutrient Management for Fertilizer dealers
7	Krushu Mahotsav Programme, Navsari
8	Krushu Library, Navsari
S.N.	ICAR (07)
1	Krushu Vigyan Kendra, NAU, Vyara, Dist.-Tapi
2	Krushu Vigyan Kendra, NAU, Navsari
3	Krushu Vigyan Kendra, NAU, Dediypada, Dist.-Narmada
4	Krushu Vigyan Kendra, NAU, Surat
5	Krushu Vigyan Kendra, NAU, Waghai, Dist.-Dangs
6	Providing support to DEE for knowledge empowerment, technological backstopping, HRD and overseeing of KVKs, Navsari
7	Farmer FIRST Programme

8. SALIENT EXTENSION ACTIVITIES & ACHIEVEMENTS

8.1 Extension activities carried out: for the dissemination of new technology to farmers

S. N.	Extension Programmes	No. of activities	No. of Beneficiaries			
			Farmers	Women	Youths	Total
1.	On campus Farmers' Training programme	243	4628	3849	986	9463
2.	Off campus Farmers' Training programme	285	5670	4987	1265	11922
3.	Training for Extension functionaries	50	887	282	338	1507
4.	Seminar / Workshop / Symposium for Farmers	30	3948	2914	980	7842
5.	Seminar / Workshop / Interface/ Symposium for Extension Officers	15	331	77	83	491
6.	Farmers' day / Field day	93	1819	1725	308	3852
7.	Agril. Fair / Agril. Exhibition	23	3402	3374	713	7489
8.	Farmer shibir / Farm women shibir	69	2249	2620	406	5275
9.	Farmers' meeting/Krushgi gosthi	89	1562	1086	419	3067
10.	Front Line Demonstrations (KVKs)	1072*	2936	708	347	3991
11.	Adaptive trials (NAU technologies)	646*	2654	547	261	3462
12.	On Farm Trials	34*	213	56	43	312
13.	AICRP Demonstrations	126*	375	115	123	613
14.	Demonstrations (Research Stations)	250*	651	198	203	1052
15.	Exposure visit of the farmers	19	414	217	172	803
16.	Diagnostic team visit on farmers' field	675	1486	265	164	1915
17.	Veterinary Clinic Camp/ Animal Husbandry Shibir	7	639	508	122	1269
18.	Text SMS sent on farmers' mobile	1822	21843	2441	3830	28114
19.	Telephonic / e-mail guidance	5499	26037	3025	4042	33104
20.	Press-notes / Articles in vernacular Newspapers	326	Mass	Mass	Mass	Mass
21.	Radio & TV talk	72	Mass	Mass	Mass	Mass
22.	Farm Literature Publication	132	26571	20216	9613	56400
23.	Visitors (dignitaries, officers, farmers, students)	1338	6932	6490	1973	15395

* Area in Ha.

8.2 Seminar/Symposium/Interface organized for farmers: for capacity building of farmers

S. N.	Subject/Topic	No. of Programm	No. of Beneficiaries
1	Paddy Crop	1	87
2	Sugarcane Crop	1	45
3	Fruit Crops	4	2745
4	Flowers	2	203
5	Vegetable Crops	3	2074
6	Pulse Crops	2	362
7	Integrated Pest Management	4	758
8	Post Harvest Technology	2	286
9	Green House Technology	1	131
10	Soil and Water Management	2	233
11	Agriculture farm Machinery	2	91
12	Animal Husbandry	2	112
13	Value Addition	1	374
14	Natural / organic farming	1	256
15	Fishery and its Marketing	1	49
16	Prawn/Shrimp cultivation and its Marketing	1	36
Total		30	7842

8.3 Front-line Demonstrations :

The main objective of Front-Line Demonstrations is to demonstrate newly released crop production and protection technologies and its management practices in the farmers' field under different agro-climatic regions and farming situations. While demonstrating the technologies in the farmers' field, the scientist studies the factors contributing higher crop production; field constrains of production and thereby generates production data and feedback information. Total 3991 FLDs in 1072 ha. and 1665 other demonstrations in 376 ha. were conducted on farmers' fields under the close supervision of the NAU Scientists.

SN	Crop	No.of Demon.
1	Paddy	1587
2	Sugarcane	144
3	Pigeon pea	593
4	Gram	461
5	Green gram	249
6	Nagli	87
7	Sweet corn	67
8	Okra	259
9	Groundnut	164
10	Maize	131
11	Mango	72
12	Sapota	47
13	Cashew	73
14	Turmeric	57
Total		3991



NFSM CFLD on chickpea GG-3



FLD on Finger millet-GN-8



FLD on Turmeric variety GNT-1

8.4 Adaptive Trials on University Technologies:

Adaptive or minikit trial is a method of determining the suitability or otherwise a new practice in the farmers' situations. This may be regarded as the on-farm participatory technology development (PTD) process which requires the farmers' choice and opinion about the practice as important. The main purpose of these trials was to test the new and promising practice under the local resources, constraints and abilities of the farmers.

During the year 2020-21, total 3462 adaptive trials were conducted on the farmer's fields through five KVKs in South Gujarat on newly released varieties of paddy, gram, wheat, green gram, pigeon pea, soybean, Sugarcane, Cotton, Fodder Sorghum, turmeric, Ajwain, Indian bean, Elephant foot, pointed guard, Little Guard, Drumstick, mango were conducted. Demonstration on ICM, INM, IPDM, Novel organic liquid nutrient, Novel plus, fruit fly trap, Dregan fruit, Bypass Fat and Mineral Mixture, Kitchen garden, Paddy thresher, Hand weeder, Spiral Grader, Mushroom were also conducted.



Adaptive trial on paddy variety GR-17



Adaptive trial on Indianbean GJNIB 21-22



Adaptive trial on Gram variety GG 5



Adaptive trial on Paddy GNR-5

8.5 ATMA Convergence Quarterly Meetings: *An interface between ATMA, KVKs & NAU Scientists*

The Directorate of Extension Education convened the "ATMA Convergence" quarterly meetings under the Chairmanship of Hon. Vice-Chancellor of NAU for facilitating an interface between KVKs, PDs (ATMA), DAOs and Scientists of NAU. One meeting (29th) was organized during the period (on 13-01-2021, 26 participants).



Dr. Z.P. Patel, Hon'ble Vice Chancellor, NAU, Navsari, DEE, DAOs, PD ATMA and staff of KVKs of South Gujarat in the quarterly convergence meeting

8.6 Bimonthly workshop

The Directorate of Extension Education organizes Bimonthly workshop under broad base extension training programme for agriculture and horticulture line department staff. During the period Bimonthly workshop were organized as under:

S.N.	Activities	Place	Date	Beneficiaries
1	Bimonthly workshop, Jan.-Feb.-2021	Navsari	13-01-2021	26
2	Bimonthly workshop, March- April-2021	Navsari (through Google meet)	19-03-2021	24



Dr. Z.P. Patel, Hon'ble Vice Chancellor, NAU, Navsari discussing with the participants during workshop

8.7 Zonal Research and Extension Action Committee (ZREAC) Meetings:

Directorate of Extension Education organized one ZREAC Meeting to review the work done in last season and to make the planning for forthcoming season in convergence mode. District wise agriculture status and feedback pertaining to problems faced by the farmers in adoption of new technology at grass root level were presented by the concerned Department for all the seven Districts of South Gujarat. During the year 2020-21, the 31st ZREAC meeting was convened through Google meet (online) on 06-10-2020.



Dr. S.R. Chaudhary, Hon.VC, NAU addressing the house during the online ZREAC meeting



Dr. K.A. Patel, DEE, NAU addressing the house during the online ZREAC meeting

8.8 Scientific Advisory Committee (SAC) Meetings of KVKs:

In order to review the activities carried out by KVKs and to seek the suggestions for better planning and implementation of activities for next year, the meetings of Scientific Advisory Committee of five KVKs run under NAU were organized as under:

S.N.	Name of KVK	Date of meeting
1	KVK Vyara (Tapi)	08-12-2020
2	KVK Dediapada (Narmada)	10-12-2020
3	KVK Waghai (Dangs)	14-12-2020
4	KVK Navsari (Navsari)	16-12-2020
5	KVK Surat (Surat)	18-12-2020



Scientific Advisory Committee Meeting of KVK Navsari



Scientific Advisory Committee Meeting of KVK Dediapada, Dist: Narmada



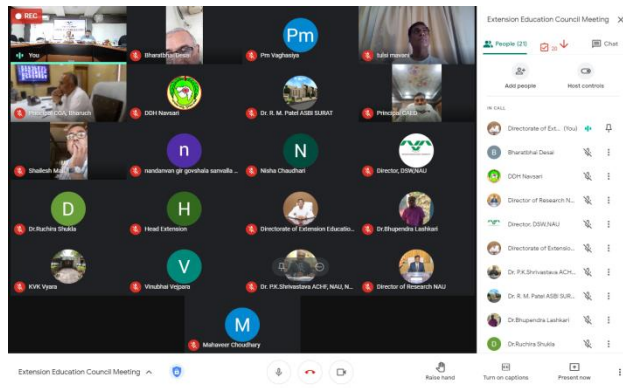
Scientific Advisory Committee Meeting of KVK Vyara, Dist: Tapi



Scientific Advisory Committee Meeting of KVK Surat

8.9 Extension Education Council meeting

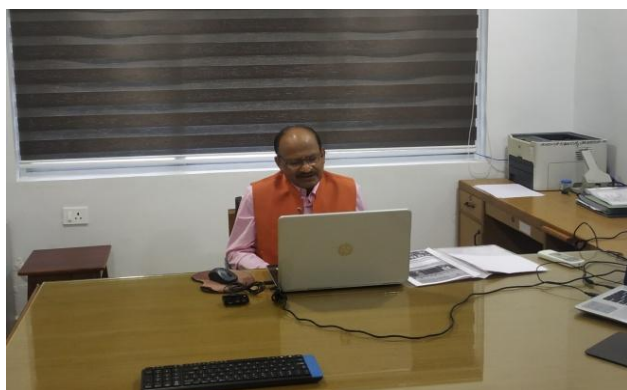
Extension Education Council is a statutory body consisting of the Vice-Chancellor as its chairman and Director of Extension, Director of Research, Deans, University Officers, Heads of the Line Departments, Extension Educationist, Innovative Farmers and Experts in the field of extension as the members. The council meets at least once in a year to review the work, discuss and deliberate the policy issues on extension system and formulate the technical programme for different units of the Directorate of Extension Education. During the year, the twelfth meeting of Extension Education Council was held on February 26, 2021 at Navsari (online) under the chairmanship of Dr. Z.P. Patel, Hon'ble Vice Chancellor, NAU, Navsari.



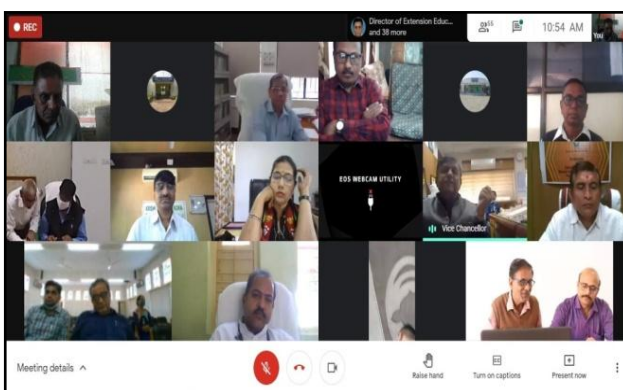
Dr. Z.P. Patel, Hon. Vice Chancellor, Dr. S.R. Chaudhary, DR, Dr. C.K. Timbadia, DEE and other members in the meeting

8.10 Annual Action Plan Workshop of KVKs of Gujarat

Annual Action Plan Workshop of KVKs of Gujarat was organized in virtual mode on 18th February, 2021 jointly by ICAR-ATARI, Pune and NAU, Navsari. Dr. Z.P. Patel, Hon'ble Vice Chancellor, NAU, Navsari Presided over the inaugural function in the gracious online presence of Chief Guest Dr. A. K. Singh, Deputy Director General (Agril. Extension), ICAR, New Delhi, Dr. V. P. Chovatia, Hon'ble Vice Chancellor of JAU, Junagadh, Dr. R.M. Chauhan, Hon'ble Vice Chancellor, SDAU, SKNagar, Dr. Lakhani Singh, Director, ICAR-ATARI, Pune and DEEs of four SAUs of Gujarat. All the Senior Scientist & Head of 30 KVKs participated online and presented their Annual Action Plan 2021-22.



Dr. Z.P. Patel, Hon'ble Vice Chancellor, NAU, Navsari addressing the participants



Participants attended the workshop online

8.11 Review meeting of KVKs

Two Review meetings of Senior Scientist & Head and Scientists and one University level Action Plan workshop of KVKs under NAU jurisdiction were organized during the year (using e-platform e-class of NAU, and Google meet). During the meetings, the activities carried out against target for the month and planning for the next month was discussed in detail.



Dr. S.R. Chaudhary, Hon'ble Vice Chancellor, NAU, Navsari during the E-Review meeting



Dr. G.R. Patel, Director of Extension Education, NAU, Navsari during the E-Review meeting

8.12 Orientation Training on "Agrometeorological Advisory Services" under DAMU project

Orientation Training on "Agrometeorological Advisory Services" for newly recruited three SMS (Agril. Meteorology) and three Agromet Observer under DAMU project at Krishi Vigyan Kendra (Surat, Dang, Narmada) under NAU, Navsari was organized by Directorate of Extension Education during 20/10/2020 to 03/11/2020 at Agricultural Meteorological Cell, Department of Agricultural Engineering, NMCA, NAU, Navsari



Inaugural function of orientation training



Practical Meteorological data observation during training programme

8.13 Agricultural Educatorium (University Educational Museum)

Agricultural Educatorium situated at Navsari is a one of the best agricultural Museums in India providing basics of agriculture to all walks of people. During the period, total 1122 visitors (farmers, dignitaries, scientists, students *etc.*) had visited the museum and got basic knowledge and information related to agriculture and allied subjects through various display media viz., storytelling board, kiosks, press button board, diorama, murals, show case, models, specimens *etc.*



Mrs. Anita P. Zula, Deputy secretary (Agricultural Department) visiting Agricultural Educatorium (15/09/2020)



Farmers visiting Agricultural Educatorium



Dr. V.T. Patel, Director of Extension Education, SDAU, visiting Agricultural Educatorium (20/03/21)



Farm women visiting Agricultural Educatorium

8.14 Campus Visit and Comfortable Homely Stay of the Farmers

Large numbers of farmers from Gujarat, Maharashtra and Rajasthan States are visiting NAU Navsari campus round the year to see and learn about new technologies developed and demonstrated on NAU farms. During the year, total 63 farm visits were conducted and 1933 farmers had visited the SSK and 1720 visitors had visited farms at NAU Campus. Due to Covid-19 pandemic situation, Kisanghar / farmer's hostels being used as COVID Care Centre, under which 1568 patients, Doctors, medical /Para medical staff were stayed at the same.

8.14.1 Campus Visit



Farmers' visit to different units at NAU, Navsari campus



Farm women visiting farm at NAU, Navsari campus



Farmers visit to different units at Navsari campus

8.14.2 Amenities in Kisan hostel



Clean and Comfortable Kitchen & Rooms in Kisan Hostels

8.15 Certificate courses on Bakery

Bakery school, DEE, NAU, Navsari organized 20 week duration one certificate course (13/01/2020 to 21/03/2020 and 28/12/2020 to 06/03/2021 due to COVID-19) on bakery during the year. Total 16 students have participated in the training programme, an exposure visit to BREAD LINER: South Gujarat's largest Bakery Chain, Surat was also conducted to provide skill based knowledge to design the custom cake and demonstrate the bakery products to the students. Another two skill oriented training programme of one week duration on baking were organized. Total 32 youth and farm women had participated in the one week training programmes.



Dr. C.K. Timbadia, DEE distributing Certificates to the participants



Students preparing bakery product



Exposure Visit to BREAD LINER: South Gujarat's largest Bakery Chain, Surat



8.16 Dial out Conference on “Value addition in fruits crops”

One Dial out Conference on “Value addition in fruits crops” was organized under Establishment of Agro ITI Center for Agriculture and Horticulture, DEE in collaboration with Reliance foundation on 30th May, 2020 and chaired by the Director of Extension Education Dr. G. R. Patel. NAU Scientists delivered the lectures and provided the information on value addition in different fruit crops. In the conference, 374 Farmers of South Gujarat were participated.

Experts



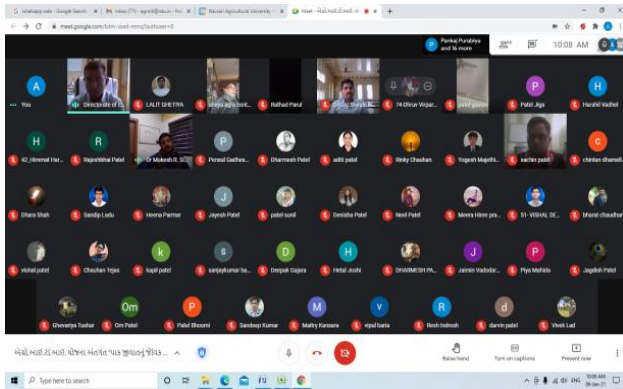
Participants



Screen shots of the conference

8.17 Vocational Training programmes under AGRO ITI

Following three vocational training programmes were organized under AGRO ITI (Establishment of Agro ITI Center for Agriculture and Horticulture) running under Directorate of Extension Education, NAU, Navsari during the period:



1. Virtual Training on “Biological control of crop pests” during 6th to 13th January, 2021. Participants: 43



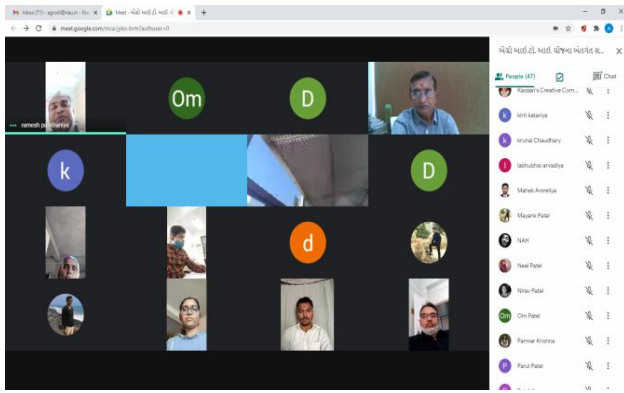
2. Virtual Training on “Bonsai & Flower Arrangement” during 2nd to 5th February 2021. Participants: 40



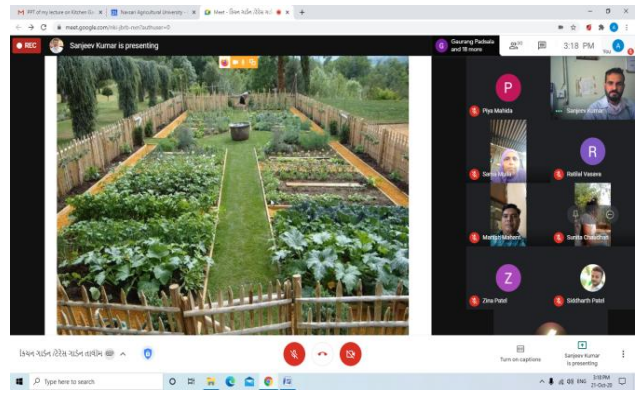
3. Training on “PASHUPALAN” during 8th to 20th March 2021. Participants: 13

8.18 Other training programmes under AGRO ITI

Other training programmes of different durations were also organized under AGRO ITI (Establishment of Agro ITI Center for Agriculture and Horticulture) viz., Diseases and pest Management in crops, Seed Production, Kitchen Garden/Terrace Garden, Organic Farming, Cultivation of edible Mushroom on Commercial basis etc. during the period.



Training on Organic Farming



Training on Kitchen Garden/Terrace Garden



Practical training on Organic Farming



Practical training on Cultivation of Mushroom

9. NEW INITIATIVES IN EXTENSION PROGRAMMES

9.1 Market platform during Pandemic

NAU, Navsari provided market platform to the farmers during lockdown due to Covid-19 pandemic. More than 85 tons of mangos sold during the lockdown (April-May 2020) through direct consumer to seller farmers contact without any middle man, thus total benefit goes to farmers. Dr. S.R Choudhary, Hon'ble Vice-Chancellor and DR. G. R. Patel, DEE appreciated the efforts of KVK, Navsari. About 1,64,668 ha. area is under mango cultivation in Gujarat (2018-19) and 96,609 ha area is only in South Gujarat, whereas Navsari district comes second in area of mango with 33,317 ha. after Valsad district 36,103 ha.



Hon'ble VC visited the direct marketing done by the farmers

9.2 "Certificate course" on INM for Fertilizer Dealers

NAU successfully completed the second batch of 15 days duration "Certificate Course on Integrated Nutrient Management for Fertilizer Dealers" started from 15/02/2021. Total 25 dealers were awarded with certificate at NAU, Navsari.



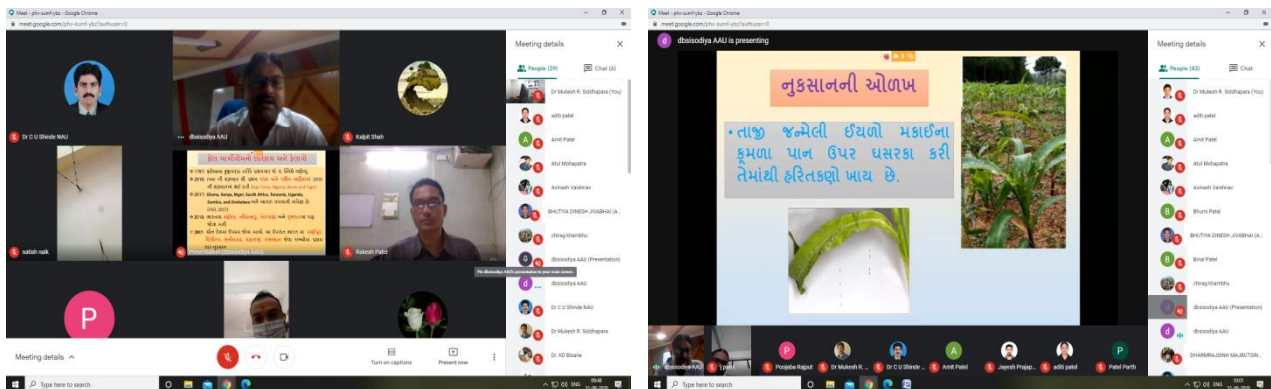
Dr. Z.P. Patel, Hon'ble Vice Chancellor, NAU, Navsari addressing the participants



Participants visiting soil science laboratory

9.3 Training programme on "Integrated management of Fall Army worm"

Department of Entomology, NMCA, NAU and T&V Scheme, Directorate of Extension Education, Navsari Agricultural University, Navsari has jointly organized an online training programme on integrated management of Fall Army worm on 31 August, 2020 at ABM, NAU, Navsari. Lectures on different aspects of Fall Army worm and its control were delivered by the NAU Scientists. Total 44 farmers participated in the training programme.



Presentation by Scientist during online training programme on Integrated management of Fall Army worm

9.4 Mushroom Cultivation Awareness Programme

College of Agriculture, NAU, Waghai, Dist: Dang organized Mushroom Cultivation Awareness Programme on 14th December, 2020 under the project on Establishment of Centre of Excellence on Mushroom with gracious presence of Dr. Z. P. Patel, Hon'ble Vice chancellor, NAU, Navsari, Shri Vijaybhai Patel, MLA Gujarat, Dr S. R. Chaudhary, DR, NAU, Navsari and Dr. C. K. Timbadia, DEE, NAU Navsari and other dignitaries. On the occasion, a book in Gujarati entitled "*Mushroom Uccher*" was also released by the dignitaries. The launching of mushroom spawn produced by College of Agriculture Waghai as "NAUROJI Mushroom Spawn" was also made.



Hon'ble Vice Chancellor, Dr. Z.P. Patel launching the mushroom spawn during the programme



Dignitaries releasing the book entitled Mushroom Uccher during the programme

9.5 Krishi Mela (Agricultural Fair):

KVK, NAU, Dediapada and ICAR-Central Potato Research Institute, Shimla jointly organized Krishi Mela for Tribal Farmers during 9-10 March, 2021 under Tribal Sub Plan. Dr. Z.P. Patel, Hon'ble Vice Chancellor, NAU, Navsari inaugurated the Krishi Mela on 9 March, 2021 in the gracious presence of Dr. Lakhan Singh, Director, ICAR-ATARI, Pune, Shri Motising Vasava, Ex-MLA and Dr. Vinod Kumar, Principal Scientist from ICAR-Central Potato Research Institute, Shimla. Scientists and experts delivered lectures on potato cultivation in south Gujarat. Dignitaries stressed on the need to develop market facilities for organic products of the farmers from nearby areas. Exhibition with 40 stalls was also organised. More than 800 tribal farmers and farm women of the area participated and got benefitted through krishi mela and displayed farm technologies.



Dr. Z.P. Patel, Hon'ble Vice Chancellor, NAU, Navsari inaugurated the Krishi Mela 2021 at KVK Narmada in the gracious presence of Dr. Lakhan Singh, Director ICAR-ATARI, Pune, Shri Motising Vasava, Ex-MLA and Dr. Vinod Kumar, Principal Scientist from ICAR-Central Potato Research Institute, Shimla.

10 NATIONAL FLAGSHIP PROGRAMMES / CELEBRATIONS

10.1 National Nutrition Month celebration

Govt. of India celebrates National Nutrition Month during 1 to 30 September, 2020. All the KVKs running under NAU also celebrated the month at KVK campus and at the villages in their jurisdiction. Various activities were organized by KVKs during the programme viz., Poshan jagruti shibir, training on nutrition garden management, nutri thali competition, biofortified crops, In-service training for Anganwadi workers, POSHAN pledge, awareness programmes, method demonstration, prize distribution, distribution of nutri-kitchen garden kit, tree plant, vegetable seeds and seedlings etc. Total 2285 farm women participated in the programmes at different places.



Scientist delivering lecture during the celebration of National Nutrition Month at KVK, Navsari



Recipe competition during the celebration of National Nutrition Month at KVK, Tapi

10.2 Awareness programme on Farmers' Act 2020

KVKs working under NAU organized different activities to make farmers about Farmers Act 2020. The activities viz., Awareness among farmers Group meeting, Text messages, Webinar, Kishan Goshthi, film show, Guest lecture, Khedut shibir, Mahila Shibir, Farmers Scientist Interaction, SMS through m-Kisan portal Text messages etc. at KVK campus and at different places were organized during September to December 2020. Total 1384 farmers and farm women actively participated in the programmes at different places.



Dr. C. K. Timbadia, SS&H, KVK, Navsari during the Webinar on Awareness of Farmers Act 2020 at KVK, Navsari



Scientist delivering lecture on Farmers Act 2020 at KVK, Tapi

10.3 Swachhta Hi Sewa 2020 (11th September to 2nd October, 2020)

The KVKs running under NAU organized various activities under Swachhta Hi Sewa 2020 (SHS) campaign from 15th September to 2nd October 2020 as a part of 150th birth anniversary celebration of Mahatma Gandhi. Various activities were organized by KVKs during the programme *viz.*, quiz competition, poem on different life events of Mahatma Gandhiji and exhibition of different charts on Gandhiji's quote *etc.* Total 470 farmers and farm women participated in the programmes at different places.



Scientists delivering lecture during the swachchhata programme

10.4 Celebration of Mahila Kisan Divas

The KVKs running under NAU celebrated **Mahila Kisan Divas** on 15 October, 2020. Various activities were organized by KVKs during the programme *viz.*, Lecture, competitions, group discussion, inputs distribution and Prize distribution *etc.* Total 942 farm women participated in the programmes at different places.



Dr. C.K. Timbadia, SS&H, KVK, Navsari addressing the Farm women participants during the programme



Scientist delivering lecture during the programme at KVK, Surat

10.5 Vigilance Awareness week celebration (27th October, to 3rd November, 2020)

The Central Vigilance Commission (CVC) observes the Vigilance Awareness Week every year during the week in which the birthday of Sardar Vallabhbai Patel (31st October) falls to motivate stakeholders to collectively participate in the fight against corruption and also aims at raising public awareness regarding the detrimental consequences of corruption. This year, the Vigilance Awareness Week is being observed from 27th October to 3rd November, 2020. Various activities were organized by KVKs working under NAU and total 178 farmers and farm women participated in the programmes.



Scientists delivering lecture during the Vigilance Awareness week celebration programme at KVK Tapi

10.6 "World Soil Day" Celebration

Government of India celebrates the "World Soil Day" on 5th December every year, KVKs operated under the NAU celebrated the "World Soil Day" on December 5, 2020. Lectures of dignitaries and Scientists and farm visits were organized during the celebration. During the programme 344 farmers and farm women participated at different places.



Scientist from KVK Surat delivering lecture to the participants



Scientist from KVK Dang delivering lecture to the participants

10.7 Swachhta Pakhawada-2020 celebration

The KVKs running under NAU organized various activities under Swachhta Pakhawada during 16-31 December, 2020. Various activities were organized by KVKs during the programme viz., Adopted village Cleanliness and sanitation, Swachhata (Sanitation) rally, Awareness programme, Campaign, *Mahila Goshthi*, Composting of kitchen and home waste materials, Awareness about green demo & Hand wash, Market & Public Place cleaning, cleaning of KVK premises, farm and taking Swachhata saphath during celebration. Total 2261 farmers and farm women participated in the programmes at different places.



Dr. Z. P. Patel, Hon'ble Vice-Chancellor, NAU, Navsari addressing the farmers during the Awareness programme



Participants taking Swachchhata oath during the programme at KVK The Dang

10.8 Jay Kisan Jay Vigyan week celebration (23rd to 29th December, 2020)

Govt. of India celebrates "Jai Kisan Jay Vigyan Week" every year during 23rd to 29th December on the birth anniversary of Shri Atal Bihari Vajpayee and Late Shri Chaudhary Charan Singh, two former Prime Ministers of India keeping in view of their immense contribution for promoting use of science for the welfare of farmers. KVKs of NAU organized different activities during December 23-29, 2020 to celebrate the week. Total 830 farmers and farm women participated in the programmes at different places.



Scientist delivering lecture during the celebration of "Jai Kisan Jay Vigyan" week

10.9 Celebration of Kisan and Vigyan Day

The KVKs running under NAU celebrated Kisan and Vigyan Day on 25 December, 2020. Various activities were organized by KVKs during the programme viz., Lecture on Kisan and Vigyan day, Farm Visit and Group Discussion, Kisan gothi and information about Pradhanmatri Kishan Nidhi etc. Total 428 farmers and farm women participated in the programmes at different places.



Large number of Participants viewing the programme

10.10 Hon'ble Prime Minister's address to the farmers-PM Kisan

Hon'ble Prime Minister's address to the farmers and releasing PM Kisan money to farmers was webcasted on 25/12/2020. Five KVKs and other four Extension centres under NAU organized the webcasting for the farmers at different places.

S. N.	Name of programme	No. of farmers registered	No. of participants in the event organized
1	Hon'ble Prime Minister's address to the farmers and releasing PM Kisan money to farmers	2406	1210



Hon'ble Vice Chancellor, NAU, Dr. Z.P. Patel lighting the lamp during the programme



Participants viewing the live webcasting of Hon'ble Prime Minister's address

10.11 Celebration of International Women's Day' 2021

International Women's Day (IWD) being celebrated all over the world on 8th March. KVKs working under NAU, Navsari also celebrated the IWD 2021 on 8th March 2021 in the presence of dignitaries. The theme of the programme was 'Women leadership in agriculture: Entrepreneurship, Equity and Empowerment'. Speech of dignitaries and Lecture of experts on gender equality, role of women in organic farming were organized. Different activities were organized viz., Nutritive recipe competition, Nutrition Quiz, Breast cancer awareness, Blood sugar check up camp, Marshal Art, stall exhibitions, progressive women felicitation, Price and certificates distribution etc. More than 634 farm women were actively participated in the programme at different places.



Dr. Z.P. Patel, Hon'ble Vice Chancellor, NAU, Navsari addressing the participant farm women at KVK Navsari



Scientist delivering lecture in the programme organized by KVK Surat

10.12 Celebration of World Water Day

KVKs working under NAU, Navsari celebrated the "World Water Day" on March 22, 2021 in the auspicious presence of Hon'ble vice Chancellor, NAU, Navsari Dr. Z. P. Patel, Padmashri Shri Mathurbhai Sawani and other dignitaries. The main theme of program was "Valuing the water". Scientists delivered lectures on importance of water for better productivity of crops, irrigation technology, watershed management for sustainable livelihood and agriculture *etc.* Oath was taken by the participants for saving of water. Total 253 participants including farmers, farm women and extension officers remained present at different places.



Dr. Z.P. Patel, Hon'ble Vice Chancellor, NAU, Navsari addressing the participants at KVK Navsari



Scientist delivering lecture to the participants at KVK Vyara, Dist: Tapi

10.13 Farmer FIRST Programme

Farmer FIRST project (FFP) entitled 'Ensuring Livelihood Security for Small and Marginal Farmers of South Gujarat' is being implemented in Pathri, Hansapore and Chijgam villages of Navsari district with six modules under the Directorate of Extension Education since 2016-2017. Different activities were organized during the period viz., Trainings and distribution of critical inputs to the participating farmers under the project viz., seeds of Lucerne, Indian bean (Guj.Val-2), Fruit fly traps *etc.*



Dr. K. A. Patel, DEE distributing critical inputs-seeds under the Farmer FIRST project



Dr. C. K. Timbadia, DEE addressing the trainees during training under the Farmer FIRST project



Dr. C.K. Timbadia, DEE addressing the participants during training on Scientific Cultivation of Mango and Sapota



Dr. C.K. Timbadia, DEE distributing inputs under the Farmer FIRST project

10.14 Kishan Gosthi organized under FFP

“KishanGosthi” programme was organized under Farmer FIRST Project at Hansapore village of Navsari district on 26th November, 2020. Programme was chaired by Dr. Z.P. Patel, Hon. Vice Chancellor of NAU, Navsari in the presence of Dr. C.K. Timbadia, DEE, Sarpanch of Hansapore village Mrs. Bhavanaben Patel, PI and Co-PI of the project. All the Co-PIs and members of six modules interacted with the farmers on different technologies demonstrated on the farmer’s field and farmers shared their experiences about technologies. Hon. Vice Chancellor Dr. Z.P. Patel emphasized on ensuring the effective involvement of farmers in research process on farmers' fields. Total 96 farmers and farm women participated in the programme.



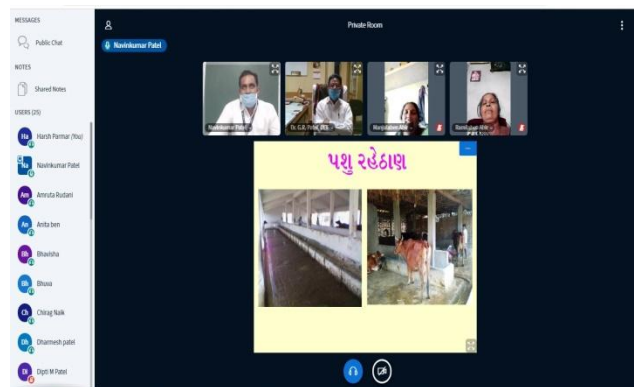
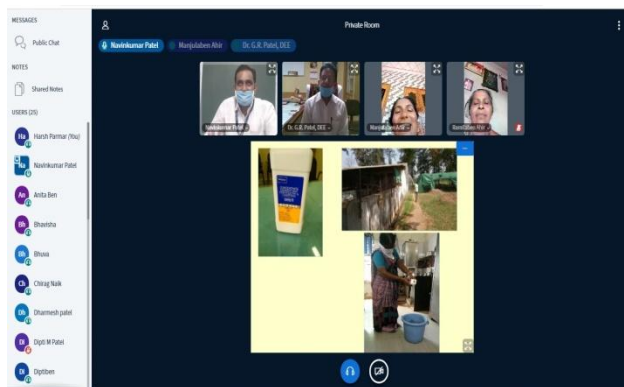
Dr. Z. P. Patel, Hon'ble Vice Chancellor, NAU addressing the participants during the programme



Dr. C. K. Timbadia, DEE addressing the participants during the programme

10.15 A webinar on "Animal Husbandry in the midst of Covid-19 pandemic"

A webinar on "Animal Husbandry in the midst of Covid-19 pandemic" under FFP was organized on 18 May, 2020 in the presence of Dr. G .R. Patel, Director of Extension Education and Dr. N. B. Patel (Co-PI). In webinar, 30 farmers were participated and discussed about the topic and quarries regarding milk production, calf rearing were solved by the scientists.



Screen shots of the webinar

10.16 Implementation of "Mera Goan Mera Gaurav" programme

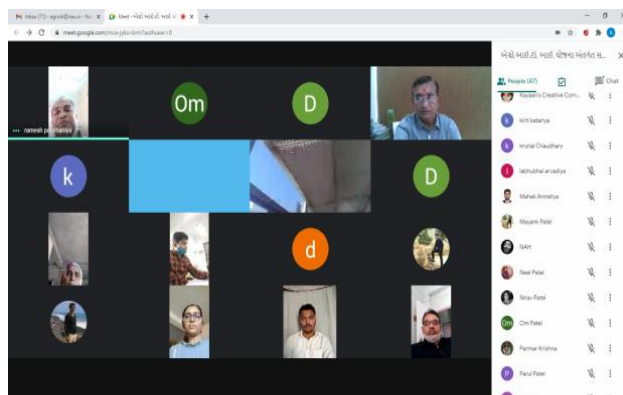
"Mera Goan Mera Gaurav" programme launched by the Hon'ble Prime Minister on 25th July, 2015 at Patna, Bihar has been implemented by NAU. Total 41 teams of NAU Scientists were formed. Each team comprised of 4 Scientists for 5 villages. Total 164 Scientists were assigned the work in 205 villages selected under the programme.

Activities organised by Navsari Agricultural University, Navsari under MGMG

S. N.	Name of activity	No. of activities conducted	No. of farmers participated & benefitted
1.	Visit to village by teams	48	250
2.	Interface meeting/ <i>Goshthies</i>	15	582
3.	Training organized	07	268
4.	Demonstrations conducted	15	190
5.	Mobile based advisories (No.)	635	635
6.	Literature support provided	35	834
7.	Awareness created	10	332
8.	Input support provided (q)	-	-
9.	Linkages developed with other agencies (No. of agency)	12	389
10.	Facilitation for new varieties, seeds, technology		
	i. New varieties (No.)	-	-
	ii. Technology (No.)	12	483
	iii. Seeds (q)	04	-
	iv. New crops (No.)	-	-
Total		793	3963



Awareness created during Field visit



Dr. C. K. Timbadia, DEE addressing the participants during Virtual Training programme

Note: Due to COVID 19, most of the extension activities were conducted on virtual platform.

11. MEGA EVENTS

- Nil -

12. AWARDS RECEIVED:

12.1 Farmer Award

Shri Jigarbhai Desai of Tapi district received "National Best Innovative Farmer Award" for Best Working Innovative Technology in Agriculture on 9th January, 2020 at NASC, New Delhi.



Shri Jigarbhai Desai receiving award at New Delhi on 9th January, 2020

12.2 KVK Award

KVK, NAU, Vyara, Dist: Tapi received ""National Best Working Innovative Technology in Agriculture" award given by *DHANUKA PVT. LTD.* for Various Agricultural Activities by Institute on 9th January, 2020 at NASC, New Delhi.



Dr. C. D. Pandya receiving award at New Delhi on 9th January, 2020

12.3 Best KVK Scientist Award

Prof J.B.Dobariya, Scientist(Extension Education), KVK,Dang received the Best KVK Scientist Award, awarded by Society of Krishi Vigyan on 28-09-2020.

12.4 Best Outstanding Young Researcher International Award

Prof J.B.Dobariya, Scientist(Extension Education), KVK,Dang received the Best Outstanding Young Researcher International Award 2020, awarded by Kamarajar Institute of Education and Research Theni, Tamil nadu, India on 30-12-2020.

12.5 Best Horticulturist Award

Mr. Harshadkumar Amrutbhai Prajapati, KVK, NAU, Dang received the best Horticulturist award, awarded by Agriculture Technology Development Society (ATDS) Ghaziabad, Uttar Pradesh, India on 26-28 Feb, 2021.



12.6 Young Agronomist Award 2020

Dr. Dr. Pratik P. Javiya, KVK Dang received Young Agronomist Award 2020 awarded by Agriculture Technology Development Society (ATDS) Ghaziabad, Uttar Pradesh, India on 26-28 Feb 2021.



13. PUBLICATIONS

13.1 Farm publications

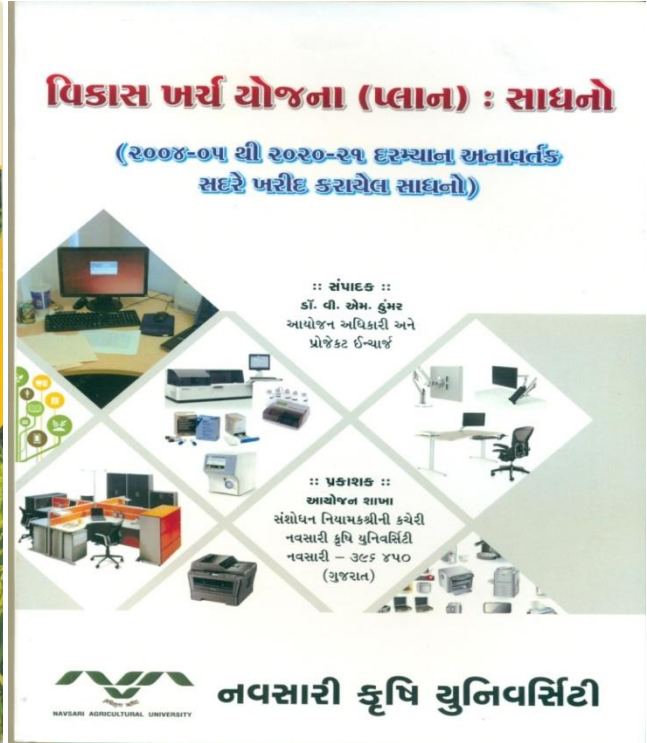
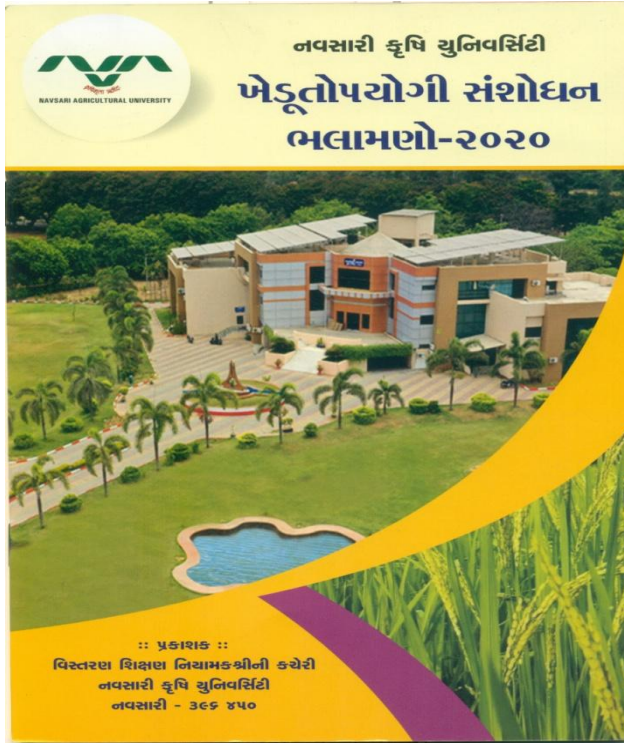
Directorate of Extension periodically publishes folders, leaflets and booklets on package of cultivation practices of main crops, diversified crops, newly released technology etc. of the area to make available to the farmers and extension workers as ready reference at very low cost or no cost.

Other publications–news letter/reports

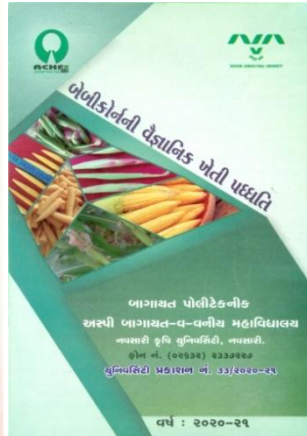
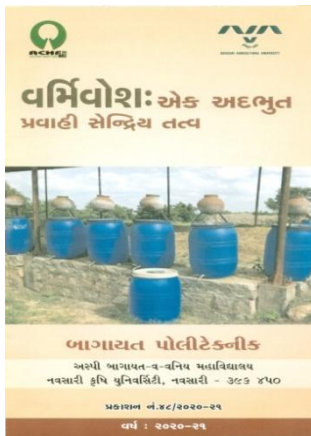
- Research Accomplishments and Recommendations (Gujarati)
- Souvenirs
- Booklets on new emerging issues/technology

University publication:

1) Book/booklets	: 32	5) Annual report	: 01
2) Folders	: 89	6) Crop calendar	: 1
3) Training manual	: 06	7) Magazine	: 2
4) Souvenir	: 1		



Books



Folders

13.2 Research Papers

1. Bhanderi, G. R., Patel, R. D., Desai, H. R. and Patel, R. K. (2020). Assessment of yield losses due to mealybug (*Phenacoccus solenopsis* Tinsley) infestation in the cotton farmers' field of south Gujarat. *J. Ento. Zool. Studies*, 8(2): 73-79. (NAAS Score: 5.53)
2. S. V. Nalawade, P. R. Patel and V. A. Patil (2020). Biochemical constituents' variation in Resistant and susceptible rice genotypes against sheath rot disease of rice. *International Journal of Current Microbiology and Applied Sciences*, 9 (5): 122-125
3. S. V. Nalawade, P. R. Patel and V. A. Patil (2020). Effect of weather parameters and sheath mite population on incidence and development of sheath rot disease of rice. *International Journal of Chemical Studies*, 8 (2): 2821-2825.
4. S.D. Chaudhari, V.R. Naik, H. B. Sodavadiya and B. K. Patel (2020). Effect of gypsum and integrated nutrient management on soil properties of partially reclaimed salt affected soils of south Gujarat. *Plant Archives*, 20 (1): 2248-2250.
5. Sonal Tripathi, JM Patel, Narendra Singh, Jaimin Naik and VR Naik (2020). Effect of different NPK levels on growth and yield attributes of broccoli (*Brassica oleracea* L) under south Gujarat condition. *International Journal of Chemical Studies*, 8 (3): 1335-1339.
6. Patel P.B., Usdadia V.P and Desai C. S. (2020) Incidence of mango hoppers *Idioscopus nitidulus* Walker in high density mango plantation under south Gujarat Conditions. *International Journal of Chemical Studies*, 8 (4):1509-1512.
7. Prajapati, A.P., Patel, P.B. Bhimani, H.D. and Desai, A.V. (2020) Population dynamics of major insect pests of cowpea and its correlation with different abiotic factors under south Gujarat conditions. *International Journal of Chemical Studies*, 8 (3):2307-2311.
8. Poshiya, V. K.; Tiwari, M. V. and Verma P. D. (2020). Constraints in Adoption of Recommended Paddy Cultivation Practices in Narmada District. *International journal of scientific engineering and applied science*. 6(8), pp.97-101.
9. Bhimani, G. J., Prajapati, M. R. and Parmar, H. C. (2019). Adoption of fruits and vegetable preservation technology by farm women of Surat district. *Guj. J. Ext. Edu.*, 30(1): 23-26. (NAAS Score: 3.86).
10. Suchismita Jena, T. R. Ahlawat, A. I. Patel, A. K. Pandey, Dharmishtha Patel and Abhijit Chaudhary (2020). Comparative growth performance of papaya hybrids and their parents under reciprocal crossing system. *JEAI*, 42(9):167-173.
11. Zinzuvadiya, H.D., Ghetiya L.V., Chaudhari S.D. and Kalariya G.B. (2020) Photographic catalogue of hymenopteran pollinators in agricultural landscape area of South Gujarat. *Journal of Entomology and Zoology studies (JEZS)* 2020; 8(5): 1330-1346.

12. Dobariya, J. B.; LAD, M. D. and Kavadi, S. D. (2020). Knowledge and attitude of self help group members towards micro finance. *Guj. J. Ext. Edu.* 31(2): 59-62.
13. Patel, B.K., Sandipan, P.B., Chawada, S.K. and Patel R. K. (2020). Morphological and cultural characteristic of *Fusarium oxysporum* f. sp. *vasinfectum* (FOV) under South Gujarat. *Int. J. Curr. Microbiol. App. Sci.*, 9(12): 814-819. (NAAS Score: 5.38)
14. Patel, B.K., Sandipan, P.B., Patel R. K. and Chawada, S. K. (2020). Screening of different non systemic and systemic fungicides for the wilt disease of cotton under in vitro condition of South Gujarat. *Int. J. Curr. Microbiol. App. Sci.*, 9(12): 820-825. (NAAS Score: 5.38)
15. Patel, B.K., Sandipan, P. B., Patel R. K. and Chawada, S. K. (2021). Wilt: An important fungal disease of cotton under South Gujarat region of India. *Int. J. Chem. Stud.*, 9(1): 269-271.
16. Patel, B.K., Sandipan, P. B., Chawada, S. K. and Patel R. K. (2021). Evaluation of different biocontrol agents against *Fusarium oxysporum* f. sp. *vasinfectum* (FOV) under in vitro condition of South Gujarat. *Int. J. Chem. Stud.*, 9(1): 998-1000.
17. Patel, B.K., Sandipan, P. B., Patel R. K. and Chawada, S. K. (2021). Screening of different fungicides and biocontrol agents against *Fusarium oxysporum* f. sp. *vasinfectum* (FOV) under pot condition. *Int. J. Chem. Stud.*, 9(1): 1005-1007
18. Patel, B.K., Sandipan, P. B., Chawada, S. K. and Patel R. K. (2021). Evaluation of various combi product fungicides for the control of wilt (FOV) disease of cotton under in vitro condition of south Gujarat (India). *Int. J. Chem. Stud.*, 9(1): 2992-2995.
19. Arti N. Soni, A. J. Dhodia and C. D. Pandya (2020) Impact of in service training on knowledge of anganwadi workers regarding anemia and nutritional kitchen gardening. *Gujarat Journal of Extension Education*. Vol. 31 (1) pg.30-34.
20. Poshia, V.K., Tiwari, M.V. & P.D. Verma.(2020).Adoption level of recommended paddy technologies among tribal farmers, *Society of Extension Education Gujarat*, vol.1,issue-31,pp.47,Dec-2020.
21. Poshia, V.K., Tiwari, M.V. & P.D. Verma.(2020).Adoption level of recommended paddy technologies among tribal farmers, *Society of Extension Education Gujarat*, vol.1, issue-31, pp.47, Dec-2020.
22. D. B. Bhinsara, P. D. Verma, J. J. Pastagia and Hitesh Parmar (2021). Study on Knowledge of Owners of Milch Animals about Animal Breeding in Tribal Area of South Gujarat, *Int.J.Curr.Microbiol.App.Sci* (2021) 10(03): 1964-1968.

13.3 Extension Literature:

1. Trivedi, S. J., Patel, R. K., Bhimani, G. J. and Rathod, J. H. (2020). Soybean ni vignanik kheti padhdhati. NAU, Pub. No. 24/2020-21.

13.4 Book/Booklet

૧. કાલરીયા જી.બી. (૨૦૨૦) ખેડૂતોપયોગી સંશોધન ભલામણોલ-૨૦૨૦ પ્રકાશક: વિસ્તરણ શિક્ષણ નિયામકશ્રી, નવસારી કૃષિ યુનિવર્સિટી, નવસારી, પ્રકાશન નં.૪૫/ ૨૦૨૦-૨૧.
૨. કાલરીયા જી.બી. (૨૦૨૦) ખરીફ વ્યાખ્યાન નોંધ, તાલીમ અને મુલાકાત યોજના, તા. એપ્રિલ, ૨૦૨૦ વેબસાઈડ પર મુકેલ છે.
૩. કાલરીયા જી.બી. (૨૦૨૦) રવી વ્યાખ્યાન નોંધ, તાલીમ અને મુલાકાત યોજના, તા. ઓક્ટોબર, ૨૦૨૦ વેબસાઈડ પર મુકેલ છે.
૪. કાલરીયા જી.બી. (૨૦૨૧) ખેડૂતોપયોગી સંશોધન ભલામણો-૨૦૨૦ પ્રકાશક: વિસ્તરણ શિક્ષણ નિયામકશ્રી, નવસારી કૃષિ યુનિવર્સિટી, નવસારી, પ્રકાશન નં.૪૫/ ૨૦૨૦-૨૧.
૫. કાલરીયા જી.બી. (૨૦૨૧) શેરડીની જીવાતોનું સંકલિત વ્યવસ્થાપનલ 'શેરડીની આધુનિક ખેતી પધ્ધતિ', પ્રકાશન નં. ૭૦/ ૨૦૨૦-૨૧. પના નં ૬૯-૭૯.

13.5 Popular article

1. Chavan, S. M. and Pandya C. D. (2020), Lockdown ma 0.5 hectare mathi tarbuchni kheti kari 1.55 lakhni upaj medvi. SANDESH.
2. Butani J. B. and Pandya C. D. (2020), Pashu marfate manushyama felato itardijanya rog vishe jano. KRUSHI PRABHAT.
3. Butani J. B. and Pandya C. D. (2020), Pashu marfate manushyama felato itardijanya rog. KRUSHI PRABHAT.
4. Dr. G.G.Chauhan, Dr. S.A.Patel, J.B. Dobariya, Dr. P.P.Javiya, B.M.Vuhaniya and H.A. Prajapati: Soil preapartion and varieties of Elephant foot yam. Publised in KrushiPrabhat. 23 May 2020.
5. H.A. Prajapati, Dr. S.A. Patel, B.M. Vuhaniya: Ambani khetima may-June masma karvana thata mahatvana kheti karyo. Published in KrushiPrabhat. 25 May 2020.
6. Dr. S.A. Patel: Ghas charama rahela hydrocynic acid zeri tatvo vishe jano. Publishied in KrushiPrabhat. 20 May 2020.
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