



Vol 21 No. 3 July - September



ICAR-CIPHET

News

ICAR - CENTRAL INSTITUTE OF
POST-HARVEST ENGINEERING & TECHNOLOGY
AN ISO 9001:2015 CERTIFIED INSTITUTION

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Published by:

Director, ICAR-Central Institute of
Post-Harvest Engineering and
Technology
P.O. PAU Ludhiana-141004 (Punjab)
0161-23131103, 2313116
Fax: 0161-2308670
www.ciphnet.in
director.ciphnet@icar.gov.in,
tot.ciphnet@gmail.com

Editor in-Chief

Dr. Nachiket Kotwaliwale, Director

Editors

Dr. Sandeep Mann, Pr. Scientist & I/c
PME
Dr. Armaan U. Muzaddadi, Pr. Scientist
Dr. Khwairakpam Bembem, Scientist
Dr. Renu Balakrishnan, Scientist

Assisted By:

Ms. Pragya Singh T.A
Er. Sewak Singh YP-I

DIRECTOR SPEAKS



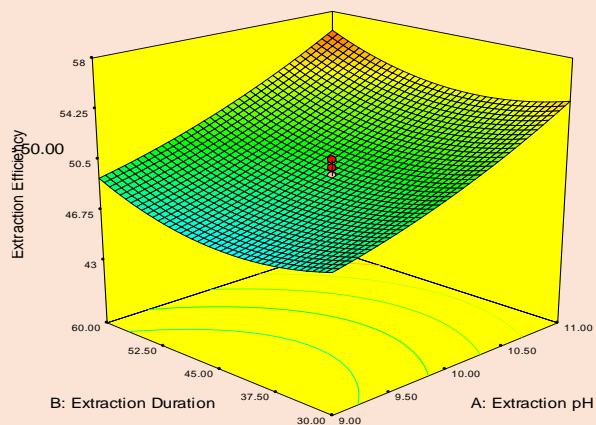
It is a matter of great pleasure to share the third volume of ICAR-CIPHET Quarterly Newsletter, 2021. In this volume we have included some research highlights from the institute and also from both the AICRP-PHET and AICRP-PEASEM centres. To mention few are process optimization for extraction of protein from de-oiled rice bran, screening and characterization of fungi for production of lignocellulolytic enzymes for structural degradation of de-oiled rice bran, particle size analysis and X-ray diffraction patterns of mango seed kernel starch, mechanized system for fruit bar manufacturing using Refractance Window drying technique. AICRP on PHET- Akola centre have tested multi commodity vegetable seed extractor for cucumber seed extraction. AICRP on PHET-UAS, Bangalore centre have developed process technology for avocado-milk-brown top millet drink, prototype of dehuller based on abrasive principle suitable for all millets and a hermetic storage technology for prolonged storage of foxtail millet rice and management of insects and rancidity. AICRP on PHET-Tavanur centre has standardized the process protocol for the production of wine from cocoa mucilage. Highlights from AICRP on PEASEM includes standardization of supplemental lighting system for lettuce grown in soilless media under protected cultivation and standardization of supplemental lighting system for lettuce grown in soilless media under protected cultivation in PAU, Ludhiana centre; two tier animal housing system developed by ICAR-CIRG, Makhdoom and a three-layered thermo-insulated rooftop developed to protect yak from radiant heat load by NRC on Yak, Dirang centre.

Scientists of the institute have published number of publications in refereed journals, magazines and other platforms sharing their research achievements with stakeholders. During this quarter, we have organized ATMA sponsored farmers training on 'Post-harvest Technology for Agricultural Produce' for 30 farmers of Bihar, EDPs for prospective entrepreneurs, officer training and also students training. The institute also organized a number of events including the activities under KVK, *Azadi ka Amrit Mahotsav* celebrations-a 75-week grand celebration launched by honorable prime minister Shri Narendra Modi to mark 75 years of Independence. It is also to mention that ICAR-CIPHET has started National Webinar series on CIPHET-Post-harvest Technologies which is held every month.

RESEARCH HIGHLIGHTS

Optimization of process conditions for protein extraction from de-oiled rice bran

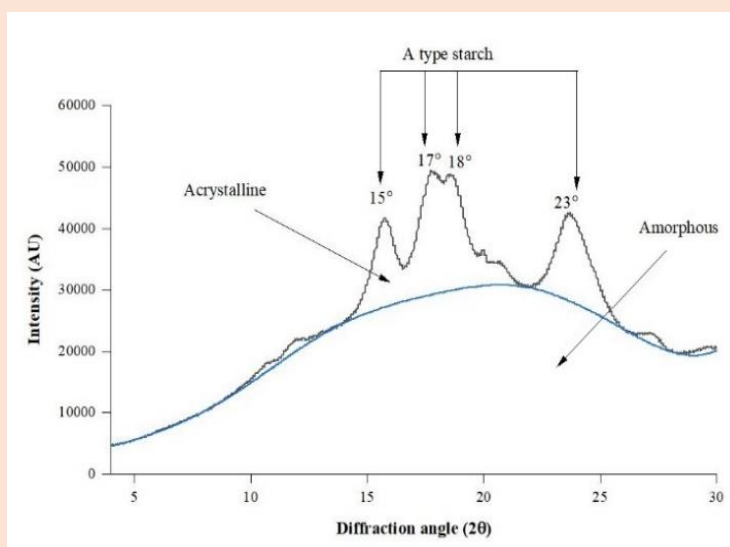
De-oiled rice bran (DRB) is generated as a leftover after oil extraction from rice bran. Currently, it is commonly used for animal feeding owing to its handling and processing difficulties. On the other hand, this leftover bran contains approximately 15 to 17% proteins, which possess excellent nutritional, nutraceutical, and functional properties. Thus left over de-oiled rice bran (DRB) was collected from a rice bran refined industry and characterized in terms of its physical and flow properties (bulk density, tapped density, compressibility index, hausner ratio, particle size analysis), Hydration Properties (moisture content, water activity (aw) and water holding capacity) and its Chemical properties (crude protein content, crude fat content, crude fiber content). Physical and flow properties showed a good flowability of DRB during its commercial handling for protein extraction. The hydration properties of DRB revealed a value of aw < 0.6, which means DRB is stable from microbiological point of view for its storage. The analysis of chemical properties of DRB includes crude protein content (15.5%), crude fat content (0.6%), and natural fiber content (15%). The particle size of DRB was less than 1mm. The characterization of DRB helped further to screen and select the appropriate independent variables for further process optimization of protein extraction from DRB. Hence Central Composite rotatable design (CCD) in Design expert ® software was used to study the effects of independent variables like extraction temperature (40-60 °C), extraction duration (30-60 min), and extraction pH (9-11) on the responses viz. extraction efficiency (%), recovery (%), yield (g) in a 20 run experiment. The methodology includes alkaline extraction followed by acid precipitation (at 4.5 pH) is used for protein extraction from DRB. The values of all three responses were calculated based upon moisture content (%), total suspended solids (%), and crude protein content (%) of supernatant and precipitate obtained from each experimental run. Based upon the results, the optimized conditions for protein extraction from DRB are extraction temperature (57.8°C), extraction duration (60 min), and extraction pH (11). The protein extracted with optimized conditions has an extraction efficiency of 59% and recovery of 6% and yield 7.5 gm with crude protein content of 78.5%.



Effect of Extraction duration (min) and extraction pH on extraction efficiency of protein from de-oiled rice bran

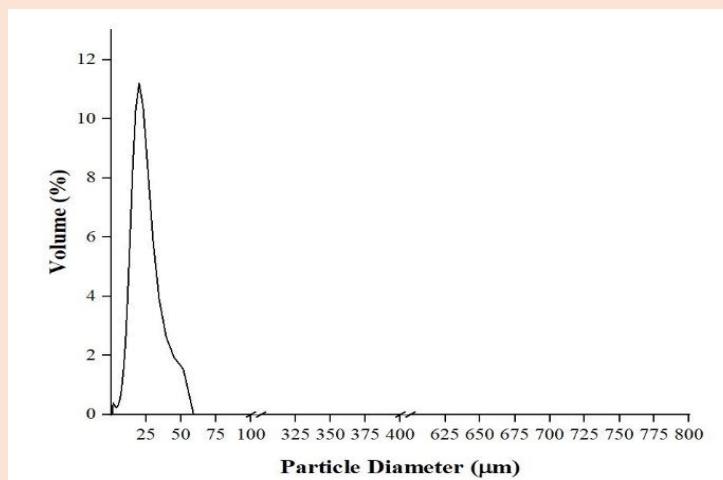
Particle size analysis and X-ray diffraction patterns of mango seed kernel starch

Crystallinity index plays a significant role in determining swelling and enzymatic behavior of starches. According to the characteristic X-ray diffraction lines, the crystal structure of starch can be divided into four types, including A, B, C and V type. The isolated mango seed kernel (MSK) starch showed diffraction peaks at (2θ) of 15°, 23° and an unresolved doublet peak at 17 and 18° and fall into A-



X-Ray Diffraction (XRD) pattern of mango seed kernel starch

type starch group. It showed crystallinity index of 40.08% which was due to their high proportion of amylopectin in structure. On the other hand, particle size distribution analysis showed at 10% (D v 10) and 90% (D v 10) diameter of volume distribution, mean, mode and median in the range of 9.71 μm , 96.28 μm , 38.12 μm , 18.60 μm , and 19.86 μm , respectively. MSK starch showed unimodal particle size distribution exhibiting large individual peak as shown by laser diffraction analysis.



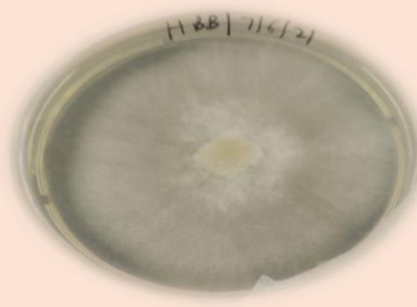
Particle size distribution of mango seed kernel starch

Screening and characterization of fungi for production of lignocellulolytic enzymes for structural degradation of de-oiled rice bran

White-rot fungi (wood decay fungi) are the most effective for delignification due to production of lignolytic extracellular oxidative enzymes. Thus four White rot fungi, namely *Pycnoporus cinnabarinus*, *Trametes versicolor*, *Ganoderma lucidum*, and *Pleurotus ostreatus*, were selected.



(a) *Pycnoporus cinnabarinus*



(b) *Trametes versicolor*



(c) *Ganoderma lucidum*



(d) *Pleurotus ostreatus*

White-rot fungi on Malt extract agar plate

These fungi were further screened for their laccase enzyme (lignin-degrading) activity using Guaiacol as substrate by Qualitative (Measurement of Zone of oxidation) & Quantitative method (enzyme activity). Among these four fungi, *Trametes Versicolor* showed a maximum zone of coloration measured 8.0 ± 0.1 mm in Qualitative Screening and maximum laccase enzyme activity 15.0 ± 0.4 U/mL in Quantitative Screening.



Zone of coloration of *T. Versicolor*

Trametes Versicolor was further characterized further for multiple enzymes (Cellulase, Amylase, Laccase, Protease, Xylanase) production required for lignocellulolytic structure degradation of De-oiled Rice bran. *Trametes versicolor* showed positive results for Cellulase (establishing a clear zone of yellow color around the sample), Laccase (Brown color clear zone of oxidation was observed), and Protease enzyme (Transparent zone was observed). The selected fungi will be further used for the production of the enzymes via solid-state fermentation.

Enzyme test	Staining	Observation	Results
Cellulase	Congo Red	clear zone (yellow color) around the sample	+ve
Amylase	Iodine	No clear zone was observed	-ve
Laccase	Guaiacol assay	Brown color clear zone of oxidation was observed	+ve
Protease	TCA (tri-chloro acetic acid)	No transparent one was observed	+ve
Lipase	Precipitation with tween 20	No formation of precipitation of calcium salts of lauric acid	-ve
Xylanase	Congo Red	No clear zone	-ve

Characterization of T. versicolor for multiple enzyme

Development of mechanized system for fruit bar manufacturing

Refractance window (RW) dryer developed by ICAR-CIPHET, Abohar is a continuous type dryer based on refractance window drying technique. The dryer consists of mylar sheet which are kept over water bath. The water is heated up to just below the boiling point. The fruit pulp is spread on the mylar sheet and the float moves from one end of the dryer to the other end. Exhaust and step down motor are attached. Fruit pulp is dried using the dryer to achieve intermediate moisture content (20-25% wb) from initial moisture content of approx. 80% (wb) in about 3 hours. Fruit bars are conventionally prepared by tray drying/sun drying and bars prepared using these techniques takes longer time to dry which adversely affects the color and flavor of the product followed by nutritional losses. Whereas due to lesser drying time in refractance window drying the overall product quality in terms of color, flavor, and nutritional profile is maintained.

AICRP on PHET

Cucumber seed extraction machine

Multi commodity vegetable seed extractor of PHET- Akola center was tested for the cucumber seed extraction with modifications in the sieve and cleaning drum of the machine. The capacity of machine was found to be 300 kg per hour with 99.93 percent extraction efficiency.



Cucumber seed extractor

Process technology for avocado-milk-brown top millet drink

UAS, Bangalore centre standardized a process protocol for the preparation of avocado-milk-brown top millet health drink. The brown top millet rice was soaked overnight, required quantity of water was added and the slurry was prepared by grinding in high speed mixer-grinder. The resultant slurry was boiled till optimum viscosity was developed due to gelatinization. Freshly prepared slurry was blended with avocado pulp and skim milk powder (SMP) to prepare the beverage. Specially prepared 'masala' was added to improve taste. The pasteurized masala blend at the ratio of 3:5:5 brown top millet: avocado: SMP was most acceptable based on sensory acceptability studies. Pasteurized drink was acceptable up to 7 days when stored at refrigerated condition.



Avocado-milk-brown top millet drink

Hermetic storage technology of foxtail millet rice

UAS, Bangalore centre developed a hermetic storage technology for prolonged storage of millet rice and management of insects and rancidity. Foxtail millet rice packaged in 80-micron EVOH multi-layered film package (*Pro-Harvest*) and sealed hermetically could be stored at ambient conditions for 60 days maintaining shelf-life quality i.e., without appreciable rise in rancidity and insect infestation. Dehulled foxtail millet rice treated with gamma irradiation @ 0.5- 1.0 kGy and packed in 80-micron EVOH multi-layered film package (*Pro-Harvest*) could be stored under ambient conditions for at least 6 months without insect infestation or rise in rancidity of stored grains. The microbial load (bacterial & yeast) was also low in the treated grain improving the quality of millet rice.



Gamma irradiated foxtail millet rice in EVOH package

Small millets dehuller

UAS, Bangalore centre developed a prototype of dehuller based on abrasive principle and suitable for all millets. The prototype consists of a hopper, dehulling chamber and a hull aspiration unit, all mounted on a sturdy angular frame work. The machine is operated by 5 hp electric motor. The dehulling takes place by abrasive mechanism. An emery coated cylinder (slightly tapered) rub the millets against the ribbed concave to separate the outer hull (husk) from the endosperm of grain. The gap between the cylinder and concave slightly reduced from feed to discharge end in order to create sufficient grain pressure in the dehulling chamber. The dehulled grains along with husk come out of dehulling chamber and fall by gravity into the husk aspiration unit where the hull is separated out and carried away by the air stream. The hull laden air is passed to a cyclone separator to separate hull from the air. The dehulling efficiency of >95% was observed for most small millets except for brown-top millet for which it was about 75% (2 passes). The prototype is still fine-tuned to achieve higher dehulling efficiency and lesser millet rice grain breakage. The capacity of the machine is 100 kg/h.



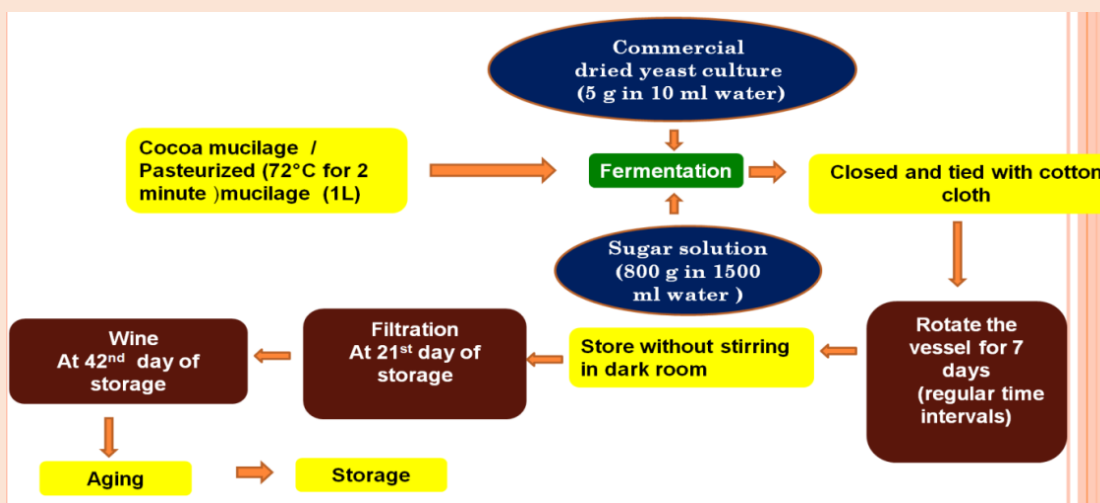
Small millets dehuller

Process protocol for the production of wine from cocoa mucilage

AICRP on PHET Tavanur Centr has developed a process for the production of wine from cocoa mucilage. Prior to the development of wine, the physico-chemical properties of the cocoa mucilage were estimated. The cocoa mucilage had a pH of 4.9. The TSS, titrable acidity and ascorbic acid values were 14.23°Brix, 0.182 mg/100ml and 3.5 mg/100ml, respectively. The colour values viz., L*, a* and b* of cocoa mucilage were 44.34, 6.11 and 62.25, respectively. It had a viscosity value of 5.34 cp. The cocoa sweating from the extracted cocoa pulp was collected and used for wine preparation. The quality parameters of wine were evaluated. The ethanol content in wine was recorded as 9.8 % and 10.2 % in wine prepared from pasteurized and un- pasteurized cocoa sweating, respectively. This level is under the acceptable limit of maximum permissible ethanol content accepted for fruit wines. The quality parameters such as pH, TSS, ascorbic acid content of wine were recorded as 3.48, 18.6°Brix and 1.34 mg/100 ml for wine made from fresh cocoa sweating, whereas, for wine prepared from pasteurized cocoa sweating was 3.63, 20.5°Brix and 1.64 mg/100 ml.



Cocoa pod breaker & Cocoa pulp extractor



Flow chart of wine making



Cocoa mucilage & Wine

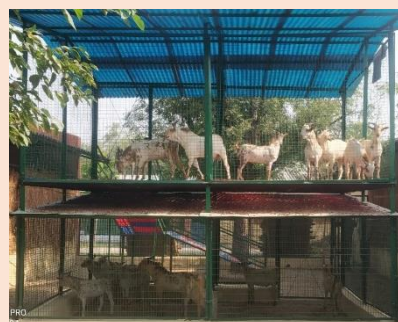
AICRP on PEASEM

Standardization of supplemental lighting system for lettuce grown in soilless media under protected cultivation

PAU, Ludhiana has standardized supplemental lighting system for lettuce grown in soilless media under protected cultivation. Lettuce crop recorded significantly higher yield in winter season of both the years with supplement lighting as compared to spring season. The average yield recorded during winter season (I and II) was significantly different in all the three supplemental lighting treatments as well as control with highest value of 12.8 and 12.95 kg/m² under treatment receiving the extended photoperiods via Red-Blue LEDs in the proportion of 70:30 significantly increased the yield. The quality parameters like antioxidant capacity, total phenol content, ascorbic acid content, fruit firmness and TSS were enhanced with supplemental lighting.

Two tier animal housing system

ICAR-CIRG, Makhdoom conducted animal trials using male and female goat kids of 5 months of age and the trial continued for 120 days. Initial observations show that weight gain is better in animals housed in two tier system of housing (1.65 kg in barbari and 0.67 kg in crossbred kids with 14.53% and 5.75% percentage difference) than traditional housing (0.17 kg in barbari and 0.29 kg in crossbred kids with 1.41% and 2.42% percent difference). Also increased growth rate in male kids reared in two tier housing system (with 12.87 % and 20.41 % higher body weight gain in large breeds and medium breed respectively). There is no significant difference in biochemical, physiological and behavioural parameters between the goats reared in two tiers versus traditional housing system. The animals housed in two tier housing were cleaner i.e., less dirt score.



Animals in two tier housing system

Soil-less cultivation of high value vegetables for enhancing water- nutrient productivity using different paddy straw-based substrates

PAU, Ludhiana cultivated high value vegetables in soilless media for enhancing water nutrient productivity using different paddy straw-based substrates. Overall results showed that mixing of paddy straw up to 25 % and briquettes up to 50 % can be done with yield penalty of 47 and 50 % respectively as compared to 100 % of coco peat-based substrate. The quality parameters like total phenol content, ascorbic acid content, total flavonoid content, TSS, firmness and lycopene content were significantly higher where paddy straw and coco peat were used in 1:3 ratio followed by mixing ratio of 1:1

Thermo-insulated rooftop

NRC on Yak, Dirang centre developed a three-layered thermo-insulated rooftop (Top: CGI sheet – middle expanded polyethylene foam sheet – inner fiber reinforced plastic sheet) made to protect yak from radiant heat



Thermal image outside roof & inside roof

load. The respiration rate (8–22 breaths/min); heart rate (52–70 beats/min) and rectal temperature (37.89°–39.61° C) showed normal rhythmicity, confirming the efficacy of the shelter during the summer month of June at high altitude areas in Arunachal Pradesh. The IR thermal image showed that the improved housing system was able to reduce temperature from 37.3° C to 26.8° C.

PUBLICATIONS

Research Papers:

- Devi T B and Kalnar Y B (2021). Design consideration of smart solar dryer for precision drying. *Journal of AgriSearch*, 8(2): 135-138.
- Kumar C, Ram CL, Jha SN and Vishwakarma RK (2021). Warehouse storage management of wheat and their role in food security. *Frontiers in Sustainable Food Systems*, 270. DOI: 10.3389/fsufs.2021.675626
- Kumar M R, Puri S, Pundir A, Bangar S P, Changan S, Choudhary P, Parameswari E, Alhariri A, Samota M K, Damale R D, Singh S, Berwal M K, Dhumal S, Bhoite A G, Senapathy M, Sharma A, Bhushan B and Mekhemar M (2021). Evaluation of nutritional, phytochemical, and mineral composition of selected medicinal plants for therapeutic uses from cold desert of Western Himalaya. *Plants*, 10(7):1429. DOI: 10.3390/plants10071429
- Kumar M, Prakash S, Radha, Kumari N, Pundir A, Punia S, Saurabh V, Choudhary P, Changan S, Dhumal S, Pradhan P C, Alajil O, Singh S, Sharma N, Ilakiya T, Singh S, and Mekhemar M (2021). Beneficial role of antioxidant secondary metabolites from medicinal plants in maintaining oral health. *Antioxidants*, 10(7):1061. DOI: 10.3390/antiox10071061.
- Kumar M, Radha, Devi H, Prakash S, Rathore S, Thakur M, Puri S, Pundir A, Bangar SP, Changan S, Ilakiya T, Samota MK, Damale RD, Singh S, Berwal MK, Dhumal S, Bhoite AG, Sharma A, Senapathy M, Bhushan B, Maurya VK, Asha, Natta S, Amarowicz R and Mekhemar M (2021). Ethnomedicinal plants used in the health care system: survey of the mid hills of Solan district, Himachal Pradesh, India. *Plants*, 10(9):1842
- Kumar V, Shakila RJ, Muzaddadi AU, Sukumar J G D, Padmavathy P and Kumar Y (2021). Optimization of enzymatic extraction of ACE inhibitory peptide from Rohu (*Labeo rohita*) Fish Waste using RSM. *Indian Journal of Animal Research*, DOI: 10.18805/IJAR.B-4542.
- Narsaiah K, Bedi V, Ghodki B M, and Goswami T K (2021). Heat transfer modelling of shrimp in tunnel type individual quick-freezing system. *Journal of Food Process Engineering*, DOI: 10.1111/jfpe.13838
- Tushir S, Chandrasekar V, Tyagi S K and Mann S (2021). Physical and thermal properties of corn cob powder blended mud cup (Khulad). *Indian Journal of Agricultural Sciences*, 91 (7): 961–5.
- Yadav. D. N, Mir N A, Wadhwa R, Tushir S, Sethi S, Anurag R K, and Oberoi H S (2021). Hydrolysis of peanut (*Arachis hypogea L*) protein concentrate by fungal crude protease extract: effect on structural, functional and in-vitro protein digestibility. *Journal of Food Science and Technology*, 1-9.
- Choudhary P and Jain V (2021) Effects of chitosan and selenium treatments on retention of membrane integrity of guava (*Psidium guajava L.*) fruits during storage. *Journal of Food Processing and Preservation*, 45(10), e15843

Popular Articles

- Kannaujia P (2021). Vertical farming and its scope in vegetable production in Indian conditions (2021). *Marumegh' Kisaan E- Patrika*, 6(3): 29-34

Book Chapters

- Sunita T, Sharma A P M, Kaukab Sand Mishra A (2021). Light-based technologies for food. In Advances in Food Engineering. Elsevier.
- Yadav D N, Gupta A, Sethi S and Sharma M (2021). Cereals based fermented foods and beverage: functional and nutritional properties. In Advances in Fermented Foods and Beverages. Eds. Sharma G K, Semwal A D, and Xavier J R. New India Publishing Company New Delhi. 161-189.
- Yadav D N, Tushir S, Guru P N, Yadav D K, Vishwakarma R K (2021). Technological advancements in processing of legumes and pulses. In Advances in Cereal Processing Technologies. Eds. Sharma G K, Dutt A S, Yadav D K, New India Publishing Agency, New Delhi. 79-107.
- शगफ़ कौकब, ओम प्रकाश एवं जी. आर. आर. के . मूर्ति (2021). जलवायु आपदा के प्रति संवेदनशील क्षेत्रों में कटाई उपरान्त प्रबंधन। जलवायु परिवर्तन और भारतीय कृषि: चुनौतियाँ, अनुकूलन और शमन रणनीतियाँ .ICAR-NAARM, Hyderabad. 133-142

E-Learning Material

- Kaukab S, Sunita T, Devi T B and Bembem K (2021). Aqueous extraction processing. https://www.slideshare.net/shaghafkawkab/aqueousextractionprocessing?qid=67c3460c71e7-42d7-8618-c0e9a57a9516&v=&b=&from_search=2
- Bembem K, Devi T B, Balakrishnan R, Sunita T, and Kaukab S (2021). Role of processed food in human nutrition. <https://www.slideshare.net/KhwairakpamBembem1/role-of-processed-food-in-human-nutrition>.

Paper in Conference Proceedings

- Choudhary P, Dawange SP, Devi TB and Narsaiah K (2021) Optimization of starch isolation process for mango seed kernel and its characterization. In: International Web Conference on 'Innovative and Current Advances in Agriculture and Allied Sciences' on 19-21 July, 2021.
- Tushir S, Yadav DN and Kapoor RK (2021) Optimization of protein recovery from commercial defatted rice bran (CDRB) by Ultrasonic Assisted Alkaline Extraction. In: International Web Conference on 'Innovative and Current Advances in Agriculture and Allied Sciences' on 19-21 July, 2021.
- Tushir S, Yadav DN and Kapoor RK (2021). Effect of pH and temperature on extraction of protein from De-oiled Rice Bran. In: National Virtual Conference on 'Food Waste Utilization' on 8-9 Sept, 2021 organized by IIFPT, Thanjavur - 613 005, Tamil Nadu.

EVENTS/ACTIVITIES

- ICAR-CIPHET organized National Awareness Campaign and planted plant sapling of 3-varieties of Ficus, Ponocarpus and Neem in 9 villages on ICAR Foundation Day (16 Jul, 2021) for the mission of ICAR to plant one crore saplings and thereby making India Green.
- हिंदी की त्रैमासिक कार्यशाला का आयोजन "रेडियो प्रसारण के दौरान हिंदी के कार्मिकों का राजभाषा हिंदी में चर्चा एवं संबंधी अन्य सावधानियाँ" विषय पर की गयी। इसका संयोजन श्री विकास कुमार, वैज्ञानिक, प्रभारी, राजभाषा प्रकोष्ठ एवं सदस्य सचिव, राजभाषा कार्यान्वयन समिति ने २६.०६.२०२१ को ऑनलाइन माध्यम से किया। इस कार्यशाला में श्री नवदीप सिंह, आकाशवाणी, लुधियाना एवं सदस्य सचिव, भाकृअनुप-सीफेट, लुधियाना, द्वारा " सीफेट के कार्मिकों का राजभाषा हिंदी में कार्य अनुभव" एवं रेडियो प्रसारण के दौरान हिंदी के वक्ताओं द्वारा उच्चारण एवं वैज्ञानिक आलेख" पर अपनी प्रस्तुति दी।

- ICAR-CIPHET co-organized International e-Conference in collaboration with ICAR-IARI, New Delhi on 'Postharvest Disease Management and Value Addition of Horticultural Crops' during 18-20 Aug, 2021.



AZADI KA AMRIT MAHOTSAV

National Webinar Series – CIPHET Technologies

National Webinar	Speakers	Date	No. of Participants
Utilization and value addition to mustard processing by-products	Dr S K Tyagi, PC, AICRP on PHET, ICAR-CIPHET	27 Aug, 2021	200
Value chain of <i>makhana</i>	Dr. Indu Shekhar Singh, PS & I/c Head, ICAR-RCER Research Centre for Makhana, Darbhanga, Bihar and Dr R K Vishwakarma, PS, ICAR-CIPHET	28 Sept, 2021	200



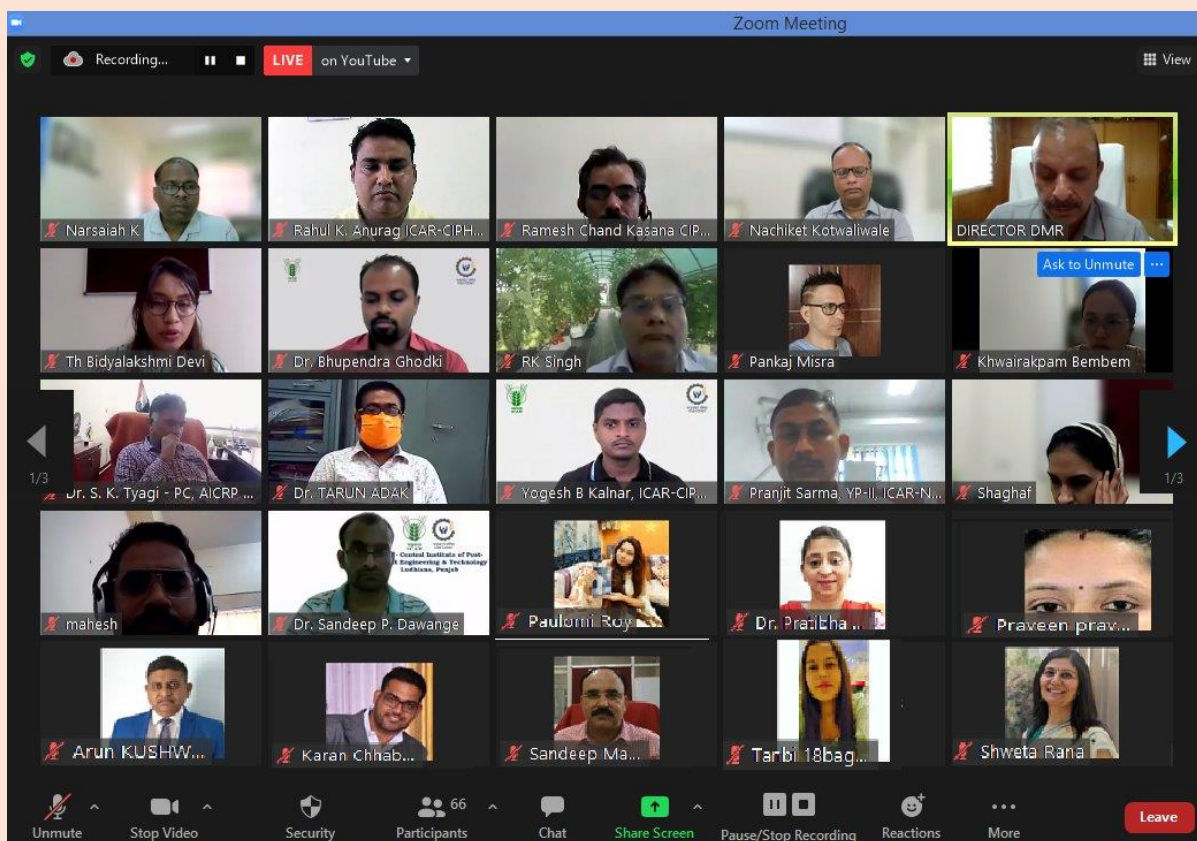
National webinar on “Utilization and value addition to mustard processing by-products”



National webinar on “Value chain of makhana”

National Webinar - Knowledge Series

National Webinar	Speakers	Date	No. of Participants
A sustainable option for agricultural crop residues management through mushroom production	Dr V P Sharma, Director, ICAR-Directorate of Mushroom, Solan, HP; Sh Yussuf Khan, MD, Khan Mushroom Farm & Training Center, Una, HP; Dr RC Kasana, PS, ICAR-CIPHET and Dr Rahul Kumar Anurag, Scientist, ICAR-CIPHET	31 Aug, 2021	120



National webinar on “A sustainable option for agricultural crop residues management through mushroom production”

HUMAN RESOURCE DEVELOPMENT:

Entrepreneurship Development Programme

Entrepreneurship Development Programme	Date	No. of Participants
Cryogenic grinding of spices using cryogenic-grinding system	01-04 Jul, 2021	1
Groundnut/soy based flavored beverage, curd and <i>paneer</i>	12-14 Jul, 2021	3
Processing and value addition of mango	19-22 Jul, 2021	4
Handling and storage of fruits and vegetable for distant marketing	03-05 Aug, 2021	3
Gluten free baked products from coarse cereals and millets	02-04 Sept, 2021	3
Post-harvest handling of mushroom and protected cultivation of high value winter vegetables for doubling farmer’s income	07-09 Sept, 2021	3
Fish processing and value addition	14-16 Sept, 2021	1



Participants of EDP on “Handling and storage of fruits and vegetable for distant marketing”



Participants of EDP on 'Gluten free baked products from coarse cereals & millets'

Farmer's Training

Farmers Training		Sponsored by	Date	No. of Participants
Post-harvest technology for agricultural produce	ATMA, Gaya, Bihar	20 - 24 Sept, 2021		30



Participants of Farmers Training Programme on 'Post-harvest technology for agricultural produce'

EXTENSION ACTIVITIES

Virtual Tour

Visitors Name & Address	Date of Visit	No. of Visitors	Facilitated by
College of Agriculture, University of Agricultural and Horticultural Sciences, Navile, Shivamogga	5 Jul, 2021	40	Dr Sandeep Dawange

College of Agricultural Engineering, University of Agricultural Sciences, GKVK, Bangalore	15 Jul, 2021	100	Dr Sandeep Dawange
College of Horticulture, Hiriyur, University of Agricultural and Horticultural Sciences, Shivamogga, Karnataka	23 Jul, 2021	50	Dr Sandeep Dawange
College of Horticulture, Bidar College of Horticulture, Arabhavi College of Horticulture, Sirsi College of Horticulture, Bagalkot College of Horticulture Engineering and Food Technology, Devihosur under University of Horticulture Science, Bagalkot	4 Aug, 2021	500	Dr Sandeep Dawange
College of Horticulture, Kolar College of Horticulture, Munirabad College of Horticulture, Bengaluru College of Horticulture, Mysuru under University of Horticulture Science, Bagalkot	13 Aug, 2021	210	Dr Sandeep Dawange
College of Agriculture, Ambalavayal, Wayanad, Kerala Agriculture University	16 Sept, 2021	58	Dr Sandeep Dawange, Dr Renu

Physical visit

Visitors Name & Address	Date of Visit	No. of Visitors	Facilitated by
Trainers of One District One Product Programme of PMFME undergoing training at PAU Ludhiana	23 Jul, 2021	15	Dr Sandeep Dawange
College of Community Science, Punjab Agriculture University	16 Sept, 2021	10	Dr K Bembem, Dr Renu



Virtual tour of "College of Agriculture, Ambalavayal, Wayanad, Kerala Agriculture University"

**PARTICIPATION IN CONFERENCE/
SEMINAR/ MEETING**

Name	Title of Programme	Organized by	Duration
Dr R C Kasana	Microbial biopesticides: Next generation preparedness	DBT-NECAB and Department of Plant Pathology, AAU, Jorhat	2 Jul, 2021
Er. Yogesh B. Kalnar	Transforming efficient warehousing, logistics operation for uninterrupted supply chain	Cisco WebEx	7-8 Jul, 2021
Er Shaghaf Kaukab	Disruptive innovations in agriculture	MANAGE-CIA	10 Jul, 2021
Er. Yogesh B. Kalnar	Artificial intelligence: Principle and techniques	ASCI, Hyderabad in collaboration with UCLA Extension and IGESIA	11Jul- 29Aug, 2021
Dr Mridula D	FSSAI (Labeling and display) regulations, 2020	National Productivity Council, New Delhi	15-16 Jul, 2021
Dr. Th. Bidyalakshmi	RTI Act, 2005	ICAR-NAARM, Hyderabad	15-16 Jul, 2021
Er. Thongam Sunita Er. Shaghaf Kaukab	Artificial intelligence for smart agriculture	ICAR Research Complex for Eastern Region, Patna	22 Jul, 2021
Dr. Th Bidyalakshmi Er. Thongam Sunita Er. Shaghaf Kaukab	Multidisciplinary applications of MATLAB	Department of Electronics and Communication Engineering, Universal Engineering College, Hyderabad	22-24 Jul, 2021
Dr. Sakharam Kale Dr. Pankaj Kumar	Ergonomical design guidelines for agricultural tools and equipment	ICAR-CIAE, Bhopal	26-30 Jul, 2021
Sh. Prithvi Raj	Repair and maintenance of guest house, office building and residential building	ICAR- CIAE, Bhopal	10-12 Aug, 2021
Sh. Rajesh Kumar	Pest surveillance	NIPHM, Hyderabad	23-27 Aug, 2021
Dr. Sandeep Mann Dr. A U Muzadaddi Dr. Deepika Goswami Mrs. Surya Tushir Dr. Kh. Bembem	Response surface methodology	ICAR-NAARM, Hyderabad	24-26 Aug, 2021
Dr. Vinod Saharan	E-Governance in ICAR for	IASRI, New Delhi	6-10 Sept,

Sh. Vishal Kumar Ms. Pragya Singh	Technical		2021
Er. Thongam Sunita Er. Shaghaf Kaukab	AI and sensing for monitoring and management of pests and diseases in rice	ICAR-IARI and Purdue University	10-11 Sept, 2021
Dr Th Bidyalakshmi Dr Guru P N	Webinar on “Automation in Agriculture”	Indian Society of Agricultural Engineer, Delhi	18 Sept, 2021
Dr Prerna Nath Dr Renu Balakrishnan	Online MDP on “Market Research and Value Chain Management of Agricultural Commodities”	ICAR-NAARM, Hyderabad	21-25 Sept, 2021
Dr Rahul K. Anurag	Laboratory assessor training course (LEVEL II)	NABL	23-25 Sept, 2021
Dr D N Yadav	31 st meeting of “Scientific panel on cereals, pulses legumes and their product”	FSSAI, New Delhi	Sept 27, 2021

Invited Lectures Delivered

Name	Topic	Event	Organizer	Date
Mrs. Surya Tushir	Valorization of Waste/Agro-residues for Protein Production	International Web Conference on Sustainable Technology	The North Cap University, Gurugram, Haryana	23-24 Jul, 2021
Dr. Manju Bala	Infra-Red Spectroscopy Based Rapid Screening Methods	Webinar on “Tools and Strategies for Quality Improvement in Rapeseed mustard	ICAR-DRMR, Bharatpur, Rajasthan	11 Aug, 2021
Dr. Pankaj Kannaujia	Pre & Postharvest management of Horticultural crops through Plasticsulture	RAWE orientation programme	AMU University, Aligarh	13 Aug, 2021
Dr. Mridula D	Value addition of rice	Faculty Development Program on Advances in processing and value addition of grain	IIFPT, Thanjavur	23-27 Aug, 2021
Mrs. Surya Tushir	Sustainable waste management in agriculture	Online Faculty Training Programme	DCRUST, Murthal, Haryana	23-28 Aug, 2021
Dr Deepika Goswami	Processing and value addition of traditional crops	Online training program on "पर्वतीय क्षेत्रों की पारम्परिक फसलों का उन्नत उत्पादन एवं कटाई उपरान्त प्रसंस्करण तकनीकी	ICAR-VPKAS, Almora, UK	1-6 Sept, 2021

		द्वारा आय सृजन "		
Dr Guru P N	Technology to increase the shelf life of produce and minimize post-harvest losses using chemical/ biological/ IR methods	Webinar	CCAMP K-Tech Centre of Excellence for Agri-Innovation, Bengaluru	14 Sept, 2021

KVK ACTIVITIES

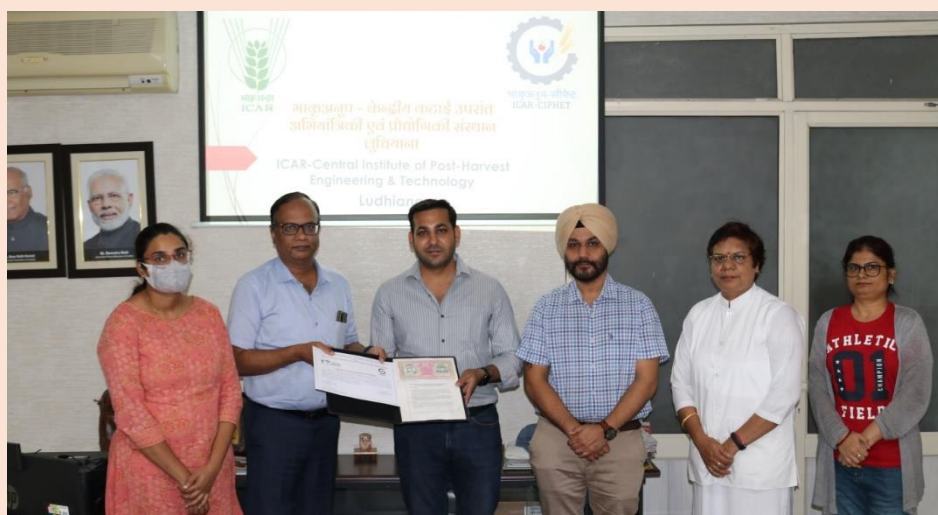
Event	Date	No. of Participants
Webinar on "Production and cultivation of mushroom"	06 Jul, 2021	20
Webinar on "Integrated nutrient management of <i>kharif</i> crops"	23 Jul, 2021	46
Webinar on "Insect pest and disease management of <i>kharif</i> crops"	30 Jul, 2021	60
Awareness week on Carrot grass (<i>Parthenium hysterophorus</i>)	22 Aug, 2021	15
Webinar on "Fortified wheat varieties for farmers"	26 Aug, 2021	26
Webinar on "Poly lined ponds for water harvesting and irrigation in semi-arid areas" under 'Jal Shakti Abhiyan'	28 Aug, 2021	21
Awareness program on "In-situ crop residue management" at village Raipura	31 Aug, 2021	40
Awareness program on "In-situ crop residue management" at village Malookpura	01 Sept, 2021	50
Webinar on 'Diseases of <i>kharif</i> crops'	09 Sept, 2021	21
Online training on "Marketing and packaging of processing products for entrepreneurs"	15 Sept, 2021	29
Online training on "Locust control" for State Agriculture Extension Functionary	16 Sept, 2021	22
National Campaign on Poshan Abhiyan and Tree Plantation	17 Sept, 2021	75
Webinar on "Integrated pest management in <i>kharif</i> crops" for State Agriculture Extension Functionary	20 Sept, 2021	21
Awareness programme on "In-situ crop residue management" at Abohar block	23 Sep, 2021	47
Awareness programme on "Paddy stubble management techniques" at Government High Smart School, Malookpura	29 Sep, 2021	200



National Campaign on Poshan Abhiyan and Tree Plantation

TRANSFER OF TECHNOLOGY

Technology	Licensed to	Licensing Fee (Rs.)	Date of Licensing
Process for preparation of fat free flavored makhana	Mr. Amit Kumar, S/o Mr. Sanjay Kumar, Gram Sidhauri, Singhauri, Darbhanga, Bihar	25,000/-+ 18% GST	03 Jul, 2021
Ready to constitute makhana kheer mix	Mr. Amit Kumar, S/o Mr. Sanjay Kumar, Gram Sidhauri, Singhauri, Darbhanga, Bihar	50,000/- + 18% GST	05 Jul, 2021
Process for preparation of fat free flavored makhana	M/s Ajit Singh Om Prakash Pvt. Ltd., 44/7, Ludhiana Road, Vill. Karyam, Nawanshahar, Punjab	25,000/-+ 18% GST	14 Sept, 2021
Process for preparation of fat free flavored makhana	M/s Rikhi Ram Nand Lal, Main Haibwal Road, Ludhiana, Punjab	25,000/-+ 18% GST	16 Sept, 2021



Licensing of technology "Process for preparation of fat free flavored makhana" to Mr. Ajit Singh



Licensing of technology "Ready to constitute makhana kheer mix" to Mr. Amit Kumar



Licensing of technology "Process for preparation of fat free flavored makhana" to M/s Rikhi Ram Nand Lal

Custom hiring services

Technology	Custom hired to	Rate (Rs./kg)
Jamun pulp to jamun bar	Sh. Ashwani Garg from 'UniTech Technocrats', Kala Amb (Sirmour), HP	7/-

AWARDS

Name	Award	Awarded during	Awarded by
Dr. Poonam Choudhary	Best Oral Presentation Award	International Web Conference on Innovative and Current Advances in Agriculture and Allied Sciences	Society for Scientific Development in Agriculture and Technology (SSDAT) Meerut (U.P.)

Mrs. Surya Tushir	Young Scientist Award (2021)	International Web Conference on Innovative and Current Advances in Agriculture and Allied Sciences	Society for Scientific Development in Agriculture and Technology (SSDAT) Meerut (U.P.)
Dr. Manju Bala	Best Paper Award	International Web Conference on Innovative and Current Advances in Agriculture and Allied Sciences	Society for Scientific Development in Agriculture and Technology (SSDAT) Meerut (U.P.)

CONSULTANCY PROJECT

- A MoU was signed with Indian Gherkin Exporters' Association, Bengaluru for undertaking a consultancy project on Performance evaluation of fruit fly scanning machine on 16 Sept, 2021.

PERSONOLIA

Promotion

- Sh. Iqbal Singh, UDC promoted to the post of Assistant, ICAR-CIPHET, Ludhiana w.e.f. 12 Aug, 2021.
- Sh. Ram Khelawan Yadav, LDC promoted to the post of UDC, ICAR-CIPHET, Ludhiana w.e.f. 12 Aug, 2021.

SECTORAL NEWS

Sucralose–carbohydrate combo may affect insulin sensitivity

A study found that people who drank beverages that contained the low-calorie sweetener sucralose did experience metabolic problems and issues with neural responses but only when the beverage was formulated with both sucralose and a tasteless sugar (maltodextrin).

<https://www.ift.org/iftnext/2020/june/sucralose-carbohydrate-combo-may-affect-insulin-sensitivity>

Right to Protein introduces Soy Fed product label to highlight quality animal protein products

Right to Protein, a nationwide public health initiative announced the launch of India's first feed label – 'Soy Fed' for animal protein products, earmarking the celebration of National Nutrition Month, September 2021.

<http://www.fnbnews.com/Nutrition/right-to-protein-introduces-soy-fed-product-label-to-highlight-quality-animal-protein-products-65074>



While planting saplings on the occasion of Establishment Day of Indian Agricultural Research Council at Hambaran, Dr. Yugesh Kumar, Vishal Kumar, Sarpanch Ranjodh Singh, Pradhan Gurmeet Singh Purain, Panch Harpal Singh, Panch Balwinder Singh and others. Picture: Harwinder Singh Makkar

Planted saplings on the occasion of 93rd Foundation

Day of Indian Agricultural Research Council

Hambaran, 16 (Harwinder Singh Makkar) -Dr. The panchayat supported them and planted saplings. On the occasion Sarpanch Jagga Hambaran and President of Nahar Singh Thind Memorial Club Gurmeet Singh Purain lauded these efforts. Panch Harpal Singh, Panch Balwinder Singh, Rathi, Balraj Singh etc. were present on the occasion.

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Ajit

http://epaper.ajitjalandhar.com/edition/20210717/19/8.cms

कृषि विज्ञान केंद्र में फसल के अवशेष प्रबंधन पर ब्लॉक स्तरीय शिविर संपन्न



संबोधित करते केवीके के प्रभारी डा. रमेश कुमार जांगड़ा।

अबोहर, (बर्मवीर): कृषि विज्ञान केंद्र अबोहर द्वारा फसल अवशेष प्रबंधन पर ब्लॉकस्तरीय शिविर का आयोजन किया गया। शिविर में अबोहर ब्लाक के अलग-अलग गांवों के करीब 50 किसानों व अधिकारियों ने हिस्सा लिया। इस मौके पर कृषि विज्ञान केंद्र के प्रभारी डॉ. रमेश कुमार ने किसानों का स्वागत करते हुए आह्वान किया कि वे पराली को खेत में ही सीआरएम मशीनरी की मदद से दबाने या डी कंपोजर की मदद से इसे गला कर मृदा की उर्वरा शक्ति को बढ़ाने के साथ-साथ पर्यावरण प्रदूषण कम करने में सहयोग करें। इस मौके पर सहायक मुख्य तकनीकी अधिकारी पृथ्वीराज ने सीआरएम प्रोजेक्ट के बारे में विस्तार से जानकारी दी और कहा कि किसान फसल अवशेषों को निपटाने तथा मृदा की उर्वरा शक्ति को बढ़ाने की कोशिश करेंगे। उन्होंने सीआरएम मशीनरी तथा उससे पराली प्रबंधन के बारे में विस्तार से बताया। इस मौके पर किसानों ने भी सुझाव दिए।

दैनिक सवेरा Fri, 24 September 2021 epaper.dainiksaveratimes.org/c

उद्यमिता विकास कार्यक्रम का आयोजन

जागरण संवाददाता, लुधियाना : आइसीएआर सेंद्रल इंस्टीट्यूट ऑफ पोस्ट हार्वेस्ट इंजीनियरिंग एंड टेक्नोलॉजी में 'मोटे अनाज और बाजरा से ग्लूटेन मुक्त बेकरी उत्पादों' पर तीन दिवसीय उद्यमिता विकास कार्यक्रम (ईडीपी) का आयोजन किया गया।

पंजाब और उत्तर प्रदेश के कुल तीन प्रतिभागियों ने इस ईडीपी प्रशिक्षण में भाग लिया। प्रधान वैज्ञानिक डा. मंजू बाला और वैज्ञानिक डा. दीपिका गोस्वामी ने ग्लूटेन मुक्त बेकरी उत्पादों के महत्व पर प्रकाश डाला। उभरते उद्यमियों को व्यावहारिक प्रशिक्षण प्रदान किया।

संस्थान के निदेशक डा. नचिकेत कोतवालीवाले के साथ बातचीत के दौरान, प्रतिभागियों ने प्रशिक्षण कार्यक्रम के बारे में अपनी संतुष्टि व्यक्त की। खाद्यान्न और अन्य खाद्य वस्तुओं के प्रसंस्करण में तकनीकी मार्गदर्शन की आवश्यकता को भी



आइसीएआर सेंद्रल इंस्टीट्यूट ऑफ पोस्ट हार्वेस्ट इंजीनियरिंग एंड टेक्नोलॉजी में आयोजित तीन दिवसीय उद्यमिता विकास कार्यक्रम (ईडीपी) में वैज्ञानिकों के साथ प्रतिभागी • जागरण

स्वीकार किया। रिखिलाल नंदराम स्टोर चैन लुधियाना के मालिक और प्रतिभागियों में से एक नवीन अग्रवाल ने कहा कि संस्थान द्वारा अयोजित ईडीपी प्रशिक्षणों की श्रृंखला कई उद्यमियों के लिए सहायक होगी। वहीं डा. डीएन यादव (प्रभाग प्रमुख, प्रौद्योगिकी हस्तांतरण प्रभाग) ने बताया कि संस्थान ने प्रसंस्करण

और मूल्यवर्धन के विभिन्न पहलुओं पर उद्यमिता विकास कार्यक्रमों की श्रृंखला की योजना बनाई है। इच्छुक उम्मीदवार अधिक जानकारी के लिए संस्थान की वेबसाइट पर जा सकते हैं। वैज्ञानिक डा. संदीप दवंगे ने प्रशिक्षण कार्यक्रम के सफल समापन के लिए प्रतिभागियों के साथ समन्वय किया।

कृषि अधिकारियों के लिए टिड्डी नियंत्रण पर प्रशिक्षण संपन्न

अबोहर, 17 सितंबर (कथूरिया) : कृषि विज्ञान केंद्र व सीफेट अबोहर ने कृषि अधिकारियों के लिए एक दिवसीय प्रशिक्षण कार्यक्रम संपन्न करवाया। इस अवसर पर पृथ्वीराज एसीटीओ ने सभी का स्वागत किया। डॉ. रमेश कुमार प्रभारी सीफेट ने



सीफेट प्रभारी ऑनलाइन मीटिंग करते हुए

प्रशिक्षण सम्बन्धी एवं सीफेट गतिविधियों के बारे में बताया। डॉक्टर पंकज एपीपीओ नियंत्रण कक्ष जोधपुर ने टिड्डी आगमन प्रसार एवं नियंत्रण जीवन चक्र प्रजनन इत्यादि के बारे में विस्तृत जानकारी दी। धन्ने सिंह पूनिया पीपीओ टिड्डी नियंत्रण केंद्र बीकानेर ने देश में टिड्डी नियंत्रण नैटवर्क एवं आगमन सम्बन्धी जानकारी दी। चंद्रशेखर शर्मा एपीपीओ नियंत्रण केंद्र फरीदाबाद ने टिड्डी नियंत्रण में रखी जाने वाली सावधानियों के बारे में बताया। इस ऑनलाइन प्रशिक्षण में लगभग 22 कृषि प्रसार अधिकारियों ने भाग लिया।



कृषि विज्ञान केंद्र-सीफेट में 16वां गाजर बूटी उन्मूलन जागरूकता सप्ताह मनाया



गाजरघास उन्मूलन के बारे जानकारी देते कोआर्डिनेटर पृथ्वीराज।

अबोहर, (धर्मवीर): कृषि विज्ञान केंद्र व सीफेट परिसर में 16वां गाजर घास उन्मूलन जागरूकता सप्ताह 16 से 22 अगस्त तक मनाया गया। कार्यक्रम के कोआर्डिनेटर पृथ्वीराज ने बताया कि पार्थेनियम हिस्टोफोरस, जिसे आम भाषा में कांग्रेस घास, गाजर घास, चटक चांदनी और कड़वी घास के नाम से जाना जाता है। यह एक ऐसा खरपतवार है जो कि फसलों के उत्पादन में गिरावट लाने के साथ ही साथ जानवरों से लेकर मनुष्यों के लिए भी बहुत नुकसानदेय है। इससे एगिजमा, खुजली और एलर्जी हो जाती है। यह बहुत तेजी से बढ़ती है। पार्थेनियम सभी फसलों, उद्यानों और वनों के लिए समस्या बन गई है। देश में 1955 में सर्वप्रथम इसे देखा गया था। यह विदेशी खरपतवार 350 लाख हेक्टेयर क्षेत्र में फैल कर मनुष्यों में एगिजमा, एलर्जी एवं बुखार जैसे रोग उत्पन्न कर रहा है।



सरसों की प्रोद्योगिकी के बारे में बताया

जागरण संवाददाता, लुधियाना : भारत की आजादी के 75 साल के उपलक्ष्य में आजादी का अमृत महोत्सव के दौरान आइसीएआर सेंट्रल इंस्टीट्यूट आफ पोस्ट हार्वेस्ट एंड टेक्नोलॉजी (सिफेट) संस्थान ने एक राष्ट्रीय वेबिनार श्रृंखला की शुरुआत की। इसके तहत सरसों प्रसंस्करण उप-उत्पादों का उपयोग और मूल्य संवर्धन पर पहला वेबिनार करवाया गया। इसमें सरसों के महत्व, इसके प्रसंस्करण के लिए आवश्यक प्रोद्योगिकी, उप-उत्पादों का सदुपयोग और मूल्य संवर्धन विषय पर वैज्ञानिक एवं औद्योगिक परिपेक्ष्य में प्रकाश डाला। इसके साथ ही संस्थान द्वारा विकसित

सरसों से संबंधित प्रोद्योगिकियों के बारे में भी प्रतिभागियों को जानकारी दी। देश के विभिन्न राज्यों और केंद्र शासित प्रदेशों (महाराष्ट्र, राजस्थान, तमिलनाडु, कर्नाटक, छत्तीसगढ़, पंजाब, जम्मू और कश्मीर यूटी आदि) से 200 से अधिक प्रतिभागियों (प्रोफेसर, वैज्ञानिक, इंजीनियर, छात्र, किसान, उद्यमी, युवा और अन्य हितधारक) ने भाग लिया। कुवैत विश्वविद्यालय के एक प्रोफेसर और भाकूअनुप-अटारी के निदेशक ने भी वेबिनार में भाग लिया। सिफेट निदेशक डॉ. नचिकेत कोतवाली वाले ने वेबिनार के शुभारंभ के दौरान प्रतिभागियों का स्वागत किया।

सीफेट में पोषण माह व पौधारोपण कार्यक्रम हुआ आयोजित



अबोहर, 18 सितंबर : सीफेट कार्यालय में गत दिवस अंतरराष्ट्रीय पोषक अनाज वर्ष 2023 के परिपेक्ष्य में पौधारोपण एवं पोषण वाटिका का आयोजन कृषि विज्ञान केन्द्र और इफको द्वारा संयुक्त रूप से किया गया। कार्यक्रम का शुभारंभ डा. रमेश कुमार प्रभारी सीफेट द्वारा किया गया, इसमें लगभग 75 किसानों व विभिन्न सोसायटी सदस्यों ने भाग लिया। कार्यक्रम में ओम प्रकाश पुनिया, सहायक फील्ड प्रबंधक इफको ने पौधारोपण का टिकक कृषि में महत्व पर विचार पेश किए। कार्यक्रम के संयोजक डा. पंकज कर्नौजिया वैज्ञानिक ने पोषक खाद्यान्नों का मानवीय स्वास्थ्य पर होने वाले लाभप्रद प्रभावों की जानकारी दी। इसमें शामिल होने वाले किसानों द्वारा पौधारोपण किया गया व कार्यक्रम के बाद सभी किसानों को बागवानी के पीथे व गृह वाटिका हेतु बीज किट प्रदान की गई। कार्यक्रम में बाजार निर्मित कुरकुरे व मूंगफली के दूध से तैयार पनीर का वितरण किया गया। अंत में फील्ड अधिकारी इफको गुरबीर सिंह ने सभी का धन्यवाद किया। कार्यक्रम को सफल बनाने में डा. विनोद सहारण व पुष्पराज का सहयोग रहा।

मूंगफली के दूध से तैयार पनीर का किया वितरण

गांव बं लक गांव रतार हिब है। बजे त ने लक ताया हपये के कि र्वाई गा है रतार

संस, अबोहर : सीफेट कार्यालय में अंतरराष्ट्रीय पोषक अनाज वर्ष 2023 के परिपेक्ष्य में पौधारोपण एवं पोषण वाटिका का आयोजन कृषि विज्ञान केन्द्र और इफको द्वारा संयुक्त रूप से किया गया। कार्यक्रम में लगभग 75 किसानों व विभिन्न सोसायटी सदस्यों

ने भाग लिया। कार्यक्रम के संयोजक डा. पंकज कर्नौजिया वैज्ञानिक ने पोषक खाद्यान्नों का मानवीय स्वास्थ्य पर होने वाले लाभप्रद प्रभावों की जानकारी दी। कार्यक्रम में कुरकुरे व मूंगफली के दूध से तैयार पनीर का वितरण किया गया।



अबोहर के सीफेट में आयोजित कार्यक्रम में डा. रमेश कुमार प्रभारी सीफेट, डा. पंकज कर्नौजिया वैज्ञानिक जानकारी देते हुए ● जागरण



लुधियाना भास्कर 19-09-2021

गुड न्यूज • मार्केट से मिली डिमांड के बाद सीफेट ने तैयार की नई तकनीक अब फैट फ्री फ्लेवर्ड मखाने का ले सकेंगे लुत्फ

सिटी रिपोर्टर | लुधियाना

डाइट-सेहत का खयाल रखने वाले लोगों के लिए अच्छी खबर है। सेंट्रल इंस्टीट्यूट ऑफ पोस्ट हार्वेस्ट इंजीनियरिंग एंड टेक्नोलॉजी (सीफेट) के माहिरों ने नई तकनीक तैयार की है। इसकी मदद से बिना किसी फैट के इजाफा किए फ्लेवर्ड मखानों के स्नेक्स का लुत्फ लिया जा सकता है। इस टेक्नोलॉजी के तहत सीफेट की तरफ से अब तक 5 फूड प्रोसेसिंग कंपनी और एंटरप्रेन्योरस को टेक्नोलॉजी दी जा चुकी है। इससे जल्द ही लोग फैट फ्री फ्लेवर्ड मखानों के स्नेक्स का मजा ले सकेंगे। सीफेट की साइंटिफिक टीम डॉ. महुला देवी, डॉ. आरके विश्वकर्मा, डॉ. रंजीत सिंह, डॉ. आरके सिंह और डॉ. एसएन झा ने प्रोसेस फॉर प्रेपरेशन ऑफ फैट फ्री फ्लेवर्ड मखाना की टेक्नोलॉजी विकसित की है, जोकि फैट देने वाले स्नेक्स का विकल्प हो सकते हैं। सीफेट के डायरेक्टर डॉ. नचिकेत कोतवालीवाले ने कहा कि सीफेट की तरफ से टेक्नोलॉजी के अलावा ट्रेनिंग और एग्रीबिजनेस को स्थापित करने के लिए जरूरी जानकारी भी माहिरों की तरफ से उपलब्ध करवाई जाती है, जो भी इस टेक्नोलॉजी को लेना चाहते हैं, सीफेट में संपर्क कर सकते हैं।

मार्केट में मिलने वाले फ्लेवर्ड मखाना 10-30 फीसदी ज्यादा फैट वाले



फैट फ्री मखाना की टेक्नोलॉजी सीफेट के डायरेक्टर और माहिर।

मखाना प्राकृतिक रूप से ही पोषक तत्वों से भरा हुआ होता है। कोविड-19 के दौरान से ही लोगों में इम्युनिटी वृद्धि के चर्चे खाने में दिलचस्पी बढ़ी है। मखाना में 0.2 फीसदी फैट होता है। एफएसएसएआई के नियमों के मुताबिक 0.5 फीसदी फैट से कम वाली खाने की चीज को फैट फ्री कहा जा सकता है, लेकिन बाजार में मिलने वाले फ्लेवर्ड मखाना में फैट डाल कर उन्हें तैयार किया जाता है। ऐसे में इनमें 10-30 फीसदी तक ज्यादा फैट उस उत्पाद में मिल रहा है, जो प्राकृतिक रूप से फैट फ्री है। ऐसे में अगर ये फ्लेवर्ड मखाने खाए जाएं तो सेहत को फायदा देने की बजाय ये नुकसान ही करेगा।

भारतीय मसालों से लैस हैं फ्लेवर:

सीफेट के माहिरों को मार्केट से फैट फ्री फ्लेवर्ड मखाने तैयार करने की डिमांड आई। इसके बाद माहिरों की ओर से 7 महीने के समय में ये टेक्नोलॉजी तैयार की है। इस टेक्नोलॉजी का इस्तेमाल करने के बाद भी फ्लेवर्ड मखाना 0.5 फीसदी फैट से नीचे है। ऐसे में इसे माहिरों की ओर से फैट फ्री फ्लेवर्ड मखाना कहा जा रहा है। यही नहीं भारतीय मसालों का इस्तेमाल कर कई तरह के फ्लेवर्स तैयार किए गए हैं।

न्यूज गैलरी

केवीके-सीफेट में पशुओं की रोगमारियों पर वैबिनार

अबोहर, (धर्मवीर) : केवीके-सीफेट अबोहर में पशुओं में मुंहपका-रूपका एवं गर्मी में पशुओं देखभाल पर आधारित ऑनलाइन वैबिनार का आयोजन किया गया। इस कार्यक्रम के सीटीयू विनोद सहारण ने डेयरी



वैबिनार में संबोधित करते केवीके के सीटीयू डा. विनोद सहारण। व (दाएं) पशु चिकित्सक डा. मनदीप सिंह

सहाय का महत्व बताते हुए कहा कि इसे अपनाकर किसान अपनी आमदनी बढ़ा सकते हैं। वहीं पशु चिकित्सक डा. अमित नेन ने मुंहपका खुरपका वाली पशुओं में फैलने से रोकने तथा इससे पशुओं में होने वाले नुकसान से रोकना बताया। पशुओं को एफएमडी यानी फुट एंड माऊथ डिजीज के टीके लगाने का आह्वान किया। पशु चिकित्सक डॉ. मनदीप सिंह ने गर्मी में पशुओं की देखभाल करने पर प्रकाश डालते हुए कुछ टिप्स दिए और पशुओं में लगने वाले रोगों के नुकसान और दूध उत्पादन पर असर पर जानकारी दी। उन्होंने पशुओं

कृषि अधिकारियों का एकीकृत नाशी जीव प्रबंधन पर प्रशिक्षण संपन्न

अबोहर, (धर्मवीर): कृषि विज्ञान केन्द्र, सीफेट अबोहर द्वारा कृषि प्रभार अधिकारियों के लिए एकीकृत नाशी जीव प्रबंधन पर एक दिवसीय प्रशिक्षण कार्यक्रम कराया गया। इस अवसर पर पृथ्वीराज ने सभी का स्वागत करते हुये आई.पी.एम. उद्देश्यों के बारे में तथा आज के समय में इस की आवश्यकता



एक दिवसीय प्रशिक्षण कार्यक्रम में पृथ्वीराज कार्यक्रम का संचालन करते हुए

के महत्व के बारे में बताया। डा. रामबीर सिंह, पादप संरक्षण अधिकारी आई.पी.एम. केन्द्र जालंधर ने खरीफ की फसलों में लगने वाले कीड़ों की पहचान व प्रबंधन, मित्र कीड़ों की पहचान व उनके संरक्षण के बारे में बताया। डा. चेतन सहायक पादप संरक्षण अधिकारी आई.पी.एम. केन्द्र जालंधर ने खरीफ की फसलों में लगने वाले रोगों व उनकी रोकथाम के उपायों पर चर्चा की।

दैनिक सवेरा

Tue, 21 September 2021

epaper.dainiksaveratimes.org/c



CITY AIR NEWS

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Ludhiana (https://www.cityairnews.com/sections/ludhiana)

ICAR-CIPHET, Ludhiana commenced National Webinar Series on its Post-harvest Technologies

The first webinar on Utilization and Value Addition to Mustard Processing By-products held

cityairnews (https://www.cityairnews.com/profile/cityairnews) Aug 27, 2021 07:08



Dr. Nachhiket Kotwaliwale, Director, ICAR-CIPHET delivering inaugural speech during commencement of National Webinar Series on its Post-harvest Technologies

Dr. S.K. Tyagi, Project Coordinator, AICRP-PHET taking about 'Utilization and Value Addition to Mustard Processing By-products'

Ludhiana, August 27, 2021: In commemoration of 75 years of India's Independence with the theme 'Azadi Ka Amrit Mahotsav, ICAR- Central Institute of Post-Harvest Engineering & Technology, Ludhiana commenced a 'National Webinar Series on CIPHET-Post-harvest Technologies' on 27.08.2021. First webinar was presented on 'Utilization and Value Addition to Mustard Processing By-products' by Dr. S.K. Tyagi, Project Coordinator, AICRP-PHET. More than 200 participants (professors, scientists, engineers, scholars, students, farmers, entrepreneurs, youths and other stakeholders) from various states and union territory (Maharashtra, Rajasthan, Tamil Nadu, Karnataka, Chhatisgarh, Punjab, Jammu & Kashmir UT etc.) of the country participated in the event. Professor from Kuwait University and Director, ICAR-ATARI also participated in webinar.

