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NAVSARI AGRICULTURAL UNIVERSITY



ANNUAL REPORT 2020-21



Navsari Agricultural University
Navsari - 396 450, Gujarat, India
www.nau.in

National level Seminars/Conferences/Symposium National Level Twenty-One Days Virtual Training

The Navsari Agricultural University, Navsari organized a 21 days National Level virtual Training programme under NAHEP-CAAST sub-project on “Sustainable Development of Secondary Agriculture: Economical, Food-Nutritional and Livelihood Perspective” from January 16 to February 05, 2021. Dr. Z. P. Patel, Hon’ble Vice Chancellor, Navsari Agricultural University, Navsari presided over this function and motivated faculties to enhance farm income as well as to develop value added products from agricultural resources. Dr. Mahesh Chander, Joint Director (Extension Education), ICAR-Indian Veterinary Research Institute, Izzatnagar, Uttar Pradesh inaugurated the event as Chief Guest and emphasized the scope and prosperity of secondary agriculture in the era of climate change.

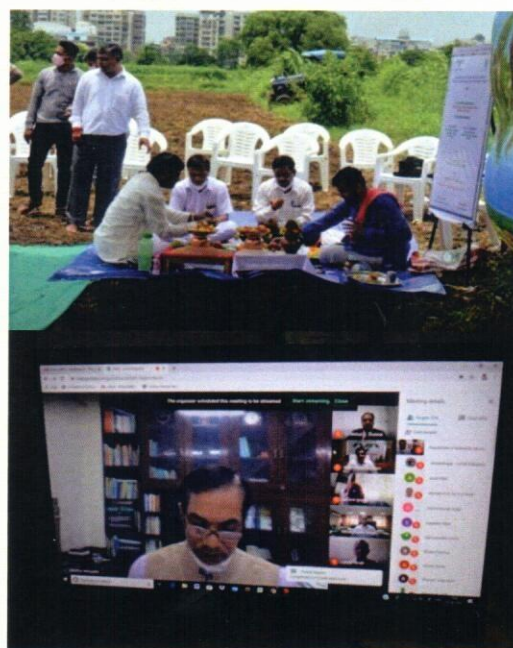
Dr. S. R. Chaudhary, DR & Dean PGS, NAU, Navsari acted as Guest of Honour and briefed participants about research activities and achievements of NAU in the agriculture sector. Dr. T.R. Ahlawat, PI & Nodal officer CAAST, NAU welcomed all the dignitaries and participants and elaborated the activities of NAHEP CAAST project. Dr. M.S. Sankanur, Co-PI (CAAST), anchored the training programme. Speakers of national repute and experts in different spheres of secondary agricultural aspects delivered 48 lectures/ demonstrations pertaining to the latest developments in the field of Secondary Agriculture. About 178 faculties from SAUs/CAUs/ICAR and other Institutes across the countries participated in the training.



Inauguration of New Facilities

Foundation Stone Laying Ceremony of KVK, Surat

A programme on virtual foundation stone laying of administrative building of *Krishi Vigyan Kendra*, NAU, Surat was held on August 5, 2020 in the online presence of Dr. Trilochan Mohapatra, Director General, ICAR, New Delhi as a Chief Guest. Deputy Director General, ICAR, New Delhi Dr. A. K. Singh and Dr. S. R. Chaudhary, Hon’ble Vice Chancellor, NAU, Navsari were Guest of Honour of the programme. Dr. K. A. Patel, Director of Extension Education, NAU, Navsari welcomed all the dignitaries. Dr. Lakhan Singh, Director, ICAR, ATARI, Pune highlighted the achievements of KVK, Surat and success stories of progressive farmers. Dr. S. R. Chaudhary, Hon’ble Vice Chancellor, NAU, Navsari highlighted the achievement of NAU in the field of Research, Education & Extension.

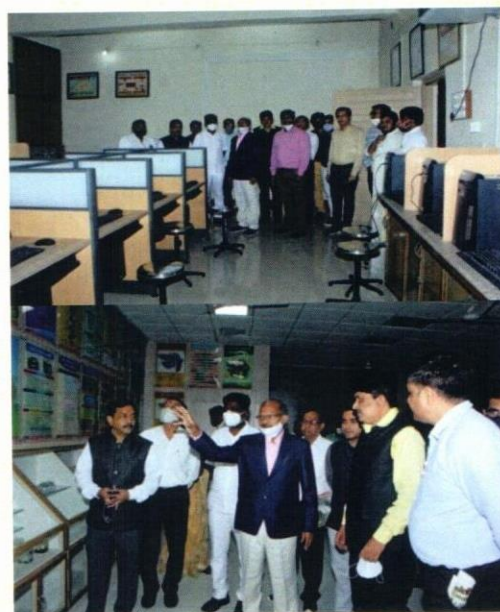


Dr. A. K. Singh, DDG, ICAR, New Delhi enlightened the participants on work of KVK in future. Dr. Trilochan Mohapatra, DG, ICAR, New Delhi guided the participants and made valuable suggestions about doubling farmers income in selected villages of the district. He suggested to promote high tech farming. He emphasized on attracting rural youths as young professionals in agriculture. He also advised to focus on atomization/mechanization in agriculture.



Inauguration of Tissue Culture Lab, Language Lab and Museum at CoA, Waghai

Hon'ble Vice Chancellor, Navsari Agricultural University, Navsari, Dr. Z. P. Patel inaugurated Tissue Culture Laboratory, Language Lab and Museum at College of Agriculture, Waghai on December 14, 2020 in the gracious presence of newly elected Member of Legislative Assembly, Gujarat, Dang, Shree, Vijaybhai Patel, Director of Research and Dean PG Studies, NAU, Navsari Dr. S. R. Chaudhary, Director of Extension Education, NAU, Navsari Dr. C. K. Timbadia and other dignitaries.



University Awards/Recognitions

ICAR-Ranking of Agricultural Universities

Navsari Agricultural University, Navsari conferred with **Forty-second** position at National level amongst State Agricultural Universities/Central Agricultural Universities and ICAR Institutes of India; Thirty-eighth position among SAUs of India and the Third position amongst the SAUs of Gujarat.

NIRF Ranking

The National Institutional Ranking Framework (NIRF) of MHRD, Govt. of India ranked Navsari Agricultural University between 151-200 band amongst overall Indian Universities during 2020.

GSIRFI-Ranking

The Indian Centre for Academic Rankings and Excellence (ICARE) has rated Navsari Agricultural University, Navsari as a **4 star (****) Institute in the category of Universities** on the basis of comprehensive performance metrics as set out in the Gujarat State Institutional Ratings Framework (GSIRF) in 2020.

Appreciation from DMAPR, Boriavi

The Directorate of Medicinal and Aromatic Plants Research, Boriavi, Anand, Gujarat appreciated the Chemical Characterization of several MAPs such as Shatavari, Ashagandha *etc.*, done by the Food Quality Testing Laboratory, NAU, Navsari as a part of NAHEP-CAAST activities.

Best Performing Center Award for AICRP (IFS)

The AICRP on Integrated Farming Systems of NAU, Navsari was conferred with **Best Performing Center Award-2020** for outstanding performance in validation of Integrated Farming systems technologies during 2019-20 on December 18, 2020 by ICAR-All India Coordinated Research Project, IIFSR, Modipuram.

Best Performing Center Award for AICRP (Banana, Sapota & Papaya)

The AICRP on Banana, Sapota & Papaya, Gandevi Centre awarded as **Best Centre of ICAR-AICRP (Fruits)** for outstanding performance in the during the year 2020 during VIII Group Discussion Meeting of ICAR-AICRP on Fruits held in virtual mode during March 3-6, 2021.

KVK Award

The Krishi Vigyan Kendra (KVK), NAU, Vyara, Tapi district received "**National Best Working Innovative Technology in Agriculture**" award given by *Dhanuka Pvt. Ltd.* under the

category "Various Agricultural Activities by the Institute" on January 9, 2020 at NASC, New Delhi.

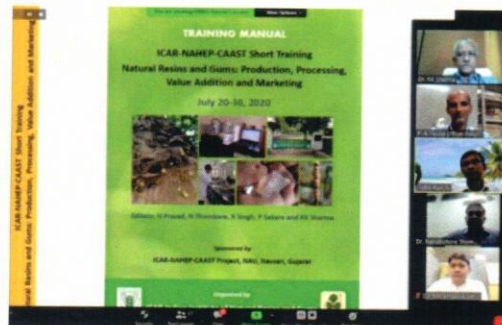
Short Trainings/Workshops Organized for Students/Faculties

National Level Short Term Training

National Level short term training on "Natural Resins and Gums: Production, Processing, Value Addition and Marketing" was organized from July 20-30, 2020. Dr. S. R. Chaudhary, Hon'ble Vice Chancellor, NAU, Navsari was a Chief Guest, Dr. K. K. Sharma, Director, IINRG, Ranchi as President of the function on July 20, 2020. A total of 24 participants benefited including 13 PG students, 6 SRFs and 5 faculty members in 10 days national training which included 20 interactive lectures and virtual demonstrations.

Workshop cum Training on Application of RS & GIS in Agriculture and NRM

Three days' Workshop cum Training on Application of Remote Sensing & GIS in Agriculture and Natural Resource Management was organized by the N.M. College of Agriculture, Navsari Agricultural University, Navsari during March 4-6, 2021 and the programme was inaugurated by the Hon'ble Vice Chancellor, Dr. Z. P. Patel.



Short Trainings/Workshops organized for Farmers & Other Stakeholders

Two Days training on Beekeeping



Two training were organized on "Beekeeping" under NAHEP-CAAST sub-project in association with Horticulture Department, Navsari, Government of Gujarat. The first training was held during January 21-22, 2021. This training programme was inaugurated and graced by Dr. Z. P. Patel, Hon'ble Vice-Chancellor of NAU, Navsari as the President. Also present on this occasion were Mr. D. K. Padaliya, Deputy Director of Horticulture, Navsari, Dr. P. K. Shrivastava, Principal and Dean, ACHF, NAU, Navsari and Dr. T. R. Ahlawat, PI & Nodal officer, NAHEP- CAAST, NAU, Navsari. Dr. T. R. Ahlawat welcomed all dignitaries and farmers to the training programme. During the technical sessions various aspect of beekeeping like its economic significance of beekeeping, importance of bees in pollination, introduction to bee equipment and bee hives, bee foraging plants, queen rearing, role of supplemental feeding,

bee hive inspection- practical, colony capturing of stingless bee colonies, seasonal management of bees, pest and disease managements in honeybees, details of horticulture dept. schemes for farmers, marketing of honey and other bee products were covered. The training consisted of seven talks followed by group discussion on beekeeping. About 60 farmers participated in the training programme. A second batch comprising of 22 farmers were trained on March 17-18, 2021. Apart from six technical lectures, a visit to commercial apiaries was also arranged during the training programme.

One Day Training on "Collection, Storage and Marketing of Mahua Resources"

One day training programme on "Collection, Storage and Marketing of Mahua Resources" was organized under the NAHEP-CAAST sub-project on March 18, 2021. The Hon'ble Vice-Chancellor of Navsari Agricultural University, Dr. Z. P. Patel presided over the valedictory function. Dr. S. R. Chaudhary, DR & Dean PG Studies, Dr. P. K. Shrivastava, Principal and Dean, ACHF, Dr. T. R. Ahlawat, PI & Nodal officer, NAHEP- CAAST& ADR (Hort.), Mr. M.R. Patel, Senior Manager,



GSFDC, Gujarat Forest Department also graced the occasion. Dr. T. R. Ahlawat welcomed all the dignitaries, resource persons, faculty members and the participants to the event. He briefed the participants about the objectives behind the organization of the training programme. Mr. M.R. Patel appreciated the efforts made by CAAST team of NAU in organizing a training on non-timber forest product like Mahua. Dr. P. K. Shrivastava elaborated on the importance of training programme in the midst of the Mahua season and opined that this training will definitely help the collectors. Dr. S. R. Chaudhary highlighted the need for research on value addition of Mahua products. Hon'ble VC, NAU, Navsari in his presidential address emphasized the significance of Mahua conservation and its value in the livelihood of the tribal people. Dr. Abhishek Mehta, Associated Scientist, CAAST-Unit 2, NAU presented the Vote of Thanks. The training consisted of four lectures followed by group discussion on future strategies in Mahua utilization and about 28 tribal collectors of Mahua of South Gujarat benefited from this training.

Skill Development Training on "Preparation of Wooden Decorates"

A Skill Development Training Programme on "Preparation of Wooden Decorates" was organized on March 20, 2021 at College of Agriculture, Waghai campus. The training was held as a part of Capacity Building activity in the NAHEP-CAAST sub-project and was inaugurated by Dr. J. J. Pastagia, Principal, CoA, Waghai along with Dr. T. R. Ahlawat, PI & Nodal Officer, CAAST, NAU, Navsari, Dr. R. P. Gunaga Associate Professor, CoF, NAU, Navsari and



Dr. M. S. Sankanur, Assistant Professor, CoF, NAU, Navsari. Dr. M. S. Sankanur welcomed all the dignitaries, farmers and resource persons to the programme. Dr. T. R. Ahlawat, PI & Nodal Officer, NAHEP-CAAST sub-project briefed the participants about the NAHEP-CAAST sub-project activities and achievements. Dr. J. J. Pastagia, Principal, CoA, Waghai emphasized the preparation of contemporary wooden decorates to farmers. The skill development training consisted of three lectures and three hands-on-trainings for preparation of contemporary bamboo decorates for better earnings. Lastly, Dr. H. T. Hegde, Assistant Professor, CoF, NAU, Navsari proposed the Vote of Thanks. About 48 artisans from Ambapada village of Waghai district in South Gujarat benefited from the training.

One Day Training on "Food Safety and Organic Farming"

One day farmers training programme on "Food Safety and Organic Farming" was organized on March 16, 2021 under the aegis of NAHEP-CAAST sub-project. Dr. Z. P. Patel, Hon'ble, Vice-Chancellor, Navsari Agricultural University presided over the function. Dr. T. R. Ahlawat, PI & Nodal Officer, NAHEP-CAAST sub-project, NAU, Navsari, Dr. V. R. Naik, Associate Director Research, NAU, Navsari, Dr. K. G. Patel, Professor and Head, Dept. of Soil Science and Agricultural Chemistry, NMCA, NAU, Dr. Susheel Singh, Assistant Professor, FQTL, NAU, Navsari were also present on this occasion. The welcome address was delivered by Dr. Timur Ahlawat. Dr. V. R. Nayak emphasized the importance of organic farming and its potential benefits to farmers. Dr. Z. P. Patel, Hon'ble, Vice Chancellor, NAU, Navsari in his presidential speech appreciated the hard work of NAHEP-CAAST team members in organizing the training programme as well as requested the farmers to grasp the cutting-edge technology and other advances in food safety particularly in organic farming systems. About 58 farmers including 49 men and 9 women of South Gujarat attended this training.



Three Days Training on "Modern Dairy Farming"

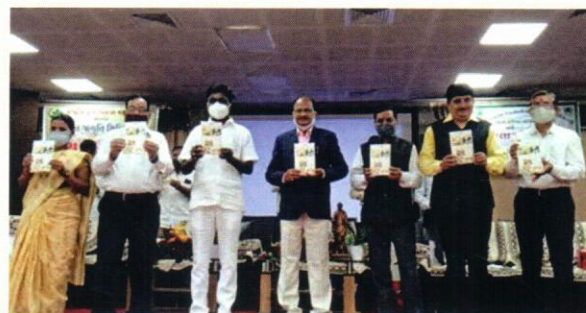
A farmers training programme under NAHEP-CAAST sub-project on "Modern Dairy Farming" was organized during March 22 to 24, 2021 which was inaugurated by Dr. Z. P. Patel, Hon'able, Vice-Chancellor, Navsari Agricultural University, Navsari. T. R. Ahlawat, PI & Nodal Officer, NAHEP-CAAST sub-project, NAU, Navsari, Dr. Ruchira A. Shukla, Principal, AABMI, NAU, Navsari, Dr. N. B. Patel, Research Scientist, LRS, NAU, Navsari, Dr. Swati Gupta, Assistant Professor, Dept. of LPT, VCVS & AH, NAU, Navsari and Dr. V. R. Patel, Dept.



of Animal Nutrition, VCVS & AH, NAU, Navsari were also present on this occasion. Dr. Timur Ahlawat welcomed all the dignitaries, farmers and resource persons. Dr. V. R. Patel emphasized the importance of dairy farming and its potential benefits to farmers. During the inaugural session, the book entitled "Modern Dairy Farming" depicting the various aspects of scientific dairy farming was released by the dignitaries. Hon'ble, Vice Chancellor, delivered his presidential speech and elaborated on his vision for Navsari Agricultural University and NAHEP-CAAST sub project. The three days training programme comprised of 9 lectures and one exposure visit which was organized to Shree Surat Panjarapore farm, Bhestan, Surat. About 42 farmers (40 females + 2 males) benefitted from this training.

Mushroom Cultivation Awareness Programme

The College of Agriculture, NAU, Waghai, Dist: Dang organized Mushroom Cultivation Awareness Programme on December 14, 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 this 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 done.

Farmers *Shibir* on "Vermicompost"

The KVK, NAU, Navsari organized one day Farmer's *Shibir* on Vermicompost at Talavchora village on September 10, 2020. Navsari, Hon'ble MLAs of Chikhli and Navsari were present during the *Shibir*. Six farmers of the village obtained “GOPCA” organic certificate which was facilitated by KVK. About 204 vermibeds were distributed among the farmers. More than 300 farmers attended the *Shibir* and interacted with the KVK Scientists.



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 August 31, 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.

Organization of National and State level Webinars

There were 13 National Webinar organized under NAHEP-CAAST sub-project entitled on “Establishment of Secondary Agricultural Unit for Skill Development in Students and Farmers at NAU, Navsari” in each webinar, three eminent speakers across the country delivered lectures on various aspects of Secondary agriculture. In these webinars were attended by 1475 participants across the country from agriculture and allied fields.

SN	Title of the Talks	Resource persons	Date	Beneficiaries
1. National Webinar on “Covid-19 and Indian Livestock Sector”				
i)	Economic impact of Covid-19 pandemic on dairy business	Dr. Subhransu Pan, Prof. & Head-LPM, W.B.U.A. & F.Sc., Kolkata	June 18, 2020	320
ii)	Goat behavior and Production during Covid-19 pandemic	Dr. D. V. Singh, Professor & Head (LPM), GBPUAT, Pantnagar, Uttarakhand		
iii)	Livestock-Lockdown-Later	Prof. (Dr.) N.S.R. Sastry (Retd. Professor), FAVHF, FNAPM, Visakhapatnam, AP		
2. National Webinar on “Scope and Future Prospects of Medicinal and Aromatic Plants”				
i)	Medicinal Plants for Industrial Perspective	Dr. Vinod K. Bisht, Scientist In-Charge, Zandu Foundation for Health Care Ambach, Pardi, Vapi, Gujarat	January 9, 2021	114
ii)	Process for Extraction and Purification of Secondary	Dr. Satyanshu Kumar, Principal Scientist, DMAPR,		





	metabolites from MAPs	Anand, Gujarat		
iii)	Post-Harvest Technology of Medicinal and Aromatic Plants	Dr. Raghuraj Singh, Scientist (FM&P) DMAPR, Anand, Gujarat		
3. National Webinar on Remunerative Dairy Farming: Smallholder Production System				
i)	Present status and future prospects of dairy farming in India with special reference to dairy cooperatives, private players, PPP models and contract dairy farming	Shri Meenesh Shah, Executive Director, National Dairy Development, Anand	January 16, 2021	198
ii)	Strategies for making dairy farming remunerative: managerial interventions, technology options and policy issues	Dr. Subhransu Pan, Prof. & Head-LPM, W.B.U.A. & F.Sc., Kolkata		
iii)	Alternative source of dairy farm income	Prof. (Dr.) N.S.R. Sastry (Retd. Professor), FAVHF, FNAPM, Visakhapatnam, AP		
4. National Webinar on Pesticide Residue Management: Indian Scenario				
i)	Good Laboratory Practices in Pesticide Residue analysis	Dr. Cherkuri Srinivas Rao (Ex-Director, Pesticide Management-NIPHM) & Professor (Entomology), Agricultural College Acharya N. G. Ranga Agricultural University Bapatla, Guntur, Andhra Pradesh	January 23, 2021	214
ii)	The pros and cons of Pesticide Management Bill 2020	Dr. P.G. Shah, Residue Analyst, AINP on Pesticide Residue Analysis, ICAR-Unit-9, Anand Agricultural University, Anand, Gujarat		
iii)	Pesticide Residue in Food Commodities in India : A Real Time Scenario	Dr. Vandana Tripathi, Senior Scientist, PC-Cell, AINP on Pesticide Residues, New Delhi		
5. National Webinar on “Entrepreneurship Development in Food Processing Sector”				
i)	Entrepreneurship Opportunities in Food Processing	Dr. R. T. Patil, Ex Director, CIPHET, Ludhiana	January 30, 2021	114
ii)	Technical and Legal Prospective for Establishing Food Processing Units	Dr. Satish Kumar Sharma, Professor and Head, Dept of Food Science and Post-Harvest Technology, GBPUAT, Pantnagar		
iii)	Irradiation Technology for Processing and Value addition	Dr. A. K. Sharma, Professor and Head, Dept of Food Process Engineering, College of FPT and BE, AAU, Anand		





6. National Webinar on “Non-Timber Forest Products as Sources of Secondary Agriculture for Livelihood Security”				
i)	Honey as a Source of Livelihood Security	Dr. Pramod Mall, Professor of Entomology GB Pant University of Agri. & Tech., Pantnagar	February 6, 2021	176
ii)	Non-Timber Forest Product as Source of Livelihood Security	Shri. Pradeep Dubey, General Manager, Gram Mooligal Company Limited, Jabalpur		
7. National Webinar on Environmental Footprint of Dairy Farming: Issues and Approaches				
i)	Holistic feeding strategies for reducing carbon and water footprint in dairy farming	Dr. V. Sridhar, General Manager (Animal Nutrition) NDDB, Anand	February 13, 2021	130
ii)	Breeding Strategy for lower carbon and water footprint in dairy farming	Dr. Amit Kumar, Senior Scientist, IVRI, Izzatnagar, Bareilly.		
iii)	Efficient housing models, structures & general management strategies for reducing carbon and water footprint of milk	Dr. S. S. Lathwal, Principal Scientist, NDRI, Karnal.		
8. National Webinar on “Novel Product Development Opportunities from Horticultural Crops during COVID Era”				
i)	Processing and Value Addition of Tree Born Seed Oil	Dr. Devina Vaidya, Principal Scientist, Department of FST, College of Horticulture, Dr YS Parmar UHF, Nauni Solan	February 20, 2021	10
ii)	Role of Value Addition in Citrus on Secondary Agriculture	Dr. Dinesh Kumar, Principal Scientist (PHT) ICAR-Central Citrus Research Institute Nagpur		
iii)	Processing and Value addition of Mushrooms	Dr B.L. Attri, Principal Scientist, DMR (ICAR), Chambaghat, Solan		
9. National Webinar on “Food Safety Management: Contemporary Scenario and Issues”				
i)	Understanding the ISO 22000-2018 under food safety management systems	Dr. K. Manorama, Principal Scientist (Retd.) Quality Control Laboratory, Prof. Jayashankar Telangana State Agricultural University, Rajendranagar, Hyderabad	February 27, 2021	95
ii)	Cutting edge techniques in food safety: A case study on organic contaminants	Dr. Dashrath Oulkar, Manager, India Customer Solution Center, Thermo Fisher Scientific, National Referral Laboratory, Ghaziabad		
iii)	Method validation and uncertainty measurement based on QuEChERS method for pesticide residue	Dr. Ashok Kumar Maurya, Scientist 'C', National Dope Testing Laboratory, Ministry of Youth Affairs & Sports, GoI,		



	analysis	JLN Stadium, New Delhi		
10. National Webinar on “Advances in Forest Resource Utilization and Management”				
i)	Legal Provisions for NTFPs and concept of Access Benefit Sharing	Dr. Sairam Bhat, Professor of Law & Centre Coordinator Centre for Environmental Law Education, Research & Advocacy National Law School of India University, Bengaluru, Karnataka	March 13, 2021	100
ii)	Ecosystem Services in Agroforestry Systems	Dr. G. M. Devagiri, Professor and Head (NRM) College of Forestry, UAHSS, Ponnampet, Kodagu		
iii)	Forest Certification: An Indian Scenario	Mr. Amresh Deshpande, Country Manager, Forest Stewardship Council		
11. National Level Webinar on “Export Oriented Management of Fresh Fruits and Vegetables”				
i)	Post-Harvest Handling of Fresh Fruits	Dr. D.V. Sudhakar Rao, Principal Scientist, Division of Post-Harvest Technology and Engineering, IIHR- ICAR, Hessarghata, Bengaluru	March 6, 2021	93
ii)	Post-Harvest Handling of Vegetables	Dr. S. K. Jain, Professor PHT & Director Extension Education Agricultural University, Kota		
iii)	Advances in Storage of Fruits and Vegetables	Dr. Ram Asrey, Principal Scientist, Division of Food Science and Post-Harvest Technology, IARI, Pusa Campus, New Delhi		
12. National Level Webinar on “Scope of New Age Technologies in Indian Dairy Farming”				
i)	Biosensors: Application for Dairy Farming	Dr. Praveen Singh, Principal Scientist, Biophysics Section, IVRI, Izatnagar	March 20, 2021	92
ii)	Big Data Analytics: Dairy Farming	Er. Priyansh Gupta, Sr. Data Engineer, Fractal Analytics, Gurugram		
iii)	Status and Scope of Artificial Intelligence in Dairy Farming	Dr. A.P. Ruhil, Principal Scientist, DESM Division ICAR-NDRI, Karnal		
13. National Webinar on “Food Quality and Safety: Indian Perspective”				
i)	Aflatoxin Menace in Food and Feed and its Mitigation Practices: A Case Study in Peanuts	Dr. P. P. Thirumalaisamy Senior Scientist (Plant Pathology), ICAR-NBPGR, Regional Station, Thrissur	March 27, 2021	83
ii)	Bioavailability of Functional Food Components/Nutraceuticals Concepts and Application	Dr. Anil Dahuja, Principal Scientist Biochemistry Division, IARI, New Delhi		

iii)	Detection of Pesticides and Detrimental Chemicals in Farm Produce: A Big Hurdle in Export	Dr. Satish Shukla, Assistant Director Export Inspection Agency, Mumbai		
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Motivational Approaches under STUDENT READY-ELP during COVID 19 Pandemic

WEBINAR SERIES (2020-21) under Student READY (EXPERIENTIAL LEARNING PROGRAM): A motivational Initiative leading to Entrepreneurship during COVID 19 Pandemic



Dr. Z. P. Patel, Hon'ble Vice-Chancellor, NAU, Navsari delivered presidential address in the inaugural ceremony of Webinar Series (2020-21) under Student READY (ELP). Chief Guest Dr. R. C. Agrawal, Hon'ble Deputy Director General (Agri. Education), ICAR, New Delhi addressed the august gathering.

ASPEE College of Horticulture & Forestry, NAU, Navsari took an initiative under the dynamic Leadership of Dr. Z.P. Patel, Hon'ble Vice-Chancellor, Navsari Agricultural University, Navsari to organize a Webinar Series under Student READY-EXPERIENTIAL LEARNING PROGRAM (Rural Entrepreneurship Awareness Development Yojana) on e-platform, which was proposed as a motivational Initiative leading to Entrepreneurship during COVID 19 Pandemic and officially inaugurated on November 06, 2020. The inaugural ceremony of the Series was presided over by Dr. Z.P. Patel, Hon'ble Vice Chancellor, Navsari Agricultural University, Navsari and the Chief Guest was Dr. R. C. Agrawal, Hon'ble Deputy Director General (Agri. Education), ICAR, New Delhi. Padma Shri Prof. Brahma Singh, Former Director, Life Science, DRDO, New Delhi and Dr. Naveen Patle, Additional Commissioner (Horticulture), Government of India, New Delhi, Dr. S. R. Chaudhary, Director of Research, NAU, were the Guest of Honour of this ceremony. Dr. P.K Shrivastava, Principal & Dean cum CEO (Student READY), ASPEE College of Horticulture and Forestry, Dr. T. R. Ahlawat, ELP Coordinator and ADR, NAU, and Dr. Sanjeev Kumar, Series Coordinator of Webinar Series were also joined the stage. The online ceremony of this Series was enlightened by the gracious presence of all the dignitaries. The Sessions under this Webinar Series commenced from November 10, 2020 and continued till December 03, 2020. Total 14 talks were arranged from external experts and they delivered lead lectures on the aspects of basic requirements for project formulation in terms of loan and subsidy for Agri projects, NABARD Initiates on Agri Entrepreneurship, Agriculture Entrepreneurship and Banking Synergy Program, including the technical and practical approaches related to 4 ELP Modules namely Protected Cultivation of High Valued Horticultural Crops, Commercial Production of Horticultural Planting Materials, Post-Harvest Handling and Value Addition in Horticultural Crops, Floriculture and Landscape Architecture of 4 Models being adopted by ASPEE College of Horticulture & Forestry, NAU, Navsari.

World Fisheries Day

On the occasion of 'World Fisheries Day', a one-day seminar on 'Potential of Ornamental backyard fish culture in Ukai' was jointly organized by Centre of Excellence, Kamdhenu University, Ukai, Office of Assistant Director of Fisheries, Ukai and Krishi Vigyan Kendra, NAU, Vyara, Dist, Tapi on November 21, 2020. Information about the schemes related to fisheries was provided to participants. Progressive fishermen from Selud village, shared their experiences about the fishery business with fishermen. Total 60 fishermen from different villages of Tapi district enthusiastically participated in the programme.



National Milk Day

November 26, is celebrated all over India as 'National Milk Day' to mark the birth anniversary of Dr. Varghese Kurien, Father of White Revolution. KVK, NAU, Vyara, Dist: Tapi organized an Animal Health Camp in collaboration with Mahila Samakhya-Tapi and Veterinary Hospital, Songadh at Maiyali village of Songadh block. About 132 dairy animals were treated with reproductive defects, pregnancy diagnosis, ectoparasitic problems, reduction in milk production etc. and about 40 goats were also given deworming drugs. The *Sarpanch* of the village Mrs. Ankitaben Gamit was present in this camp and encouraged livestock keepers to participate in the camp. Total 46 livestock keepers from Maiyali village enthusiastically participated in this camp.



Trainings/Workshops/Exposure Visits for Students

Orientation cum Training Programme on Agricultural Entrepreneurship and Personality Development

The College of Agriculture, NAU, Waghai has organized six day orientation cum Training Programme on "Agricultural Entrepreneurship and Personality Development for the students of seventh Semester, B.Sc. (Hons.) Agri. Dr. J. J. Pastagia Principal, College of Agriculture, NAU Waghai gave the introductory welcome speech. Honourable Vice Chancellor, Navsari Agricultural University, Navsari Dr. Z. P. Patel sir in his presidential speech narrated the possibilities of agricultural entrepreneurship and motivated the students to become a job giver rather than job seeker. During the training students were exposed to nineteen different agricultural based entrepreneurship by successful entrepreneurs in their respective areas.

First Ever ONLINE In-house 'Campus to Corporate-C₂C'

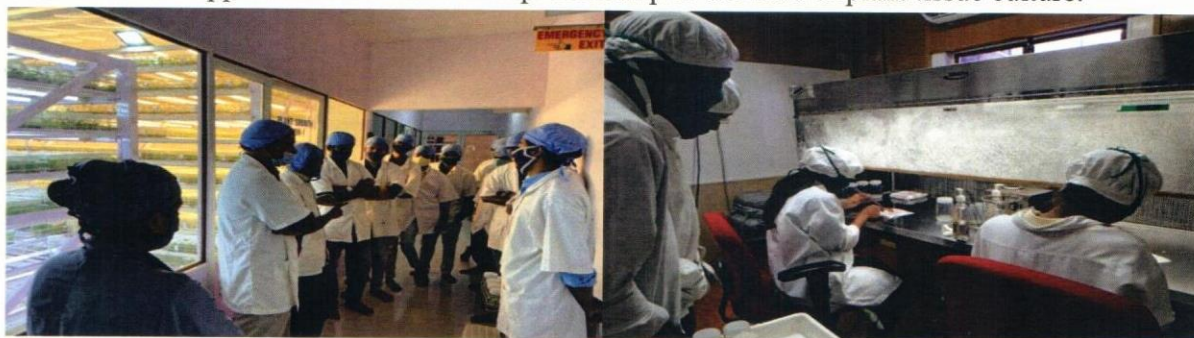
Post-COVID-19 Placement Season-2021; the University Placement & Counselling Cell, DSW Office of NAU, Navsari organized a Powerful Pre-Placement Preparatory Training Module of the first Ever Online In-house Full Day Career Management Training Programme on "Campus to Corporate – C₂C" for MBA (ABM) students of ASPEE Agribusiness Management Institute on December 15, 2020. The Chief Guest Dr. R. M. Naik – Director of Student's Welfare; Presidential Address, the Hon'ble Vice Chancellor, Dr. Z. P. Patel led from the front and inspired the august gathering of 65+ MBA (ABM) students and faculty members of AABMI.

Exposure Visit to Indus Tissue Technologies at Vanzanna

An exposure visit to Indus Tissue Technologies, at Vanzanna, Rankuwa, Ta. Chikhil, Dist. Navsari was made on February 20, 2021. The main purpose of this visit was to foster the spirit of entrepreneurship among students in the field of micropropagation. Nine PG students,



one SRF, eighteen UG final year ELP students, four skilled persons from plant tissue culture lab, Dept. of GPB participated in this exposure visit along with Dr. Ajay V. Narwade, Assoc. Professor & GRM Nodal officer, NAHEP-CAAST sub-project, NMCA. Three hands-on-trainings/demonstrations were conducted during the exposure visit. Indus Tissue Technologies was established by Mr. Rajendrakumar Parsotan Patel, a successful entrepreneur in Plant Tissue Culture Industry from Vanzanna, Rankuwa, Ta. Chikhil, Dist. Navsari. Indus Tissue Technologies has a production capacity of 25, 00,000 with a lab area set up of 4500 sq. ft, greenhouse area of 3500 sqft, and net house area of 3000 sq.ft. Students were sensitized about the production of high-quality tissue culture plantlets and various byproducts from the banana pseudostem waste for sustainable use in domestic and international markets. This exposure visit showcased the opportunities for self-entrepreneurship in the field of plant tissue culture.



Exposure Visit to *Gaushalas* in Saurashtra and Kutch regions



An exposure visit was organized to *Gaushalas* in Saurashtra and Kutch regions of Gujarat Under CAAST sub-project from March 2-6, 2021 to explore the possibilities regarding production of value added products from the by-products of *Gaushalas*. A team comprising of four members viz., Dr. N. B. Patel, Head, LRS, Dr. Durgga Rani V., Assistant Professor, Dept. of Veterinary Extension Education, Veterinary College and 2 CAAST SRFs Mr. Lalji B. Kalasariya and Dr. Sawan Rathwa travelled to Aksharpurshottam Gaushala Trust at Balvada, Botad; Shree Ramkrishna Gaushala Trust at Kukma, Bhuj; Shree Kutch Narayan Sarovar Gaushala Trust, Narayan Sarovar Bhuj and Ahinsa Pashu Raksha Kendra, Mundra, Bhuj. Aksharpurshottam Gaushala Trust at Balvada, Botad maintained Gir cattle, Jafarabadi buffaloes and Kathiawadi horses at the Gaushala. Vermicompost, vermiwash and biogas were produced from cow dung by the trust. Vermicompost and vermiwash were sold in the local market and biogas was used for cooking in their community kitchen. Ark was produced from cow urine through vaporization and sold, which is claimed to have many medicinal properties. Ramkrishna Gaushala Trust at Kukma, Bhuj maintained Girand Kankrej cattle at the farm and produced many value added products from cow dung like frame of clock and mirror, mementos, idols of Hindu Gods, flower pots, *diyas*, soaps, incense sticks and other handicraft products.



Short visit to Waghai



A short visit was undertaken by Dr. R. P. Gunaga, Associate Professor & Co-PI-CAAST, CoF, NAU, Navsari, Dr. M. S. Sankanur, Assistant Professor & Co-PI-CAAST, CoF, NAU, Navsarialong with one SRF and two skilled trainers to Ambapada village, Waghai under NAHEP-CAAST sub-project on March 10, 2021. The visit was intended to study Kotwalia tribe's bamboo work and identified potential artisans for the training programme under the project. They also visited Vanil Udyog, Navtad and interacted with their staff and witnessed the manufacture of various furniture, decorates, utensils prepared from wood as well as the preparation of Ayurvedic products from important medicinal and aromatic plants.

Short visit to Gujarat Forestry Research Foundation (GFRF), Gandhinagar



A short visit was undertaken by Dr. H. T. Hegde, Assistant Professor & Associate Faculty, CAAST, CoF, NAU, Navsari to Gujarat Forestry Research Foundation, Gandhinagar. In a meeting with the officials and research staff, he briefed them about the objectives and mandate of the CAAST project and its importance. Actives undertaken in the project were appreciated by the House. Potential areas of research on Non-Timber Forest Products (NTFPs) and MAPs were also discussed.

Short visit to South Asian Association for Regional Cooperation Disaster Management Centre (SDMC) and Gujarat Institute of Disaster Management (GIDM)



A short visit to South Asian Association for Regional Cooperation Disaster Management Centre (SDMC) and Gujarat Institute of Disaster Management (GIDM) at Gandhinagar for future training and research was organized on March 03, 2021. During the visit, faculty members interacted with Dr. Sandeep Pandey, Associate Professor cum Sr. Programme Manager about the possible trainings and exposure to disaster risk reductions opportunities in secondary agriculture. It was agreed upon to arrange a visit of CAAST students to SDMC and GIDM so that they develop a better understanding of disaster management. Concurrently, the team also interacted with Gujarat Forest Research Foundation officials and Forest Officers during project proposal appraisal meeting in Aranya Bhawan, Gandhinagar.



Exposure visit to *Adi Aushadhi* Group, Dediapada



An exposure visit was arranged on March 12, 2020 to *Adi Aushadhi* Group, a Dediapada based NGO. This group is involved in the manufacture of herbal medicines and edible products for the socioeconomic development of *Vasavas*-a tribal community of that region. Five students of the CAAST project participated in the visit which was led by Dr. R. S. Chauhan (Assistant Professor) and Dr. H. T. Hegde (Assistant Professor). Mr. Himmat Chauhan, the Co-founder of the group, welcomed and briefed the participants about the genesis, objectives and functioning of the NGO. Mr. Franklin, another Co-founder, demonstrated the making of herbal medicines and herbal edible products like Bramhi Khakhra, Bramhi Khari Biscuit, Mixed Grain Biscuits, Nagli Soyabean Biscuit, Herbal Tea Masala, Khatti Bhindi Sharbat, Mahuda ice-cream *etc.*

Certificate Courses

Certificate course for Input Dealers



The NAU successfully completed the seventh batch of “Certificate in Agricultural Extension Services for Input Dealers”. This course is of six months duration. About 26 input dealers from South Gujarat were awarded with certificates on successful completion.

Certificate Course on INM for Fertilizer Dealers



The NAU successfully completed the first batch of “Certificate Course on Integrated Nutrient Management for Fertilizer Dealers” course. In all, 17 dealers were awarded with certificate on successful completion of this 15 days course.

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 February 15, 2021. Total 25 dealers were awarded with certificate at NAU, Navsari.



Wildlife photography Certificate Conferment Ceremony

A One Year Certificate Course in Nature and Wildlife Photography organized its eighth passing out exhibition during March 20-21, 2021. Hon'ble Vice Chancellor Dr. Z. P. Patel and Dean Dr. P. K. Shrivastava inaugurated the exhibition for students, staffs and visitors. The Certificate Conferment Ceremony was organized on March 22, 2021 and medals and certificates were awarded to the students. During the ceremony Dr. C. K. Timbadia, DEE, Dr. P. K. Shrivastava, Dean and Mr. Nevil Zaveri, Course Guide graced the occasion. 17 students were awarded the course completion certificate

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.

Visits of Dignitaries

Dr. Z.P. Patel, Hon'ble Vice Chancellor, Navsari Agricultural University, Navsari visited various Colleges and research stations after joining the University and interacted with faculties and students.



Hon'ble Vice Chancellor, Dr. Z. P. Patel visited Mass production unit of fruit fly trap, Department of Plant Protection, ACHF, NAU, Navsari on October 27, 2020.



Hon'ble Vice Chancellor, Dr. Z. P. Patel visited various departments and farms of ACHF, NAU, Navsari on October 27, 2020.



Dr. Z. P. Patel, Hon'ble Vice Chancellor, NAU, Navsari visited the Bamboo Resource Centre, College of Forestry on November 13, 2020.



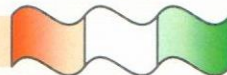
Dr. Z. P. Patel, Hon'ble Vice Chancellor, NAU, Navsari visited various departments and CAAST museum at College of Forestry on November 20, 2020.

4	Pulse Electric Field for Food Processing Technology	Dr. Pooja Lakhanpal, Senior R&D Food Scientist, Pearson's Candy Company Minneapolis Saint Paul, Minnesola, US	September 7, 2020	296
5	Edible Films and Coatings to Preserve Horticultural Crops	Dr. Asgar Ali, Director Centre for Postharvest Biotechnology University of Nottingham, Malaysia Campus, Malaysia	September 7, 2020	62
6	The Essentials for Multi-residue Analysis of GC-MS Amenable Pesticides in Food	Richard Fussell, Vertical Marketing Manager, Food & Beverage, Thermo Fisher Scientific, Hemel Hempstead, UK	November 20, 2020	98
7	Routine Trace Residue Quantitation with Comprehensive Workflows: Solutions for Success in Today's Laboratories	Ed George, Senior Application Scientist, San Jose, California, Thermo Fisher Scientific	November 20, 2020	98
8	Use of High Resolution Mass Spectrometry in Food Analysis	Charles Yang, Senior Marketing Specialist for the Environmental, Food and Beverage, San Jose California, Thermo Fisher Scientific.	November 20, 2020	98
9	Impacts of Climate Change and Heat Stress Mitigation in Farm Animals	Dr. Surinder Singh Chauhan, Animal Scientist School of Agriculture & Food Faculty of Veterinary and Agricultural Science Dookie Campus, Dookie College The University of Melbourne, Victoria 3647, Australia	October 08, 2020	70
Total				1211

Distinguished Guest Lecture Series Organized

There were Twelve Distinguished Guest Lectures organized during the period under report by invited experts across the country benefitting about 931 participants including PG Students and faculties of NAU, Navsari. The details of these lectures are as under.

SN	Title of Lectures	Name of Speakers and affiliation	Date/ Duration	Participants benefited
1	Safety Aspects of Fermented Milk Products	Dr. Pradip Behare, Scientist Dairy Microbiology Division, ICAR-National Dairy Research Institute, Karna	October 9, 2020	55
2	Pesticide Residue in Export Oriented Food Commodities	Mr. Vikram Singh, Organic Chemist, Regional Research Station The National Horticultural Research and Development Foundation (NHRDF), Nashik	October 9, 2020	55
3	Food Authenticity : Introduction Scope and Significance	Dr. Raina Jain, Jr. Scientist - Mol. Biology (R & D Dept.) National Collateral Management Services Ltd., Indore	October 9, 2020	55
4	Food Safety and	Dr. K. Manorama, Retd, Professor and	October	64



	Quality Assurance: Farm to Table	Head; Department of Foods and Nutrition, Post Graduate & Research Centre, Prof. Jayashankar Telangana State Agricultural University, Rajendranagar, Hyderabad	8, 2020	
5	Food Quality and Safety: Significance and Scope in Secondary Agriculture	Dr. Julie D. Bandral, Associate Professor Division Of PHT/Food Science And Technology Faculty of Agriculture, Sher-e-Kashmir University of Agricultural Sciences & Technology of Jammu, Chatha, Jammu	October 8, 2020	64
6	Environmental Implication in Food Quality and Safety	Dr. Vivek M. Arya Assistant Professor (Senior Grade) Faculty of Agriculture, Sher-e-Kashmir University of Agricultural Sciences & Technology of Jammu, Chatha, Jammu	October 8, 2020	64
7	Regulatory Environment For Safe Use of Agrochemicals in India	Mr. Vijay Jha, Manager (Registration) Rallis India Ltd., New Delhi October 7 at 9:30 AM 2 Online Underutilized Foods For E	October 7, 2020	101
8	Underutilized Foods For Enhancement of Food And Nutritional Security	Dr. K. Aparna, Sr. Scientist (MFPI - Quality Control Laboratory) Prof. Jayashankar Telangana State Agricultural University Rajendranagar, Hyderabad	October 7, 2020	101
9	Role of Honey bee in Food Security	Dr. D. P. Abrol, Dean, Faculty of Agriculture Sher-e-Kashmir University of Agricultural Sciences & Technology of Jammu, Chatha, Jammu	October 7, 2020	101
10	The Growing Concerns of Veterinary Drug Residues in Foods of Animal Origin	Dr. J. K. Malik, Former Joint Director (Research) Indian Veterinary Research Institute, Izatnagar, Bareilly	December 03, 2020	46
11	ICT tools for livestock sector: Present trends and Future Prospects	Dr. Mrs. Rupasi Tiwari, Principal Scientist & I/C ATIC Joint Directorate of Extension Education Indian Veterinary Research Institute Izatnagar, Bareilly (UP)	August 04, 2020	115
12	Certification of Non-Wood Forest Products in India	Dr. Manmohan Yadav, Associate Professor Indian Institute of Forest Management, Bhopal	October 27, 2020	110
Total				931