

ISO 9001-9015 Organization

ICAR-CIPHET NEWS



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FROM DIRECTOR'S DESK



Greetings from ICAR-CIPHET.

I hope all of you are doing well and taking care of yourself and family during this time of pandemic. Covid-19 pandemic has significantly affected our lives.

I am happy to share that during this period, a number of technologies has been developed, tested and licensed by ICAR-CIPHET. During this unprecedented situation, ICAR-CIPHET has taken this time as an opportunity to develop three technologies to help fight the pandemic more effectively- No Touch Automatic Dispenser for hand sanitization, Portable Smart Ultraviolet-C Disinfection System (UViC) and Low-Cost Portable Ozone Fruits and Vegetable Washer-Cum-Purifier (Ozo-C). Information regarding immune boosting products developed by the institute and package of practices for safe handling of mangoes were floated in ICAR-CIPHET website. A number of trainings including Entrepreneurship Development Programmes and Skill development training programmes for farmers and students were also organized pre-Covid-19. A number of webinars and technical seminars were conducted online maintaining Covid-19 protocol. The work under Farmer FIRST Project of ICAR-CIPHET were presented during 17-18 Jun, 2020 at Annual review workshop was appreciated. 30th Institute Research Council (IRC) was held through video conferencing during 08-10 Jul, 2020 at ICAR-CIPHET, Ludhiana in the virtual presence of external experts from Defence Food Research Laboratory (DFRL), Mysuru, Karnataka and Punjab Agricultural University (PAU).

It is also worth mentioning that the institute has been granted another three patents while two new patents have been filed during this period.

Dr R.K. Singh



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RESEARCH HIGHLIGHTS

Optimized process for extraction of polyphenol from mango seed kernel

Response surface methodology (RSM- Box Behnken Design) was used to optimize the polyphenol extraction process from mango seed kernel. The pre-trial carried out found the range of temperature, solvent and time to obtain maximum polyphenol yield. The three factors A: Solid-liquid ratio (w/v) (1:5 to 1:25), B: temperature (30-70 °C), C: Time (60-120 min) with three central points were used to optimize the polyphenol extraction process. The developed model was significant with probability <0.05. The linear terms solid-liquid ratio, solution temperature and interaction effect of solid-liquid ratio and soaking time showed significant effect on polyphenol yield. The predicted polyphenol yield was 21.40% and the results were validated.

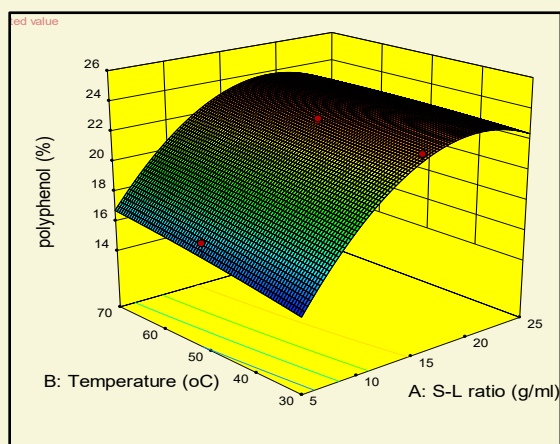


Fig 1: Interaction effect of solid liquid ratio and temperature on polyphenol yield

Testing of IoT-based smart storage structure for pulses in lab-scale bin

A one-tonne storage structure was developed for carbon dioxide fumigation of pulses. The developed structure is IoT based

smart structure that controls and monitors fumigation as per pre-developed protocol. It includes three sensor modules that are embedded in grain bin, control panel, control valves, carbon dioxide cylinder, and distribution system. Each sensor module has a carbon dioxide sensor, temperature & RH sensor, and a display unit, and one among the three modules has an oxygen sensor also. The supply of CO₂ is regulated by a control panel which consists of a controller card, SMPS, Solid State Relay, Solenoid valve, and HMI LED display. The system maintained the set concentration of carbon dioxide with $\pm 2\%$ margin.



Fig 2: Components of IoT-based smart storage structure for pulses during testing in lab-scale bin

Modified meat ball making machine:

The developed machine is modified for preparing meat balls from raw meat. The main working components are two horizontal rollers fixed on a frame powered by electric motor and rotated by four differential diameter pulleys. Both the roller rotates with the help of shaft which is connected with the gear box. The capacity of the machine is worked out to be 100-120 kg/h.



Fig 3: Meat ball machine

Developed meat forming machine

A meat forming machine was designed for forming meat patties, cutlets etc. having uniform thickness. The patty forming machine includes improved apparatus for filling and ejecting the molded patty. This machine is conceived as a patty forming machine of simple construction and which is easily cleaned in accordance with required procedures. This machine is capable of making 960 patties of 55 g weight in one hour. The average capacity of the machine is 52.8 kg/h.



Fig 4: Meat forming machine

Portable smart ultraviolet-c disinfection system (UViC)

A portable smart ultraviolet-C Disinfection System (UViC) has been developed in May 2020 to help the nation fight against ongoing COVID-19 pandemic. In general, it is not feasible to disinfect each paper, file and similar items using the alcohol-based sanitizing gel. Unlike chemical sanitizers, UViC does not leave a residue. It works as a mode of surface sterilization by destroying nucleic acid and disrupting the DNA of microorganisms. The working capacity of the unit in terms of the total surface area of the objects to be treated is $25 \times 25 \text{ cm}^2$. No visible *E. coli* colonies were observed after six minutes of continuous UViC exposure under UViC system. The estimated cost of the unit is approximately Rs. 1500. However, the system can be scaled up as per the need. UViC guides the user to operate the system via messages on LCD and alarm unit. The institute has granted the license of this technology to three firms/entrepreneur and a snapshot of UViC technology prototype ready for commercialization by M/s CRD Invotech, Maharashtra is shown herewith.

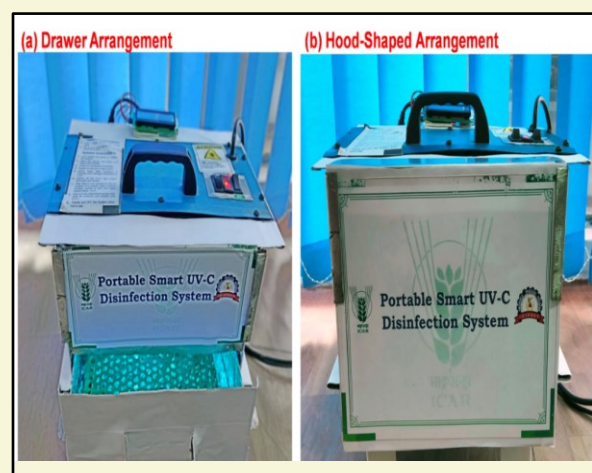


Fig 5: Portable smart UV-C disinfection system (UViC)



Fig 6: Portable smart UV-C disinfection system (UViC) available commercially at amazon.in (Courtesy: M/s CRD Invotech, Maharashtra-Licensee)

Bio-efficacy of developed mustard-based formulation against major insect pests of cotton and pomegranate:

ICAR-CIPHET, Ludhiana has developed a mustard-based botanical formulation initially tried against bacterial blight in pomegranate. Interestingly, the formulation was found effective against insect's pests of pomegranate. The field trial was conducted during 2019-20 to test the bio-efficacy of the developed formulation against major insect pests of cotton and pomegranate at ICAR-CIPHET, Abohar. The physical compatibility of the formulations was tested prior to application. The formulations are water soluble and did not clog in the nozzle. The field efficacy results indicated that, the developed mustard based eco-friendly formulations (both EC and SC) were found effective in managing sucking pests in cotton like thrips (79-91% as against 88% control in insecticide check); leaf hoppers

(62-92% as against 97% control in insecticide check) and whitefly (48-72% as against 76% control in insecticide check).



Fig 8: Field trail of mustard based botanical formulation

Low-cost portable ozone fruits and vegetable washer-cum-purifier (Ozo-C)

Keeping in view the present grim situation of Covid-19, ICAR-CIPHET, Ludhiana has developed a Portable Fruits and Vegetable Washer-Cum-Purifier named Ozo-C based on Ozone technology. The system works on principle of silent ozone discharge method. It uses electric discharge to produce ozone by splitting the normal oxygen molecules in the air into single atoms. These atoms recombine to form ozone (O_3). The device was made with a unit cost of Rs.3500 and it is installed at ICAR-CIPHET, Ludhiana for use. The technology has been licensed to three enterprises by the institute.



Fig 7: Portable ozone fruits and vegetable washer-cum-purifier (Ozo-C)

Extrusion of red rice

Experiment for extrusion of red rice (*Jyothi* variety) was designed using RSM-CCD with moisture content, screw speed and temperature as three dependent variables. Twenty experimental runs were made and evaluated for important quality parameters of red rice extrudates. Expansion ratio (ER) ranged from 2.08 to 2.71, bulk density (BD) ranged from 0.08 to 0.12 g/cm³, water solubility index (WSI) ranged from 6.24 to 13.19% and water absorption index (WAI) ranged from 5.14 to 8.56. Moisture, fat, protein and ash content ranged from 7.8 to 9.7%, 0.8 to 0.71%, 5.8 to 6.1% and 0.2 to 0.8% respectively. Total phenolic content (TPC) of the extrudates ranged from 214.80 to 256.45 mg GAE/100 g and percent RSA ranged from 18.16 to 57.03. Crispness of the extrudates, the slope before the first fracture peak varied between 5.27 and 16.92 N/mm. Highest expansion ratio (ER) of 2.71 was



Fig 9: Extruded product of red rice

obtained at feed moisture of 14%, screw speed of 400 rpm and barrel temperature of 170°C. However, the extrudate was optimized based on the highest percent RSA (57.03), which was obtained at feed moisture of 18%, screw speed of 550 rpm and barrel temperature of 130°C.

Effect of particle size on different properties of khesari dal or grass pea flour

Particle size is considered as an important factor affecting the quality of particular flour, which in turn affects the properties of end product developed. In view of this, properties of various sieve fractions of khesari dal flour with different particle size (250-212, 212-180, 180-150, 150-106, 106-75, <75 µm) were evaluated. The particle size distribution using laser diffraction analysis showed that with decrease in particle size of flour samples, mean particle size decreased while surface area increased significantly ($p < 0.05$). Microstructural analysis revealed that flour fractions of bigger particle size exhibited oblong shaped starch particles, surrounded by protein and fibre components, which became smaller and rounded in the smaller sized flour fractions. The biochemical studies showed that the total phenolic content (TPC) of the khesari dal flour fractions increased from 0.32 to 0.43 mg gallic acid equivalent with decrease in flour particle size from 250-212 µm to 180-150 µm, which further decreased with decrease in particle size. Flavonoid content was in the range of 0.19-0.31 mg quercetin equivalent/g and maximum value was obtained for the flour sample with particle size of <75 µm. The saponin content varied from 1.78-2.10 mg diosgenin equivalent/g. It was observed that decrease

in particle size affected the distribution of various biochemical ingredients in a different manner. Khesari dal also known as grass pea is nowadays considered as a potential but underutilized legume crop and the information on its properties as a function of particle size will be useful for its utilization in different end products.

Process technology for enzymatic extraction of ACE-inhibitory peptides from rohu fish waste

A process technology has been developed to extract ACE inhibitory peptides from rohu fish waste (head, fins/trimmings, scales and

swim bladder). It involves dressing rohu fish to get waste, grinding and homogenising, mixing in phosphate saline buffer (PBS, 50 mM, pH 7.5) followed by incubating for 30 min. Then enzymatic hydrolysis using Alcalase @ 1%, v/w is done for 2 hours and subsequent inactivation by placing it in hot water (90°C) for 15 min. It follows filtration through syringe filter (0.45 μ m then subsequently through 0.2 μ m) and MWCO (10 kDa and subsequently through 3 kDa), spray drying/lyophilizing and storing in air tight container in cool and dry place. With optimum hydrolysis time of 2 hours, 65% ACE inhibition was achieved.

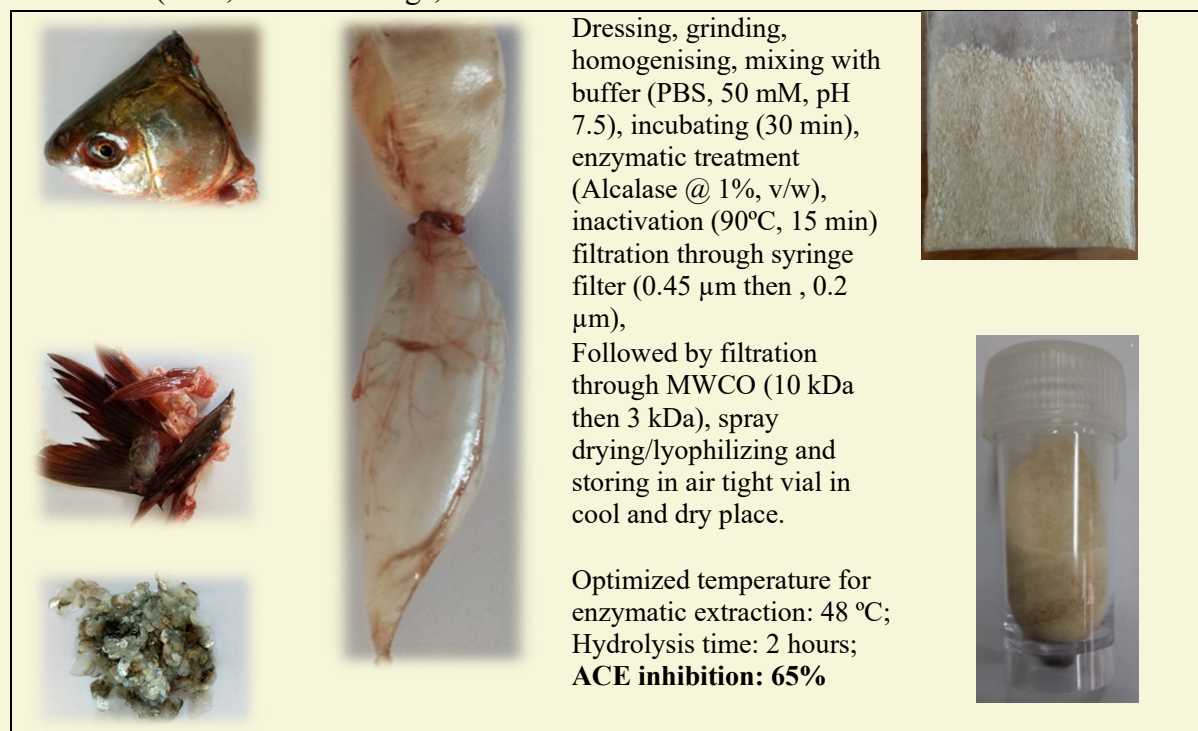


Fig 11: Process technology for enzymatic extraction of ACE inhibitory peptides from rohu fish waste

Development of controlled unit for smart solar dryer

A solar dryer was designed with thermal storage chamber for drying of agricultural produce. The control unit of the dryer includes the control of exhaust fan operation and the load cell provided below each tray.

The program for load cell sensor and temperature sensor were developed to control the environment of the drying chamber. The algorithm for control of the drying environment through sensors are shown in Figure below (Fig.12). The weight of the sample is measured by the load cell

that are provided below the tray (Fig.13). The change in weight during the drying process is being displayed in the Organic Light Emitting Diode (OLED). The controls are made through Arduino Mega 2506. Thermostat controller module is used for controlling the operation of exhaust fan. It has a temperature sensor (NTC-negative temperature coefficient), keys, LED display,

relay, and operates on DC 12V power supply. The controller module has an inbuilt embedded micro-controller, thus not much programming knowledge is required. The temperature is displayed in degree centigrade and with the help of a 7-segment display. The relay state is displayed with the help of the LED present on the module (Fig.14).

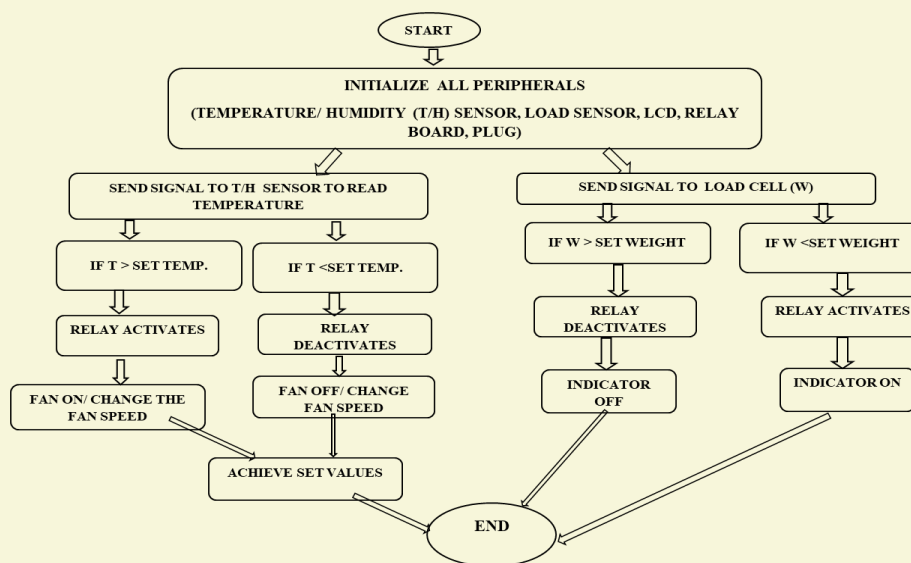


Fig 12. Algorithm for control of the drying chamber



Fig 13: Load cell below the trays for indicating the dry weight

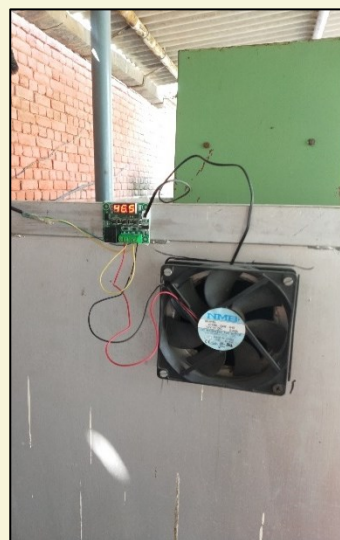


Fig 14: Unit for control of operation of fan

Farmer FIRST Project during COVID-19 Pandemic:

During pandemic and lock down period, when supply of essential items got restricted towards country side the model of agro processing centers served the society in a better way beside ensuring sustainable income to the farmers. Farmers (S. Paramjit Singh Khalsa and S. Jaswant Singh) running APC's under Farmer FIRST project were guided to purchase raw materials from nearby areas and local farmers and process the produce. They adopted door to door selling method by employing 10-15 people following all the protocols of COVID-19. In addition to APC products, they also managed to deliver farm vegetables to the customers at village panchayats, gurdwaras, temples etc. The customers were sending the list of items through mobile 2-3 days in advance and the payment is also received through online methods. This method helped in increasing income of farmers through direct selling of produce to customers by excluding the profit of middlemen. They also provided employment to around 15 people during the time of pandemic. When branded were not available in the market, the above APC's served people by selling their own processed produce without creating any panic and helped people in restricting their movement. Thus, our two APC modules helped in raising the income of farmers by processing products in more quantities besides contributing towards charity for poor peoples and langar seva in Gurudwaras and temples on a no profit no loss basis.

PUBLICATION

Research Papers:

- Awana M, Jain N, Samota MK, Rani K, Kumar A, Ray M, Gaikwad K, Praveen S, Singh NK & Singh A (2020) Protein and gene integration analysis through proteome and transcriptome brings new insight into salt stress tolerance in pigeon pea (*Cajanus cajan* L.). *International Journal of Biological Macromolecules*, 164: 3589-3602.
- Bembem K & Agrahar-Murugkar D (2020) Development of millet based ready-to-drink beverage for geriatric population. *Journal of Food Science and Technology*, 57:3278-3283.
- Choudhary P, Kumari N & Jain V (2020) Influence of selenium and chitosan on physico-chemical properties of guava (*Psidium guajava* L.) fruits under ambient storage conditions. *Indian Journal of Agricultural Sciences*, 90(2):351-355.
- Devi M, Sharma K, Jha SN, Arora S, Patel S, Kumar Y & Vishwakarma RK (2020) Effect of popping on physicochemical, technological, antioxidant, and microstructural properties of makhana seed. *Journal of Food Processing and Preservation*, DOI: 10.1111/jfpp.14787.
- Dukare A, Kumar R, Singh RK & Bhushan B (2020) Non-fungicides based promising technologies for managing post-production penicillium induced spoilage in horticultural commodities: A comprehensive review. published in *Food Reviews International journal*, DOI: 10.1080/87559129.2020.1727497
- Ghodki BM, Chhetri KB & Goswami T K (2020) Numerical modeling of granular flow

- in star valve type cryogenic precooler. *Journal of Food Process Engineering*, DOI: 10.1111/jfpe.13376
- Indore NS, Kale SJ, Akhoun AB, Singh RK & Harmehar S (2020) Structural analysis of common existing greenhouse design in different agro climatic zones of India. *International Journal of Agricultural Engineering*, 13(1): 80-89.
 - Kumar P, Bala M, Singh RK & Devi M (2020) Modelling the drying characteristics of ashwagandha (*Withania somnifera*) roots. *International Journal of Chemical Studies*, 8(4):207-212. DOI: 10.22271/chemi.2020.v8.i4c.9690.
 - Kumar P, Jambh HK & Dhiman A (2020). Is cryo-grinding of spices better than conventional grinding? *Food and Scientific Reports*, 7(1):6-9.
 - Kumar P, Kaur C & Jambh HK (2020). Use of extruded finger millet flour to enhance quality characteristics of barley chapatti. *International Journal of Chemical Studies*, 8(3):507-513.
 - Kumar P, Kaur C, Sethi S & Jambh HK (2020) Effect of extruded finger millet on dough rheology and functional quality of pearl millet based unleavened flatbread. *Cereal Chemistry*, DOI:10.1002/cche.10321
 - Kumar S, Kumar R, Sharma PC & Nambi VE (2020) Aqueous and microwave assisted extraction of pectin from grapefruit and Nagpur mandarin. *International Journal of Current Microbiology and Applied Science*, 9(7): 1938-1949.
 - Kumar Y & Kumar V (2020) Effects of double emulsion (W1/O/W2) containing encapsulated *Murraya koenigii* berries extract on quality characteristics of reduced-fat meat batter with high oxidative stability. *LWT-Food Science and Technology*, 127, 109365.
 - Kumar Y, Kumar V & Sangeeta (2020) Comparative antioxidant capacity of plant leaves and herbs with their antioxidative potential in meat system under accelerated oxidation conditions. *Journal of Food Measurement and characterization*, DOI:10.1007/s11694-020-00571-5
 - Meena VS, Jalgaonkar K, Mahawar MK, Bhushan B, Bibwe B & Kashyup P (2020) Optimization of process variables for preparation of Pomegranate juice fortified aonla candy. *Current Science*, 118(1):114-118.
 - Narsaiah K, Sharma M, Sridhar K & Choudhary A (2020) Development of flaxseed and garlic oil hydrogel beads by novel ionotropic gelation method. *Journal of Food Processing and Preservation*, DOI: 10.1111/jfpp.14821.
 - Narsaiah K, Sridhar K & Sharma M (2020) Development of functional bread with flaxseed oil and garlic oil hybrid microcapsules *LWT*, DOI: 10.1016/j.lwt.2020.110300.
 - Salwan R, Sharma V, Kasana RC & Gulati A (2020) bioprospecting psychrotrophic bacteria for serine-type proteases from the cold areas of Western Himalayas. *Current Microbiology*, 77:795–806.
 - Yewle N, Swain K, Mann S, Chandrasekar V & Kalnar Y B (2020) Effect of polishing on chemical and engineering properties of yellow and black turmeric. *Annals of Phytomedicine*, 8(2):85-92.
 - Yewle N, Charpe A M, Gupta S, Patil B, Tushir S & Mann S (2020) Impact of hermetic packaging on green gram (*Vigna radiata*) insect and microbial damage under

environmental storage condition. *Journal of Entomology and Zoology Studies*, 8(5): 1883-1887

Book Chapters

- Singh SK, Kasana RC, Yadav RS & Pathak R (2020) Current status of biologically produced nanoparticles in agriculture. In (eds.) Mansour Ghorbanpour *et al.* *Biogenic nano-particles and their use in agro-ecosystems*. Springer, 393-406.
- Kumar Y, Bashir AA, Narsaiah K and Singh RK (2020) Pulses electric field. In (eds.) Charis Galanakis. *Sustainable Food Processing and Engineering*. Elsevier. Academic Press Paperback ISBN: 9780128227145

Project Profile

- Narsaiah K, Singh R, Anurag RK, Kalnar YB & Ghodki BM (2020) Project Profile on extraction of curcumin from turmeric. 1-22.

Technology Information Booklet

- Singh RK, Singh R, Narsaiah K, Kalnar YB, Ghodki BM, Anurag RK & Tushir S (2020) Information Booklet: Enduring Technologies developed by ICAR-CIPHET during COVID-19 Pandemic. 1-24.

Training Manual:

- Bembem K, Devi TB, Muzaddadi AU & Devi YP (2020) 'Post-Harvest Management of paddy and value addition of rice under Scheduled Caste Sub Plan (SCSP) of ICAR-CIPHET, Ludhiana. 1-97.

Popular Article

- Bembem K, Balakrishnan R & Devi TB (2020) Scope of processing and value

addition of paddy and rice. Training manual on post-harvest management of paddy and value addition of rice. 1-7.

- Devi TB, Bembem K & Kalnar YB (2020) Post-harvest processing technologies of paddy. Training manual on post-harvest management of paddy and value addition of rice. 8-17.
- Devi TB & Dawange SP (2020) Packaging and storage of paddy and rice. Training manual on post-harvest management of paddy and value addition of rice. 18-26.
- Devi TB, Kalnar YB & Godhki BM. Machinery for paddy processing. Training manual on post-harvest management of paddy and value addition of rice. 45-55.
- Bibwe B, Jalgaonkar K & Kannauji P (2020) Canning of Litchi, *Agriculture & food E-Newsletter*, 2(6):558-559.
- Tushir S (2020). Understanding coronavirus (Covid-19) in agri news network. http://www.agrinewsnetwork.in/articles.php#art_97.
- Devi TB, Narsaiah K, Kalnar YB & Bembem K (2020). 3D food printing: An emerging technology in food designing. <https://www2.slideshare.net/LakshmiKhuman/3d-food-printing-an-emerging-technology-in-food-designing>
- Devi TB, Balakrishnan R, Sunita T & Kaukab S (2020). Drying of fruits and vegetables: An approach for entrepreneurship development. <https://www2.slideshare.net/LakshmiKhuman/drying-of-fruit-vegetables-an-approach-for-entrepreneurship-development>
- Devi TB, Narsaiah K, Kalnar YB & Bembem K (2020). Automation in Food

Industry. *Agriculture and Food E-Newsletter*, 2(6): 237-240.

- Dukare A & Kaur N (2020) Food bioterrorism: Concepts and categories. *Food and scientific reports*. 1:39-41.

Audio Visual Aids Developed

- ICAR-CIPHET at a Glance video <https://youtu.be/pclg7b93Np4>
- भा.कृ.अनु.प.-सीफेट एक नजर में video <https://youtu.be/Ni7K2AYO0F0>
CIPHET Database Help. Video available on Youtube.
<https://www.youtube.com/watch?v=EpjAo6PeLPU> (e publication)

PARTICIPATION IN CONFERENCE/ SEMINARS/ WORKSHOP ATTENDED:

Programs Attended:

- Dr. B. M. Ghodki has successfully completed a six-week online course on “Life Skills for Engineers (Level 1)” with Distinction grade. The course was offered jointly by Commonwealth Education and Media Centre for Asia (CEMCA) and University of Hyderabad (UOH) from 1 Jan - 13 Feb, 2020.
- Dr. Sandeep Mann, attended 35th annual workshop of AICRP on PHET during 23-25 Jan, 2020 at Jabalpur, Madhya Pradesh.
- Mr. Vikas Kumar, attended Winter School on “Recent advance in fish processing, value addition and fish waste management” at College of Fisheries Central Agricultural University, Lembucherra, Agartala (Tripura) during 07-27 Jan, 2020.
- Dr. K. Narsaiah attended 11th Bengaluru India Nano workshop from 2-3 Mar, 2020.
- Dr. Guru P.N. successfully completed an eight-week MOOC course on ‘Integrated

Pest Management’ during 21 Mar, - 30 Jun, 2020.

- Dr. Sandeep Mann, attended meeting on 5 Jun, 2020 under chairmanship of Shri Atul Saxena, Joint Secretary, MoFPI regarding fixation of Cost Norms for processing facilities related to cereals and grains.
- Dr. Guru P.N. attended the Webinar on ‘Locusts: Myths and Reality, how to tackle if we come across?’ organized by NAHEP-CAAST, MPKV, Rahuri (Maharashtra) on 9 Jun, 2020.
- Mr. Vikas Kumar completed two days e-training course on ‘Laboratory System and Internal Audit as per ISO/IEC 17025:2017’ organized by Quality Council of India during 13-14 Jun, 2020.
- Dr Sandeep Mann (PI, FFP) attended and presented progress of Farmer FIRST Project, ICAR-CIPHET, Ludhiana (2019-2020) in the FFP, Annual review workshop during 17-18 Jun, 2020 through online mode.
- Dr. Khwairakpam Bembem, attended webinar 'Role of novel food technologies for food security' on 27 Jun, 2020 organized by AFSTI.
- Dr. Sandeep Mann, attended 10 days online certificate course on E-content Development Conducted by RCELL India from 07 Jul, 2020 - 17 Jul, 2020.
- Dr. Guru P N, successfully completed a MOOC on ‘Designing e-Learning Content’ from 1-31 Jul, 2020 organised by ICAR-NAARM, Hyderabad.
- Dr. Khwairakpam Bembem completed two days e-training course on ‘Laboratory System and Internal Auditor Training as per ISO/IEC 17025:2017’ during 24-25 Jul, 2020

- Mr. Vikas Kumar, attended an 'International webinar on innovative missions in the future of fish processing' organized by FC&RI, Ponneri on 29 Jul, 2020.
 - Mr. Vikas Kumar, attended an e-conference on "Opportunities in Processing, Freezing and Exporting of Value-added products for seafood industries" organized by Indian Chamber of commerce on 29 Jul, 2020. Er Asrar,
 - Dr. Sunil Kumar, attended 15th meeting of Fruits, vegetables and allied products sectional committee meeting (BIS meeting FAD10) chaired by Director IIHR on 06 Aug, 2020.
 - Dr. Ajinath Dukare, attended 3 days online "International Workshop on Application of Statistics in Science and Technology using SPSS" organized by world food preservation center, USA from 8-10 Aug, 2020.
 - Dr. Ajinath Dukare, attended a webinar lecture on "Entrepreneurial Opportunities in Food Processing Sector" under webinar series on "Education for Agriculture-Making a Difference". Organized by NMIMS-School of Agricultural Sciences and Technology, Mumbai (MH) on 13 Aug, 2020.
 - Er. Thongam Sunita Devi, attended Online Training on "Effective Utilization of New Age e-Resources Technologies in Agriculture" during 13-14 Aug, 2020.
 - Dr. Devi TB attended International Training on "COVID-19 and Its Impact on Small and Medium on Farm and off Farm Agro-based and Cottage Enterprises" by AARDO and RDA, Bogura, Bangladesh, 17-28 Aug, 2020.
 - Dr. Devi TB attended a workshop on "ABC of scientific writing during 18 Aug, - 2 Sept, 2020 organized by Krishi Vigyan Kendra Cuttack, Santhapur, ICAR-NRRI, Cuttack.
 - Dr. Devi TB attended a webinar on "Developing Entrepreneurial Skills among Agri-Graduates" on 21 Aug, 2020; conducted as a part of webinar series "Education for Agriculture- Making a Difference" by NMIMS-SAST, Shirpur.
 - Dr. Ajinath Dukare attended one day national Webinar on "Recent Advances in Soil Microbiological Research with a Special Thrust to Biofertilizer Technology" organized by BAU, Sabour on 25 Aug, 2020.
 - Ms. Surya Tushir attended live webinar on 'Response Surface Methodology' on 28 Aug, 2020 organized by ICAR-CIAE Regional Centre, Coimbatore.
- Paper Presented**
- Devi TB (2020) Design of sensor based solar dryer with phase change material as thermal storage" paper presented on 54th annual convention of Indian Society of Agricultural Engineers (ISAE) and International symposium on "Artificial Intelligence Based Future Technologies in Agriculture" held at Hyatt Regency, Pune during 7-9 Jan, 2020.
 - Ghodki B, Kannaujia P & Dukare A (2020) Development of low-cost air modification system for storage of onions. Paper presented in the 54th Annual Convention of Indian Society of Agricultural Engineers (ISAE) and International Symposium on "Artificial Intelligence Based Future Technologies in Agriculture held at Hyatt Regency, Pune during 7-9 Jan, 2020.
 - Kalnar Y B, Kumari A, Devi TB & Ghodki, BM (2020) Prototype development for automatic sorting based on the weight of

tomato. Presented in 54th Annual Convention of Indian Society of Agricultural Engineers (ISAE) & International Symposium on Artificial Intelligence Based Future Technologies in Agriculture, held at Hyatt Regency, Pune during 7-9 Jan, 2020.

- Bembem K and Kumar P (2020) Extrusion cooking properties of black rice. Presented in 'National Conference on Technological and Emerging Aspects in Agriculture and Community Science held at International Buddhist Research Institute, Lucknow, during 7-8 Feb, 2020.

Guest lecture/Lectures delivered:

- Dr. Sandeep Mann, delivered a lecture in the MTC at ICAR-CSSRI-Karnal on 05 Feb, 2020
- Dr. BM Ghodki delivered a Practical Oriented Lecture on “Milling of Pulses (Mungbean, Lentil, Chickpea)” for the participants of “Skill Development Program on Mechanization for Post-Harvest Operations” sponsored by ANGRAU-IDP, under World Bank NAHEP Project, from Acharya N. G. Ranga Agricultural University, Andhra Pradesh, during 1-29 Feb, 2020.
- Dr. Mridula D delivered a lecture on ‘Extrusion technology for processing and value addition of agricultural produce’ for ‘Skill Development Programme on Mechanization for Post-Harvest Operations’ sponsored by ANGRAU-IDP under World Bank NAHEP Project, organized at ICAR-CIPHET, Ludhiana during 1-29 Feb, 2020.
- Dr. Deepika Goswami delivered a lecture and practical on ‘Processing of millets and pulses (L+P)’ to the participants of farming program on “Post-harvest technologies of fruits, vegetables & grains” sponsored by ATMA, Pune, Maharashtra during 02-04 Mar, 2020 at ICAR-CIPHET, Ludhiana.
- Dr. Khwairakpam Bembem delivered a lecture on ‘Prospects in food processing sector for employment generation’ and ‘value addition in agriculture sector for higher income’ to Schedule Caste students of Punjab Agricultural University on 6 Mar, 2020.
- Dr. Mridula D delivered a lecture on ‘Adoption of extrusion technology for entrepreneurship in rural areas’ for the participants of the farmers training on ‘Packaging of coarse food grains specially millets and its processed products’ organized at ICAR-CIPHET, Ludhiana during 12-14 Mar, 2020.
- Dr. Deepika Goswami delivered a lecture and practical on ‘Baking technology for value added products from millets’ (L&P) for participants of framers training on ‘Packaging of coarse food grains specially millets and its processed products’ under ABI during 12-14 Mar, 2020 at ICAR-CIPHET, Ludhiana.
- Dr. K Narsaiah delivered a lecture on “Microencapsulation of bioactive food ingredients” for online training course of CAAST, MPKV Rahuri on “Advances in Smart Food Processing Technologies” conducted during from 04-15 Jun, 2020.
- Dr. Kasana RC delivered invited talk “Enhancing stress tolerance in plants using plant growth promoting bacteria” in Webinar on 7 Aug, 2020, conducted by Department of Biotechnology, DAV University, Jalandhar.

TRANSFER OF TECHNOLOGY

- No-Touch Automatic Dispenser for Hand Sanitization was licensed to “M/s Forming & Forging Industries, #3858, St. - 1, New Janta Nagar, Gill Road Ludhiana-141003” and M/s Sakhi Soaps, Hindustan Soaps and Salts Company, Prakasam, Andhra Pradesh.
- Portable Smart Ultraviolet-C Disinfection System was licensed to
 - (1) M/s Sakhi Soaps, Hindustan Soaps and Salts Company, Prakasam, Andhra Pradesh
 - (2) M/s CRD Invotech, 38, Darda Nagar, Yavatmal - 445001, Maharashtra
 - (3) Mr. Ishinder Dhir, Tagore Nagar, Ludhiana-141004, Punjab
- Ozone based Fruits and Vegetable Washer-Cum-Purifier (Ozo-C) was licensed to
 - (1) M/s CRD Invotech, 38, Darda Nagar, Yavatmal - 445001, Maharashtra
 - (2) M/s Siri Labs, Ongole, Andhra Pradesh
 - (3) M/s Sakhi Soaps, Hindustan Soaps and Salts Company, Prakasam, Andhra Pradesh
 - (4) Mr. Ikram Haider, 520 B Mutthiganj, Allahabad.



Fig 15: UViC Technology Licensing to M/s CRD Invotech, Maharashtra (via Web)

- Ready to Constitute Makhana Kheer Mix (Patent no. - 287541) was licensed to
 - (1) M/s Mithila Naturals Private Ltd., Village- Jarail-Arer, SH 52, District-Madhubani- 847223 (Bihar) and

(2) Ms. Renu Mishra, U-173, 3rd Floor (left side), Upadhyay Block Shakarpur, Near Kotak Mahindra Bank, Shakarpur, Laxmi Nagar (East Delhi), Delhi-110092

- Mechanized system for popping and decortications of makhana seeds was licensed to M/s Arkeys Scientific Instruments Company, #309, Near P&T Coloby, Subhash Marg, Madhya Pradesh – 466001.
- Wadi making machine was licensed to M/s Empire Bakery Machines Pvt. Ltd., opp. Gurudwara Somasar Sahib Vill.Tibba P.O., Sahnewal, Punjab – 141120



Fig 16: Wadi making machine technology transfer

- Process for preparation of rose petal jam was licensed to Ms Shruti Goyal R/o Jagraon, Ludhiana.
- A MoU has been signed between ICAR-CIPHET, Ludhiana and Save Grain Advanced Solutions Pvt. Ltd. on 14 Sept, 2020 to carry out R & D activities on “Performance evaluation of Hermetic bags on selected commodities”

TRAININGS

Entrepreneurship Development program (EDP)

- Entrepreneurship Development program on “Drying and dehydration of fruits and vegetables” has been organized under the

CRP on Secondary Agriculture Project entitled “Establishment of modern agro-processing centers for fruits and vegetables” during 01-04 Jan, 2020 at ICAR-CIPHET, Ludhiana for twelve participants.

- Entrepreneurship Development program of 3 days on “Aonla processing and value addition” is organized under the CRP on Secondary Agriculture Project on “Establishment of modern agro-processing centers for fruits and vegetables” during 06-10 Jan, 2020 at ICAR-CIPHET, Ludhiana for two women from Jagraon, Ludhiana, Punjab.
- A training programme on “Microencapsulation of food ingredients” was conducted during 26-29 Feb, 2020 at ICAR-CIPHET, Ludhiana, to train Mr. Kunal Solanki.
- Entrepreneurship Development program on “Processing and value addition of tomato” was conducted on 11-13 Mar, 2020 at ICAR-CIPHET, Abohar for one entrepreneur from Vishakhapatnam, Andhra Pradesh.
- Entrepreneurship Development program of 3 day on “Processing and value addition of onion” was organized under the CRP on Secondary Agriculture Project on “Establishment of modern agro-processing centers for fruits and vegetables” during 26-28 May, 2020 at ICAR-CIPHET, Ludhiana for three women of Ludhiana district.
- Three days training to budding entrepreneur on Chemical free jaggery production during 14-16 Jul, 2020 and guided in preparation of DPR for establishment of Chemical free jaggery unit.
- Entrepreneurship Development program on “Processing and value addition of green

chilli” was organized under the CRP on Secondary Agriculture Project on “Establishment of modern agro-processing centers for fruits and vegetables” during 24-26 Aug, 2020 at ICAR-CIPHET, Ludhiana for three women participants of Jagraon and Ludhiana, Punjab.

- Entrepreneurship Development program on “Processing and value addition of Green chilli” was organized under the CRP on SA Project on “Establishment of modern agro-processing centers for fruits and vegetables” during 31 Aug - 2 Sept, 2020 at ICAR-CIPHET, Ludhiana for six participants, Ludhiana, Punjab. One month in-plant training conducted for 30 undergraduate students of B. Tech, Food Technology from Islamic University of Science & Technology, Awantipora, Kashmir (J&K) during 1 Jan to 31 Mar, 2020.

Farmer’s Training

- Farmers training on ‘Importance of post-harvest technology’ was conducted at ICAR-CIPHET for 30 farmers from Jalgaon district of Maharashtra during 06-10 Jan, 2020. The training programme was sponsored by Project Director ATMA, Taluka Agricultural Office, (Bodwad Chopda & River), Maharashtra.



Fig 17: Participants of farmer’s training from Jalgaon, Maharashtra

- Farmers training on ‘Post-harvest management of paddy and value addition of

rice' was conducted at Manipur during 16-18, Jan, 2020 under the Scheduled Caste Sub-Plan (SCSP) scheme of Government of India. The training programme was conducted in collaboration with the Department of Agriculture, Govt. of Manipur wherein 50-members participated in this.



Fig 18: Participants of 'Post-harvest management of paddy and value addition of rice' training.

- Farmer's training on 'Packaging of coarse food grains specially millets and its processed products' participants from Uttarakhand during 12-14 Mar, 2020.
- Team of Farmer FIRST Project from ICAR-CIPHET provided training to S. Rajwinder Singh Maan and S. Rajinder Singh on production of solid and granular jaggery at Jaggery production plant at Uppal Farm, Rahon, Nawanshahr (established under the Project) on 15 July, 2020.



Fig19: Training on jaggery production

Students Training

- Three month in-plant training conducted for 30 undergraduate students of B.Tech, Food Technology from Islamic University of Science & Technology, Awantipora, Kashmir (J&K) during 1 Jan to 31 Mar, 2020.
- One month training programme is being organized for 01 B. Tech student from Vision Institute of Technology, Hathipur, Maharajpur, NH-2, G.T. Road, Kanpur during 09 Jan - 08 Feb, 2020.
- A Skill Development training programme on "Mechanization of Post-Harvest Operations" during 01-29 Feb, 2020. The training programme was sponsored by ANGRAU-IDP, under World Bank NAHEP, for 25 number of students from 4 different colleges of Acharya N. G. Ranga Agricultural University, Andhra Pradesh.



Fig 20: Students from ANGRAU undergoing 'skill development programme on mechanization & post-harvest operations

Officer's Training

Virtual e-office training was organized at ICAR-CIPHET, Ludhiana for all staffs on 14 July, 2020.

EVENTS

• Republic Day Celebration:

ICAR-CIPHET celebrated 71st Republic Day to honor the date on which the Constitution of India came into effect. On this occasion Dr. RK Singh hoisted the tricolor and addressed the staffs of the institute and different cultural and sports activities followed the flag hoisting ceremony.



Fig 21: Flag Hosing Republic day 2020



Fig22: Children participating in 100 m race

• International Women's Day Celebration:

ICAR-CIPHET, Ludhiana celebrated International Women's Day on 08 Mar, 2020. The function was graced by Dr. Gurinder Kaur Sangha, Dean Post Graduate Studies of Punjab Agricultural University, Ludhiana as the Chief Guest of the function. Dr. RK Singh, Director, ICAR-CIPHET, Dr. Manju Bala, Chairperson Women Cell of ICAR-CIPHET, Dr. Mridula D,

Chairperson, Women Complaint Cell of ICAR-CIPHET, scientific and administrative staffs wholeheartedly and



jointly celebrated the day.

Fig 23: Dr. Gurinder Kaur Sangha, Dean PGS, PAU on the occasion of women's day at ICAR-CIPHET

• Webinar on 'Business Opportunities in Fish Post-Harvest.'

Dr. R.K. Singh, I/c Head, ToT Division and Vikas Kumar, Scientist (FPT) coordinated a national webinar on 'Business Opportunities in Fish Post-Harvest' on 05 Jun, 2020. Dr. C.N. Ravishankar, Director, ICAR-CIFT, Cochin was expert speaker. About 1200 participants registered for the event and 700 participated in live session.

• International Yoga Day Celebration

ICAR-CIPHET celebrated International Day of Yoga (IDY) on 21 Jun, 2020 at ICAR-CIPHET. This year's theme 'Ghar Ghar me Yog' which signifies the importance of staying at home and practice Yoga with family while observing social distancing. Staffs and their entire family celebrated the day staying at home keeping away from contagious Corona virus as suggested by Ministry of AYUSH.



Fig 24: ICAR-CIPHET (Ludhiana and Abohar Campus)

- Institute Research Council (IRC) Meeting**
 30th IRC was held through video Conferencing during 08-10 July, 2020 at ICAR-CIPHET, Ludhiana. A total of 47 RPPs (I/II/III/IV) were presented in this meeting. Dr. O.P. Chauhan, Scientist –F, DFRL Mysuru, Karnataka and Dr. Ashok Kumar, Dean College of Agricultural Engineering, PAU, Ludhiana were the external experts. Dr. SN Jha, ADG (PE) ICAR, New Delhi was also present on the meeting.
- Independence Day Celebration**
 The institute celebrated 74th Independence Day at both the campuses on 15 Aug, 2020. Dr. R.K. Singh, Director (Acting), ICAR-CIPHET unfurled the Tricolour in Ludhiana campus and addressed the staffs on the occasion. He stressed upon the importance of post-harvest management, maintaining health and hygiene, taking Covid-19 precautions, and staying positive.

हिंदी कार्यशाला

सीफेट, लुधियाना में सितम्बर 2020 को 25 सामाजिक दूरी के नियमों का पालन करते ऑनलाइन हिंदी कार्यशाला का आयोजन किया

गया। इस कार्यशाला के दौरान संस्थान के अधिकारियों एवं कर्मचारियों के अलावा, मुख्या वक्ता श्रीमती किरण साहनी, सहायक निदेशक (राजभाषा) एवं सदस्य सचिव (न.रा.का.स.), लुधियाना ने 'भारत की राजभाषा नीतिनियम एवं : अधिनियम' एवं 'हिंदी भाषा एवं शिष्टाचार' विषयों पर अपनी प्रस्तुति देकर सभी को लाभान्वित किया।

EXTENSION ACTIVITIES/ EXHIBITIONS/MELAS

- Team of Farmer FIRST Project from ICAR-CIPHET visited the established Honey processing unit at Rahon, Nawanshahr to monitor the honey processing and field survey where honey bee boxes placed on 25 Feb, 2020.
- Team of Farmer FIRST Project from ICAR-CIPHET visited the established Jaggery production plant at Uppal Farm, Rahon, Nawanshahr to monitor the production of solid and granular jaggery on 25 Feb, 2020.



Fig 25: Jaggery production plant Rahon, visit

- Team of Farmer FIRST Project from ICAR-CIPHET visited the established Agro-processing center, Pabla brothers, Bharta Khurd, Rahon, Nawanshahr on 03 Mar, 2020 to monitor the progress of cereals and spices processing.



Fig 26: Agro-processing centre, Bharta Khyrd, Rahon visit

- Handed over Destoner of capacity: 400 kg/h to Shri. S. Paramjit Singh Khalsa on 6 Aug, 2020 under the Farmer FIRST Project.



Fig 27: Destoner machine handover to S. Paramjit Singh Khalsa

Exhibition/ Mela		Date	Venue
Agri. Incubators' Conclave	Business	6 Feb 2020	PAU, Ludhiana
CII SOUTH: PJTSAU	AGRITECH	22-24 Feb 2020	PJTSAU, Hyderabad
Pusa Mela	Krishi Vigyan	1-3 Mar 2020	IARI, New Delhi

PATENT FILED/GRANTED

1. Granted a patent entitled "Apparatus for production of microcapsules" (patent no. 330252) Team: Dr. K. Narsaiah & Dr. H.S. Oberoi dated 24 Jan, 2020.
2. Granted a patent entitled "Process for preparation of alcoholic beverage with nutraceutical properties from kinnow peels"

(patent no. 337178) Team: Dr. H.S. Oberoi dated 21 Apr,2020.

3. Filed a patent entitled "Process for preparation of rose petal jam" (patent application no. 202011021332) Team: Dr. Mridula, Dr. Deepika Goswami, Dr. R.K. Vishwakarma, Er. Akhoun A. Bashir, Er. Indore Navnath & Dr. R. K. Singh dated 21 May, 2020.
4. Granted a patent entitled "Tray dryer having a unique design of plenum chamber" (patent no. 338839) Team: Dr. K.K. Singh, Dr. D.M. Kadam & Dr. R.T.Patil dated 19 Jun, 2020.
5. Filed a patent entitled "Mechanized system for primary roasting of raw makhana seeds and process thereof" (patent application no. 202011037651) Team: Ms. Kalyani Sharma, Dr. S. Patel, Dr. R.K. Vishwakarma, Dr. Mridula & Dr. S.N. Jha dated 1 Sept, 2020.

AWARDS/RECOGNITIONS

- Dr. Khwairakpam Bembem, Scientist was awarded with best oral presentation in National Conference on Technological and Emerging Aspects in Agriculture and Community Science held at International Buddhist Research Institute, Lucknow during 7-8 Feb, 2020.
- Dr. B.M. Ghodki became member of Food Group of Society of Chemical Industry (SCI), London on 21 Aug, 2020.

PERSONALIA

Joining/ Promotion/ Transfers:

New posting/joining (through email): 04 Scientists (on probation) after completion of 110th FOCARS have joined the institute

Sr. No.	Name	Discipline
1	Rajneesh Sharma	Agricultural Biotechnology
2	Mahesh Kumar Samota	Plant Biochemistry
3	Thongam Sunita Devi	AS & PE
4	Shaghaf Kaukab	AS & PE

- Sh. Rajneesh Sharma, Scientist has been transferred to ICAR-CAZRI, Jodhpur on 31 Jul, 2020.
- Dr. Sunil Kumar, Pr. Scientist has been transferred to ICAR-IIWBR, Karnal on 18 Aug, 2020.

CIPHET IN NEWS

दलाने सक्तीयां नुं बीटाटू मुख वरन लसी विगिआनीयां ने घटाएआ चिन्न सिस्टम

लुधियाना, 27 मरी (सलुजा)- बॅरिना मरामारी चेरान बचार उं धोरि वं बर लिआंवे दलाने अउं सक्तीयां दारिअरमाल खिबं बरीये, नुं ले के लेख अंस उंख दुसिया विच परे रहे हन। बरी लेख उं पुरिआ लिबावे सोडर एस उं बाअर बाउर बंध वं विर दलाने सक्तीयां नुं बीटाटू मुख वरन लसी घेरे हन।



परिदेख सिस्टम से नल सौरेट से विगिआनीयां एरी टीएम। जेठ 2020

लेख उं विरनुं धाट दाले कुडपदा नुं भापरे धला से अंली गोर बरिआ बाबा उं उंख लेख रैषट उं बाअर रिअरमाल बरंवे हन। दिस चेरान दलाने सक्तीयां नुं (सौरेट) से विगिआनीयां ने चिन्न

बन, सक्तीयां अउं मीट आदि उिउपदा नुं उंख मीट विच गी बीटाटू मुख वरन लसी सक्तीयां, से वि मनुसा मं विच बादिअरमाल सचउं हे सरदा ए। उिउनुं दंदिआ वि दिस टेक्नालॉजी नुं रिअरमाल सौरेट डार आर. वं, सिंध से अरवाणी विच डार. वं, नरमोआ, डार दसोउ सिंध अउं दिस सुखाने नुं रिअर वरन। उिउनुं दारबा बाउआ वि दिस परिदेख सिस्टम एरी टीएम। जेठ 2020

नलख परिदेख सिस्टम घटाएआ ए। सौरेट से विगिआनीयां डार, दसोउ सिंध नुं दंदिआ वि दिस टेक्नालॉजी ए रिअरमाल बाबा, वेदना, पुंमोसिआ ए रिअरमाल अउं बादिअरमाल से वेरी डर नउं रंवेगा।

2 उद्यमी महिलाओं ने सीफेट से प्राप्त की ओजोन टैक्नोलॉजी

लुधियाना, 3 जून (सलुजा): सेंट्रल इंस्टीट्यूट ऑफ पोस्ट हार्वेस्टिंग इंजीनियरिंग एंड टेक्नोलॉजी (सीफेट) से 2 उद्यमी महिलाओं ने ओजोन टेक्नोलॉजी प्राप्त की है। यह एक टेक्नोलॉजी है, जिससे आप फल, सब्जियों व मीट आदि उत्पाद में जुदा कोरोना संकट की धुंध में भी पूरी तरह सुरक्षित रखते हुए इस्तेमाल कर सकेंगे। सीफेट के डायरेक्टर आर.के. सिंह ने महासचिव की उद्यमी महिला मन्हाल बुडे और मध्य प्रदेश की उद्यमी महिला ए. सिरिश को शुभकामनाएं भेंट करते हुए उम्मीद



उद्यमी महिलाओं को टेक्नोलॉजी प्रदान करने संबंधी पत्र प्रदान करते सीफेट के वैज्ञानिक। (जेठ 2020)

जताई कि ये इस टेक्नोलॉजी को आगे शोषण करते हुए घर-घर तक पहुंचाने का काम करेंगे। इस अवसर पर खोज संस्था के वैज्ञानिक डा. के. नरसहाय, डा. रणजीत सिंह, मिस सूर्य, इंजीनियर योगेश कलनार और डा. भूपेंद्र एम. घोडकी आदि उपस्थित थे।

वैज्ञानिकों ने तैयार की बड़ियां बनाने वाली आटोमैटिक मशीन

एक घंटे में तैयार होंगी 300 किलो बड़ियां

लुधियाना, 31 जनवरी (सलुजा) : यदि आप बड़ियां खाने के शौकीन हैं तो फिर अब आपको अमृतसर जाने की जरूरत नहीं पड़ेगी। आप अपने घर बैठे ही करारी व कम करारी बड़ियों को स्वाद लेसकेंगे। सेंट्रल इंस्टीट्यूट ऑफ पोस्ट हार्वेस्टिंग इंजीनियरिंग एंड टेक्नोलॉजी (सीफेट) के वैज्ञानिकों ने एक ऐसी कंप्यूटाइज्ड आटोमैटिक मशीन तैयार की है जो केवल एक घंटे में ही 300 किलो बड़ियां तैयार कर देती है। मूंग व उड़द की दाल से तो बड़ियां तैयार होती ही हैं लेकिन



डा संदीप मान।

आप वेजिटेबल मिक्स वाली भी बड़ियों का स्वाद भी ले सकते हैं।

सीफेट के वैज्ञानिक डा संदीप मान ने बताया कि उन्होंने अपने सहयोगी वैज्ञानिक डा धरितमान के साथ मिलकर लगभग दो वर्षों की खोज के बाद ये

बड़ियां तैयार करने वाली मशीन विकसित की है। उन्होंने बताया कि मशीन की खोज करने की प्रेरणा सीफेट के वैज्ञानिकों डा एस के त्यागी व डा एस एन झा से ही मिली। इससे 9 अलग-अलग तरह की बड़ियां बना कर उसका लुफ ले सकेंगे।

LATEST NEWS West Bengal govt to cut tax on fuel by Rs 1 a litre

Home / Cities / Ludhiana / ICAR-CIPHET hosts webshop on effect of Covid on post-harvest food handling

ICAR-CIPHET hosts webshop on effect of Covid on post-harvest food handling

The aim was to formulate a policy paper on combating the coronavirus in the production mechanism system for action and guidance of national agencies to ensure zero loss to farmers in production and post-production processing.

Written by [Rashmi Jugga](#) | Ludhiana | June 23, 2020 2:48:13 am

LIVE BLOG

- Modi in West Bengal, Assam Live Updates: Delhi is not far from Dispur now Ass, it stands at your doorstep; says PM Modi | 27 min ago
- Karnataka Bengaluru Live Updates: State reports 453 infections and new fatalities | 27 min ago
- Covid-19 India Live Updates: Maharashtra Cabinet Minister Chhagan Bhujbal tests positive for Covid-19 | 27 min ago

Ludhiana: ICAR-CIPHET grants license of portable disinfection system technology

Mohit Behl | TNN | Jun 27, 2020, 20:53 IST



The young entrepreneur came to know about the technology through the news on the ICAR website, Twitter, TV cha... Read More

LUDHIANA: ICAR-Central Institute of Post-Harvest Engineering and Technology (CIPHET), Ludhiana granted 3rd license of its recently developed Portable Smart Ultraviolet-C Disinfection System (UVIC) technology to Ishinder Dhir of Ludhiana for its commercial production.

According to spokesperson of ICAR-CIPHET, "The young entrepreneur came to know about the technology through the news on the ICAR website, Twitter, TV channels as well as in TOI newspaper. He contacted the Institute for UVIC technology and took a license on 27th June 2020. He expressed his confidence in capturing the market as

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NEWS / CITY NEWS / LUDHIANA NEWS / ICAR-CIPHET GRANTS LICENSE TO TWO WOMEN ENTREPRENEURS

THIS STORY IS FROM JUNE 4, 2020

ICAR-CIPHET grants license to two women entrepreneurs

TNN | Updated: Jun 4, 2020, 13:25 IST



LUDHIANA: ICAR-Central Institute of Post-Harvest Engineering and Technology (CIPHET), Ludhiana has licensed the recently developed Ozone based fruits and vegetable washer-cum-purifier (Ozo-C) and portable smart UV-C disinfection system (UVIC) to two firms, both run by women entrepreneurs.

Snehal Dudhe owns CRD Invotech in Yavatmal (Maharashtra) got the license for both the technology. A Sirisha, proprietor of Siri Labs in Ongole (Andhra Pradesh), got the license for Ozo-C.

ICAR-CIPHET organises national webinar on 'Business Opportunities in Fish Post-Harvest'

Mohit Behl | TNN | Jun 9, 2020, 14:51 IST



LUDHIANA: ICAR-CIPHET, Ludhiana organised a national webinar on 'Business Opportunities in Fish Post-Harvest' through Zoom and Youtube live.

Dr CN Ravishankar, director ICAR-Central Institute of Fisheries Technology, Cochin, Kerala was invited expert speaker. Ravishankar discussed the various opportunities in the line of development of value-added fish products, fish-byproducts, qualities issues, packaging concerns.

He also discussed different schemes of government like Start-Up and Stand-Up India.

tribunendia.com/news/ludhiana/local-resident-bags-licence-for-ciph-et-tech-105644

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LUDHIANA

Local resident bags licence for CIPHET tech

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Tribune News Service
Ludhiana, June 27

The Central Institute of Post-Harvest Engineering and Technology (CIPHET) has granted three R&D licenses recently developed portable smart Ultraviolet-C Disinfection System (UVIC) technology to Ishinder Dhir, Tag Nagar, for its commercial production.


The young entrepreneur came to know about the technology through news on the ICAR website, Twitter, TV channels and newspapers. He contacted the institute for the UVIC technology and took a license on Saturday.

He expressed his confidence in capturing the market as the device was compact and much needed at public locations such as offices, shops, hospitals, and would play a key role in the fight against ongoing Covid-19 pandemic.

Dhir, a young businessman, said, "It is high time that all youth should venture into making India self-reliant focusing on making indigenous devices, equipment and contribute to the development of the country." He is to come up with the device on a large scale within minimum possible time.

ICAR-CIPHET, Ludhiana develops Touch-free Automatic Dispenser for Hand Sanitization

With an aim to help the doctors, hospital staff members, media personnel and government officials in maintaining a proper sanitation practice, the ICAR-Central Institute of Post-Harvest Engineering and Technology, Ludhiana, Punjab has designed a sensor-based Touch-free Dispenser of the Hand Sanitizer. The device has been developed to promote the practice of hand-sanitization for containing the spread of the deadliest COVID-19 infection.



The smart device works on the principle of automatic obstacle detection with Infra-red proximity sensor and programmable micro-controller. The device dispenses the alcohol-based hand rub sanitizer from a 3.0 litre tank using a small, yet powerful diaphragm pump. The software controls the dispensing volume of about 3 ml in one go; which can be further increased or decreased volumetrically, by changing the programme in the software. The instant dispense of the sanitizer is possible once the proximity sensor senses the presence of hindrance by hands. The user can collect the dispensed volume of liquid from the device in the cupped hand.

The efficient and touch-free mechanism reduces the infection's risk at use in public places and ensures right volume as per the requirement of the user for hand sanitation purpose. The device operates on 12V DC electric power supply. The prototype is built on a small stainless steel 316 encasing the electronics circuit. This small and smart device can play a vital role in reducing the infection's risk. The device has been developed by Er. Yogesh Kalnar and Dr. Rahul K. Anurag, Scientists under the guidance of Dr. R.K. Singh, Director, ICAR-CIPHET, Ludhiana, Punjab.

(Source: ICAR-Central Institute of Post-Harvest Engineering and Technology, Ludhiana, Punjab)

TITBITS:

Rapeseed instead of soy burgers:

Researcher identify a new source of protein for humans Rapeseed has the potential to replace soy as the best plant-based source of protein for humans. In a current study, nutrition scientists in Martin-Luther-Universität Halle-Wittenberg found that rapeseed protein consumption has comparable beneficial effects on human metabolism as soy protein. The glucose metabolism and satiety were even better. Another advantage: The proteins can be obtained from the by-products of rapeseed oil production.

<https://www.sciencedaily.com/releases/2020/09/20200930110124.htm>

Could breadfruit be the next superfood? Researchers say yes

A fruit used for centuries in countries around the world is getting the nutritional thumbs-up from a team of British Columbia researchers. Breadfruit, which grows in abundance in tropical and South Pacific countries, has long been a staple in the diet of many people. The fruit can be eaten when

ripe, or it can be dried and ground up into a flour and repurposed into many types of meals.

<https://www.sciencedaily.com/releases/2020/09/200917122829.htm>

A product that is vegetarian or vegan does not mean it is healthy: Expert

There has been a proliferation of meat-substitute produces in recent years, but an expert from a top American hospital, Cleveland Clinic, is warning that just because a product is vegetarian or vegan, it does not necessarily mean it is healthy.

<http://www.fnbnews.com/Fruits-Vegetable/a-product-that-is-vegetarian-or-vegan-does-not-mean-it-is-healthy-expert-59478>

SECTORAL NEWS:

PepsiCo to launch drink to aid sleep as consumers struggle with stress

PepsiCo is launching a new drink called Driftwell that is meant to help consumers relax and unwind before bed. The enhanced water drink contains 200 milligrams of L-theanine and 10% of the daily value of magnesium.

<https://www.cnbc.com/2020/09/14/pepsico-to-launch-drink-to-aid-sleep-as-consumers-struggle-with-stress.html>

Kraft Heinz to sell part of cheese business to Lactalis in \$3.2 billion deal

The proceeds of the sale will be used to pay down Kraft Heinz's debt. Kraft Heinz CFO Paulo Basilio said that the company expects its adjusted earnings per share to be diluted by 5% as a result of the sale.

<https://www.cnbc.com/2020/09/15/kraft-heinz-to-sell-part-of-cheese-business-to-lactalis-in-3point2-billion-deal.html>

Bakery largest of all segments of India's food processing industry

The bakery industry in India is experiencing robust growth. It's a huge industry employing a large number of people. In fact there are over a million unorganised small-scale bakeries and more than 2,000 organised or semi-organised bakeries. Nearly 80 per cent is captured by bread and biscuits which are items of mass consumption. In fact, India is second only to the US in terms of biscuit production.

<http://www.fnbnews.com/Snacks-Confectionery/bakery-largest-of-all-segments-of-indias-food-processing-industry-60786>

Healthy snacks segment to be around 2% of overall snacks market in India

The healthy snacks segment is estimated to be around 2 per cent of the overall snacks market in India, according to experts. However, in light of Covid-19, more people are seeking out global health food trends and hence influencing the health food segment in the market.

<http://www.fnbnews.com/Snacks-Confectionery/healthy-snacks-segment-to-be-around-2-of-overall-snacks-market-in-india-60903>

Imagine Meats to introduce tailor-made products in plant-based meats space

Imagine Meats, a venture by actor couple Riteish and Genelia Deshmukh, is the latest brand on the block offering plant-based meats. Under the brand, the actor couple has plans to introduce a variety of products tailor-made for the Indian palate. Thus, competition is set to hot up in this fast-growing space in the coming months.

<http://www.fnbnews.com/Fruits-Vegetable/imagine-meats-to-introduce-tailormade-products-in-plantbased-meats-space-60524>

Researchers develop simple method to 3D print milk products

Researchers from the Singapore University of Technology and Design (SUTD) developed a method to perform direct ink writing (DIW) 3D printing of milk-based

products at room temperature, while maintaining its temperature sensitive nutrients.

<https://www.sciencedaily.com/releases/2020/09/20200918104250.htm>

About the publication:

ICAR-CIPHET News is an in-house quarterly publication of ICAR-Central Institute of Post-Harvest Engineering and Technology aimed at brief compilation and highlighting of the activities/ information associated with different research, extension and HRD activities taken up by the scientists of the institute, AICRP (PHET), AICRP (PEASEM) and KVK (ICAR-CIPHET), Abohar and also the information regarding other important activities of the institute.

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