

ICAR-CIPHET NEWS



OCT-DEC, 2023
VOL.23 NO.4



**ICAR-Central Institute of Post Harvest Engineering &
Technology**
P.O. PAU Ludhiana (Punjab), India 141004

ICAR-CIPHET News 23:4, Oct-Dec 2023

Published by

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Published in January 2024

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Cover page: Inauguration of CIPHET
Foundation Day and CIPHET-IIFA 2023

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From the Director's Desk

Dear Esteemed Readers,

Welcome to the special edition of the ICAR CIPHET Quarterly Newsletter, commemorating the momentous occasions of our Foundation Day and CIPHET-IIFA 2023. As we celebrate this milestone, we reflect on our journey of innovation and excellence in agricultural engineering and post-harvest technology.



On our Foundation Day, we pay tribute to the visionaries whose foresight laid the groundwork for the establishment of the Central Institute of Post-Harvest Engineering and Technology (CIPHET). Over the years, CIPHET has evolved into a beacon of progress, driving transformative advancements to address the evolving needs of the post-harvest sector. The CIPHET- IIFA and Kisan Mela stands as a testament to our commitment to knowledge dissemination and outreach. This platform provided an invaluable opportunity for farmers and stakeholders to engage with our experts, exchange ideas, and explore innovative solutions to enhance productivity and income growth.

In this edition, we showcase a selection of pioneering technologies developed by CIPHET, including the groundbreaking Visible Light Insect Trap. This innovative solution offers a sustainable approach to pest management, harnessing the power of visible light to attract and trap harmful insects, thereby reducing reliance on chemical pesticides. Furthermore, optimized process parameters for the extraction of hesperidin from immature droppings of Kinnow fruits has also been included.

Additionally, we highlight the collaborative efforts of the All India Coordinated Research Project (AICRP)-PHET and PEASEM, which has yielded a plethora of technologies aimed at addressing key challenges in the area.

A number of extension and HRD activities were also conducted in this quarter. We express our heartfelt gratitude to our stakeholders for their unwavering support and collaboration. Together, let us continue to strive for excellence and innovation in the post-harvest sector.

Ludhiana, January 2024

(Nachiket Kotwaliwale)

Director, ICAR-CIPHET

RESEARCH HIGHLIGHTS

Visible light insect trap

Grain storage systems play a crucial role in a country's economy as they serve as vital buffers for ensuring food supply to the population. During storage, various biotic and abiotic factors affect the quality of the grains. Among the biotic factors, insects cause major damage, which causes nearly 1/3rd of the storage losses. The practice of managing insect pests during storage plays a crucial role in reducing these losses. There are several management strategies in practice; however, the non-chemical ones are preferred. It is always necessary for early monitoring of the population through mechanical devices like traps. Various traps are available for this purpose, like a probe, pitfall, and light traps (primarily based on UV lights). ICAR-CIPHET has developed a visible range light trap with efficient attraction capacity and no exposure hazards. The trap designed to effectively trap insects, regardless of the type of grain being stored. It overcomes various limitations and drawbacks associated with existing light traps. It can efficiently capture insect species like *Rhyzopertha dominica*, *Lasioderma serricorne*, *Cadra cautella*, *Sitotroga cerealella*, *Tribolium castaneum*, and *Laemophloeus* spp. The attraction efficiency ranges from 65-93%, depending upon the insects, wherein highest attraction (93%) was reported in *Sitotroga cerealella*. The novelty of the trap was also filed in patent for preserving the IPR.



Visible light insect trap

Optimization of process parameters for extraction of hesperidin from immature droppings of Kinnow fruits (IDKF)

The immature droppings of kinnow (*Citrus reticulata*) fruits (IDKF) are now recognized as economically valuable products due to their phytochemical properties. Hesperidin, a prevalent flavonoid, has been reported to be present in significant concentrations in citrus fruit and associated with numerous health benefits. However, there is dearth of scientific data on the extraction of hesperidin from IDKF. The present study has optimized the process parameters for extraction of hesperidin from immature droppings of kinnow fruits (IDKF) using 3% acidified methanol. The process was investigated based on central composite design (CCD) using response surface methodology (RSM) via single-factor experiments. Three independent variables including extraction temperature (50-70 °C), extraction time (45-120 mins), and sample-to-solvent ratio (1:5 to 1:15 w/v) were assessed with a total of 20 experimental runs, where

hesperidin yield (HY%) served as a response function ranged from 0.16% - 4.97%. For predicting the ideal extraction conditions and to derive quadratic polynomial equations, multiple regression analysis was carried out. The HY% was found to be significantly affected by linear terms of temperature and extraction solvent, quadratic terms of temperature and interaction of temperature with time and solvent. The optimized model obtained from the CCD design showed a desirability of 0.97 showing HY% of 4.8 with $R^2 = 0.95$ and the model has been validated. Therefore, the results depicted that hesperidin could be effectively extracted from IDKF using optimized conditions and the residue left after hesperidin extraction could be further used for simultaneous extraction of pectin, phenolic enriched extract and fibre-rich powder.

AICRP on PHET

Value-chain approach for commercial exploitation of under-utilized non-timber oil seeds (mahua, sal and neem) (IGKVV Raipur Centre)

Mahua is an Indian tree and majorly found in the north and central regions and its regional forest. As common with many other tropical fruit seeds, seed of Mahua among the under-utilized for oil production. This could be due to the lack of technical information with regard to its properties and potential uses. In the present study oil has been extracted from pre-treated seed by using different methods. Roasting at 100, 110, 120 and 130°C for constant time of 10 min, steaming at 120°C and pressure was 1.5 kg/cm² at 100% of air saturation for 5, 10 and 15 min, and condition was done by adding 6, 9 and 12% (wb) moisture content followed by incubated at 26°C for overnight. Screw expeller was used to extract the oil from treated seeds. Extracted oil was centrifuged at 6000 rpm for 5 minute to remove small particle of seed. The extraction yield, oil recovery, antioxidant activity, TPC, acid value (mg KOH/g), and free fatty acid were measured. Highest yield and oil recovery was seen at 120 °C roasting temperature, 10 min steaming time and with 9% moisture content. The steaming treatment of 10 min gives better oil yield (38.56%) and recovery (94.06%) with moderate acid value (12.19 mg KOH/g) and peroxides (6.98 meq./kg oil), radical scavenging (antioxidant) 69.3% and total phenolic content (19.63 mg GAE/kg oil). However, roasting at 130 °C showed maximum acid value (16.8 mg KOH/g), FFA (8.44%), antioxidant activity (56.01 DPPH, scavenging, %) and TPC (25.15 mg GAE/kg oil). Moreover, 15 min of steaming gave maximum value of acid value; FFA antioxidant activity and TPC were 12.89 mg KOH/g, 6.47%, 70.72% DPPH, scavenging and 20.12 mg GAE/kg oil respectively. At 12% moisture content, all the quality parameters had maximum value.

Process protocol for export potential value added products from turmeric (TNAU, Coimbatore, Centre)

A novel processing technology is being studied to slicing the turmeric rhizomes. The basic main components of turmeric slicer include main frame, feed hopper, rotary disc with blades, guiding plate and the product outlet. The guiding plate, shaft and rotary disc rotates at same speed. The efficiency of the slicer was 94% and 91% for fresh and boiled rhizomes respectively. The capacity of turmeric slicer was 15 kg/h. The percent broken was calculated as 6.3% and 8.1% for fresh and boiled rhizomes respectively. The drying studies of the turmeric slices were carried out using a laboratory-model hot air-assisted infra-red dryer. The drying of fresh turmeric slices was carried at 50°C, 60°C and 70 °C with a slice thickness of 2 mm. The drying time of slices at 70 °C and 60°C was 465 min and 510 min respectively. The drying

time for the turmeric slices was 615 min, 645 min and 675 for 2, 4, and 6 mm slice thickness at a drying temperature of 50°C. The quality of the turmeric slices was studied in terms of curcumin content. The curcumin content was 2.8±0.05% and 2.5±0.04% for fresh slices dried at 60 and 70°C respectively. The turmeric slices dried at temperature of 50°C yielded the curcumin content of 2.86±0.07%.

Neem fruit depulper- Continuous Type (TNAU, Coimbatore Centre)

A single drum neem fruit depulper was developed with a dimension of 1010 × 482 × 1135 mm. The developed depulper consists of a feed hopper, supporting frame, depulping unit, motor with pulley, water recirculation tank with filters and 2 outlets. Depulping unit consisted of drum cylinder with perforations; shaft bounded by roller, drum cylinder cover, water supply pipe and tapered plate. The drum cylinder was made up of mild steel (18-gauge thickness) of length 750 mm and diameter of 203 mm and provided with rectangular holes of 20 × 10 mm with 5 mm gap between each hole throughout the drum to separate the pulp slurry with water. Drum cylinder cover made of mild steel sheet with dimensions of length 730 mm and diameter of 203 mm covered the drum cylinder and water supply pipe.



Neem fruit depulper

Pilot study on unravelling the functional potential of bioactive ingredients of underutilized Hill Lemon (*Citrus pseudolimon*) to transform the functional value of food (Solan Centre)

Hill lemon is an important citrus fruit commonly known as “galgal” with the nutritional value lies in its high content of acidity, ascorbic acid, minerals and phenolics. Its utilization is limited because of its highly acidic nature. Therefore, there is need to utilize its functional attributes with other fruits of Himachal Pradesh to enhance the functional value and flavour of the processed products. Present study was conducted with the objective to develop the process protocol for the preparation of Hill lemon and apple juice blended beverage and cookies. To develop RTS beverage, different proportions of Hill lemon and apple juice mixed. To achieve the desirable acidity and taste, a concentration of 5% of each juice was utilized and this combination also displayed the highest scores for colour (8.0), body (7.5), flavour (7.8), and overall acceptability (8.0). No artificial citric acid or chemical preservative was added in the beverage.



Hill Lemon juice + Apple juice blended drink

Further, Hill lemon peel in the form of powder was utilized to enhance the functional value of bakery products. Hill lemon fruit peel was water blanched for 2.5 minutes. Subsequently, the blanched peel underwent a drying process in a dehydrator ($55\pm 2^\circ\text{C}$) till the moisture reached a constant value. Then the dried peel was finely powdered through sieve with a mesh size of $250\ \mu\text{m}$. This resulting powder was utilized as a supplement in the production of cookies. Cookies were prepared by the standardized recipe using the ingredients i.e. wheat flour and refined wheat flour 250 g each, refined oil 250 mL and powdered sugar as 200 g, 300 g honey was used to get desired sweetness. Further this combination was combined with different levels of peel powder varying from 2.5, 5.0, 7.5, and 10.0 per cent. All the ingredients were mixed to form dough. Different cookie doughs were rolled into sheets by rolling pin and cut in equal batter weight followed by baking in oven at 175°C for 12 minutes. The cookies were then cooled on a wire rack at room temperature for 30 minutes before packing. Different combinations of Hill lemon peel supplemented cookies were organoleptically evaluated and the formulation with the addition of 7.5% of Hill lemon powder was selected to prepare Hill lemon supplemented cookies on the basis of best sensory scores awarded to respective cookies on nine point hedonic scale.



Hill lemon peel powder supplemented cookies

Development of a vacuum assisted ohmic heating system for pasteurization and concentration of non-thermally stabilized fruit juices (PAU, Ludhiana Centre)

The process conditions i.e., voltage gradient, temperature, and process time for developed ohmic heating vacuum evaporation (OHVC) was optimized and found as $12.5\ \text{V/cm}$, 65°C and process duration of 0.73 h (44 min) resulting in maximum retention of quality. In order to segregate the effects of vacuum and

Ohmic heating on the processing time and selected quality responses, aonla juice was concentrated using Ohmic heating under atmospheric conditions (OHAC; 2 L, 12.5 V/cm, 65 °C), optimized conditions of Ohmic heating under vacuum conditions (OHVC; 2 L, 12.5 V/cm, 65 °C, 380 torr) and conventional vacuum evaporation (CVE; 2 L, 65 °C, 380 torr, no circulation) to remove same water content as that of optimized OHVC (108 ml). The effect of heating conditions and vacuum on the quality of aonla juice was studied in terms of ascorbic acid content, total phenols, antioxidant activity and colour change values.



Conventional vacuum oven evaporation



Ohmic Heating under vacuum/atmospheric conditions

Lateral flow assay based rapid detection of food-borne pathogens in foods of animal-origin (MAFSU, Mumbai)

The process protocol for the development of bacterial lysate for *E. coli* solution was developed. The bacterial cells were grown in buffer phosphate solution by inoculating pure culture of *E. coli* and incubating overnight at 37 °C. The *E. coli* cells were harvested by centrifugation at 5000 rpm for 10 minutes. The pellet so obtained is resuspended in 2 ml MilliQ water and transferred to clean universal tube. Following that, lysosomes were added to the solution at a concentration of 3mg/ml and the mixture was incubated on ice for 30 minutes, and then shifted to 30 °C for 30 minutes. The cells are then sonicated at high intensity using 3 cycles of 10 seconds sonication followed by 10 seconds of break between each sonication cycle. The solution is centrifuged at 3500 rpm for 30 minutes to remove the debris. The supernatant so obtained is then diluted in lysis buffer (Composition- 300 mM NaCl, 50 Mm Tris HCl, Lysosomes- 1mg/ml) and can be stored for further use for 1 month.

Process Protocol for Pet Biscuits and powder from poultry waste (MAFSU, Mumbai Centre)

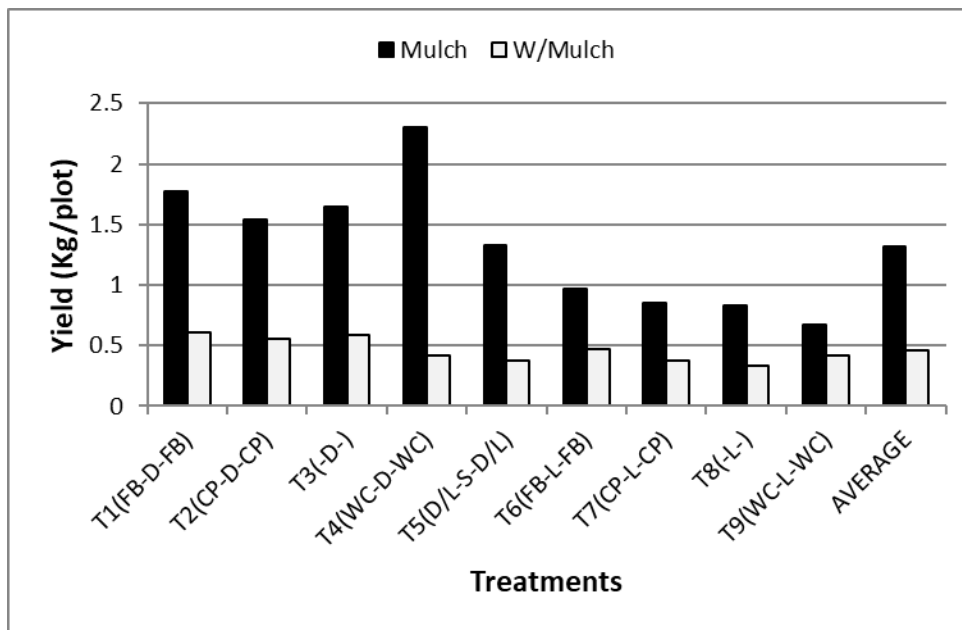
The process protocol has been standardized for the preparation of pet biscuits and powder using buffalo meat derived from slaughterhouse waste and poultry waste respectively. Adaptive trials are being conducted for the shelf-life estimation of chicken powder in atmospheric, vacuum and nitrogen gas packaging. The physicochemical parameters and microbiological analysis of chicken powder are conducted on 15 days interval. The physicochemical parameters estimated are – moisture content, pH, water flowability, colour value, fat, protein, ash, TBA and Tyrosine value. The microbiological analysis involves determination of total plate count and enumeration of *Staphylococcus aureus*, *Bacillus* spp., *E. coli*, *Salmonella* spp., yeast and mold count. The adaptive trials have so far revealed vacuum packaging to be effective in increasing the shelf-life of chicken powder while simultaneously retaining the nutritional

properties of the same. The Microbiological analysis revealed *Bacillus* spp. to be a common food borne pathogen observed in chicken powder.

AICRP on PEASEM

Temperate grass- legume pasture using plastic mulch (ICAR-NRCY, Dirang, AP)

Field trials to establish temperate grass-legume pasture using plastic (30-micron thickness silver-black) mulch. The root slips of grasses *Dactylis glomerata*, *Lolium perenne* and *Trifolium repens* (white clover) were transplanted in the beds covered with the plastic mulch. Seeds of French bean, Cow pea, Sainfoin were also sown in different combination with *Dactylis glomerata* and *Lolium perenne* to assess the cumulative effect on biomass production. Both, *Dactylis glomerata* and *Lolium perenne* when grown in combination with different legumes (White clover, French bean, Cow pea, Sainfoin) on mulched beds significantly enhanced the biomass yield of *Dactylis glomerata* and *Lolium perenne* over the field without mulch. The results are indicative of symbiotic effect of legumes (particularly, *Trifolium repens* and French bean) on the grass biomass production; this may be through the utilization of nitrogen fixed by legumes in the soil. Although, these are the preliminary results but a detailed study with different legume-grass combination is required for improving the forage and quality.



Effect of different legumes combination and mulch on yield (Kg/plot) of *Dactylis glomerata* and *Lolium perenne*. Treatment groups; T1 (French bean-*Dactylis glomerata*-French bean), T2 (Cow pea-*Dactylis glomerata*-cow pea[#]), T3 (*Dactylis glomerata*), T4 (White clover-*Dactylis glomerata*-White clover), T5 (*Dactylis glomerata* & *Lolium perenne* – Sainfoin[#]-*Dactylis glomerata* & *Lolium perenne*), T6 (French bean-*Lolium perenne*-French bean), T7 Cow pea-*Dactylis glomerata*-cow pea[#], T8 (*Lolium perenne*), T9 (White clover-*Lolium perenne* -White clover). [#]Seeds could not germinate properly. Plot size (30 ft x 2 ft)

Development of aquaponics system for leafy vegetable production under protected condition (PAU, Ludhiana)

There was limited research on evaluating aquaponics systems under protected conditions. In conventional aquaponics systems, i.e. open pond conditions, fish faced acute thermal stresses, resulted in mortality and hampered growth of fish. To counter this problem, PAU Ludhiana fabricated and developed the aquaponics system under a polyhouse structure to optimize the growth of fish and leafy vegetables. The setup consisted of a fiberglass reinforced plastic (FRP) circular fish culture unit (ϕ 2×1m), solid separation unit, and biofiltration unit consisting of two high-density polyethylene (HDPE) blue barrels (ϕ 0.56×0.9m) separately, 0.5 hp timer-based pumping unit, and 18 Un-Plasticized Polyvinyl Chloride (UPVC) rectangular channels as hydroponics unit. The bio-filters were pre-conditioned to grow bacteria on it. Water from aquaculture unit came to the solid separation unit by the siphon system and an elbow at the exit point of siphon pipe delivered water tangentially to the tank's side wall and circulate it to separate solids from it. After that unit, water transferred to the bio-filtration unit by the gravitational flow. Bio-balls were used as the bio-filtration media to grow nitrifying bacteria on it. After the bioconversion in the bio-filters, water was pumped and separated into two parts, one to the fish tank and second to the hydroponics unit. A flow rate of 1 litre per minute was maintained in each nutrient film technique (NFT) channels in the hydroponics unit. The outlet pipe of hydroponics unit delivered water gravitationally to the bio filtration unit, and by that way, water was recirculated in the developed aquaponic system. A timer was also installed at the water pump to keep it on for 2 hours and off for half an hour for efficient energy consumption.



Plant stage after 15 days of transplanting



Components of Aquaponics system



Bio filtration unit



Complete setup of developed Aquaponics system 6.

Development and evaluation of automated plant factory prototype (PAU, Ludhiana Center)

Although greenhouse cultivation controls almost all the parameters which are necessary for overall cash crop development, but some artificial and supplemental parameters are difficult to control. Therefore, to optimize these parameters and other environmental challenges, PAU, Ludhiana has developed and standardised various parameters inside the plant factory using artificial light for leafy vegetables. Plants were grown indoors using hydroponic cultivation (growing plants without soil) with artificial light and nutrient solutions. This is a four-tier system. The complete system consists of an insulated room with a double-door entry system and an automated air curtain, two racks of hydroponics system (nutrient film technique) with a capacity for growing 1296 plants, artificial lighting system, carbon dioxide supplementation and monitoring, temperature and humidity control, automated fertigation system, UV filtration of the leachate, oxygation system, and power backup system for a 24 × 7 power supply. All different parameters can be monitored on the cloud.

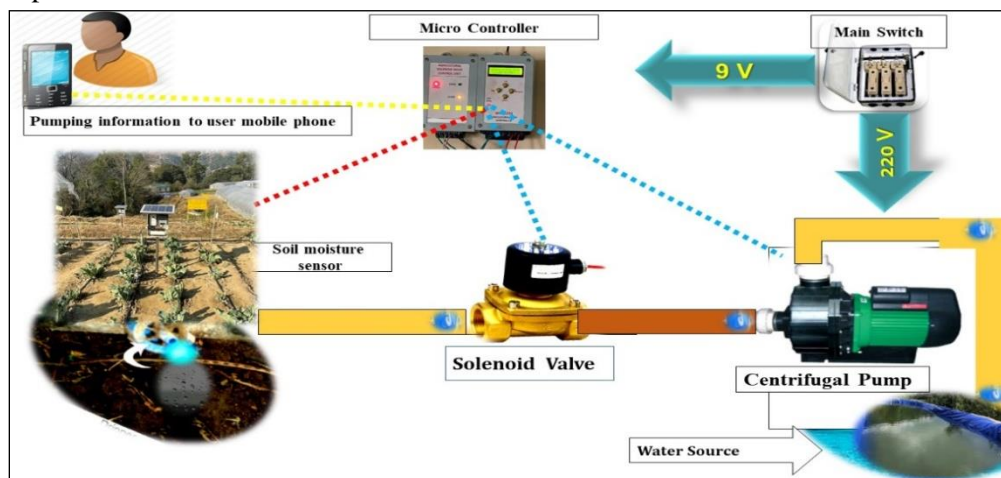


Inside view of plant factory

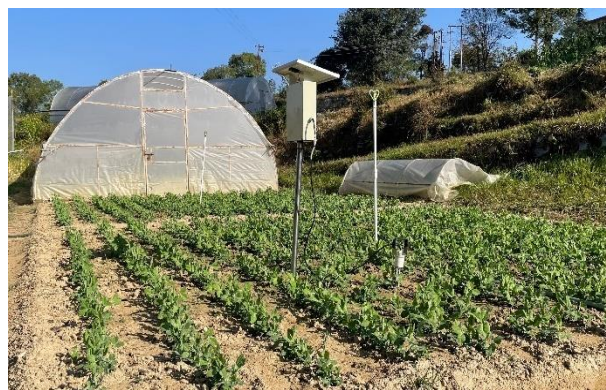
Design and development of soil moisture based irrigation scheduling on real time basis (ICAR-VPKAS, Almora)

The irrigation requirement of the soil and its characteristics depends upon the various factors such as weather, climate, relief and natural vegetation. It became difficult to mitigate the impacts and optimize the real-time irrigation requirement based on soil moisture deficit. Therefore ICAR-VPKAS, Almora developed an indigenous soil moisture sensor for irrigation scheduling on real time basis. Development of sensor part includes GSM Module SIMCOM, Programmable Microcontroller – GSM 28 Pin, Solar

Charge Controller 25W, Solar Panel 25W, Capacitance Sensor Module, Lithium Polymer Battery 500mA etc. included integrated system shown in These components were selected because they are easily available, low cost, and simple to use. A solar panel with battery 12 Volt and programmed controller have been integrated to operate the system in situation of unreliable electricity availability. The developed sensor worked on capacitance principle and coefficient of determination (R^2) was found 0.79 and 0.81, respectively against gravimetric methods at 20 and 30 cm, soil depth. The working principle of this system is that the irrigation pump is switched on when soil moisture level depletes to pre-defined lower limit and switched off when soil moisture reaches field capacity or any other pre-determined upper limit of soil moisture content. The software designed for the operation of the irrigation system had the option for scheduling the irrigation either on time basis or/on soil moisture sensor basis. Controlling duration of the irrigation system is done by using a special device called timer-controller and receiver. This receiver consists of a GSM, Internet modem and a timer that was programmed as per the duration of irrigation. The receiver receives command in form of sensor code no. from the DSS/user's mobile phone for switch on/off the solenoid valve and pump of particular plot. The performance evaluation of develop sensor was calibrated with gravimetric methods and compared with time domain reflectometry and satisfactory result were found. The commercial utilization of the system needs to be strengthened for irrigation scheduling in different crops.



Layout diagram of sensor network based irrigation scheduling



Sensor Network based Irrigation Scheduling

Vermi-compost production from farmyard waste using plasticulture technique - A Polished Unit with Two-Tier Structure for placing vermibeds (ICAR-NRCY, Dirang)

It is difficult to convert farmyard waste into compost at high altitude areas due to cold climate with low ambient temperature. The low environmental temperature is also not favourable for vermicompost production due to low efficiency of the earthworm under cold climate. Therefore, to promote organic/natural chemical free farming, a plastic based vermi-composting Polished Unit of size 12 × 14 × 8.6 feet (W × L × H) was fabricated with CPVC pipes (40mm and 25mm diameter), GI anchoring pegs (32 mm diameter), CPVC pipe snap clamps (40mm, 32mm and 25mm), CPVC pipe fittings (Tee, Elbow and Union) and 5layer UV stabilized polyethylene sheet (thickness 200 micron) to provide a favourable environment for earthworms for production of vermicompost. Further, a two – tier structure of size 4x12x6 feet (W × L × H) was fabricated for keeping two HDPE vermi-beds of size 12' × 4' × 2' for composting of farmyard waste into vermicompost. In total, 4 vermi-beds were placed on two-tier structures in vermi-composting polished (Unit Size: 12 × 14 × 8.6 feet; W × L × H). The compost production from 4 beds was:

1. *Eiseniafetida*–292 Kg
2. *Eudrilus Eugenia*– 218 Kg
3. Control (No worms) – 168 Kg
4. *Eiseniafetida*+ *Eudrilus Eugenia*– 400 Kg



A vermi-composting polished unit with two -tier structure for placing vermibeds



Vermicomposting and vermicompost collection

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EVENTS/ACTIVITES

• IIFA, ICAR-CIPHET

The Central Institute of Post-Harvest Engineering and Technology (CIPHET), a flagship institute of ICAR, celebrated its 35th Foundation Day with an activity called “CIPHET-IIFA 2023” - Industry Interface Fair on Agro-processing & Kisan Mela. This prestigious event, held from Oct 3-5, 2023, attracted luminaries and stakeholders from the agricultural and agro-processing sectors and served as a platform for fostering partnerships between agricultural processing and farming communities. More than 3500 farmers, small and medium scale entrepreneurs, and students participated in the event.



• Vigilance Awareness Campaign

Vigilance awareness week was organized from 30 Oct to 5 Nov, 2023 at ICAR-CIPHET, Ludhiana and Abohar. In this celebration, *Satarkta Sapath* was taken by all employees of CIPHET on 30 Oct, 2023. E-pledge was taken from CVC portal on 31 Oct, 2023. One Slogan Competition has also been done for institute employee on the theme on 1 Nov, 2023. Two lectures were conducted under the campaign on the theme ‘Say No to Corruption: Commit to the Nation by Sh. Ashok Kumar, State Tax Officer, Ludhiana on 3 Nov, 2023 and ‘Cyber Hygiene and Security’ by Er. Sarbjit Singh Choudhary, Regional Director, Council of Cyber Vigilance and Security Enforcement, Ludhiana on 15 Nov, 2023.



- **Workshop under DoCA project**

The ICAR- DoCA Pulse Storage Project team at lead centre i.e., ICAR-CIPHET, Ludhiana organised a training workshop to operate the project entitled, 'ICAR- DoCA Project: Study on determining storage losses of pulses stored in warehouses and to recommend norms for loss/gain during long term storage.' Total 25 participants from 9 cooperating centres participated in 2 days workshop organized during 9-10 Oct, 2023.

- **Swachh Bharat Mission**

All staff members of ICAR-CIPHET, Ludhiana and Abohar took Swachta pledge on 16 Dec, 2023 and initiated Swachta Pakhwada from 16 to 31 Dec, 2023. Sixteen different cleanliness activities have been organized during this Swachta Pakhwada.



EXTENSION ACTIVITIES

A. Trainings

Training programme	Venue	Participants	Duration
Farmers Trainings			
Post-Harvest Management of Agricultural Produce (ATMA, Jalgaon sponsored training)	ICAR-CIPHET, Ludhiana	25	16 -20 Oct, 2023
Training on Grain and Grain Based Protein-rich Value Added Products (Training under SCSP Scheme)	ICAR-CIPHET, Ludhiana	50	18-20 Oct, 2023
Protected Cultivation of Vegetables	ICAR-CIPHET, Abohar	22	7-9 Nov, 2023
Awareness cum Technology Demonstration Camp under SCSP Scheme	ICAR-CIPHET, Abohar	120	7-9 Nov, 2023
Post-Harvest Management of Agricultural Produce (ATMA, Wardha sponsored training)	ICAR-CIPHET, Ludhiana	15	11 -15 Dec, 2023
Student Trainings			
Introduction to Post Harvest Engineering and Technology for B. Tech. (Agril Engg) students from College of Agricultural Engineering & Technology	ICAR-CIPHET, Ludhiana	3	7 Sep - 5 Oct, 2023

Punjab Agricultural University, Ludhiana, Punjab			
Introduction to Post Harvest Engineering and Technology” for B. Tech. (Agril Engg) students from Acharya N.G. Ranga Agricultural University, Dr. NTR College of Agricultural Engineering, Andhra Pradesh	ICAR-CIPHET, Ludhiana	7	11 Sep – 10 Oct, 2023
Introduction to Post Harvest Engineering and Technology for B. Tech. (Agril Engg) students from Swami Vivekananda College of Agricultural Engineering and Technology & Research Station, Faculty of Agricultural Engineering, IGKV, Chhattisgarh	ICAR-CIPHET, Ludhiana	7	6 Oct- 5 Nov, 2023
Introduction to Post Harvest Engineering and Technology for M. Tech. (Agril Processing & Food Engg.) students from Swami Vivekananda College of Agricultural Engineering and Technology & Research Station, Faculty of Agricultural Engineering, IGKV, Chhattisgarh	ICAR-CIPHET, Ludhiana	7	1-31 Dec, 2023
Officers Trainings			
HRD-sponsored training on Food Processing and Livestock Produce for technical staff	ICAR-CIPHET, Ludhiana	10	14-25 Nov, 2023



B. Visits

S. No.	College/Institute	No of visitors	Date of visit
1.	Department of Agriculture (PD-ATMA), Jodhpur, Rajasthan	35 (F) + 1(O)	12 Oct, 2023

2.	Farmers from KVK Ferozpur for CRM Kissan Mela	13 (F)	12 Oct, 2023
3.	Farmers, ATMA Jodhpur, Rajasthan	35 (F)	12 Oct, 2023
4.	Exposure visit at Biogas and agri manure plant, Fazilka	22 (F)	31 Oct, 2023
5.	Technical officers of Different ICAR institutes & SAUs	11 (O)	15 Nov, 2023
6.	SKUAST-K (Educational Tour)	19 (S) + 5 (O)	12 Dec, 2023

*S-Students, O-Officials, F-Farmers



C. Mela/ Exhibitions

S. No.	Programme title	Venue	Duration
1.	Exhibition in IIFA Kisan Mela	ICAR-CIPHET, Ludhiana	3-5 Oct, 2023
2.	Exhibition of CIPHET technologies in XVI Agricultural Science Congress and ASC Expo “Transformation of Agri-Food System for Achieving Sustainable Development Goals” organized by National Academy of Agricultural Sciences, New Delhi	ICAR-Central Marine Fisheries Research Institute, (CMFRI) Kochi, Kerala	10-13 Oct, 2023
3.	World Food India (WFI)-2023	ITPO, Pragati, Maidan, New Delhi	3-5 Nov, 2023
4.	Exhibition of Arogya Bharati Punjab	Chandigarh University, Gharuan, Mohali, Punjab	5-6 Nov, 2023

ABI ACTIVITIES

A. Trainings/Workshop/Seminar/Program

S. No.	Title	Date of Programme	Participants
1.	Empowering Food Processing and value addition: Industry Partnership Event	3 Oct, 2023	50+
2.	Weaving the Future: Natural Fibers Processing Symposium”	4 Oct, 2023	50+
3.	Seeds of Innovation: Post-Harvest Industry Connect	5 Oct, 2023	50+



B. Incubational Facilities

S. No.	Title	Contracting party	Duration
1.	Kodo millet processing plant	Mr. Sukhvir Singh, Fatehgarh Sahib	Oct 2023-continuing
		Mr. Gurmel Singh, Nabha, Patiala	
2.	Makhana pasta production	M/s Saurath Agro Pvt Ltd, Bihar	



KVK ACTIVITIES

A. Awareness Programmes

S. No.	Programme Title	Venue	Number of beneficiaries	Dates
1.	District level awareness program on CRM	Fazilka	165	11 Oct, 2023
2.	District Level Awareness program on CRM	Khui khera	160	11 Oct, 2023
3.	Three Programmes on Vigilance awareness week a	ICAR-CIPHET, Abohar	82	15-30 Oct, 2023
4.	Block level awareness program under crop residue management project	KVK, ICAR-CIPHET, Abohar, Fazilka	60	2 Nov, 2023

5.	College level awareness program under crop residue management project	DAV College of Education, Abohar	160	30 Nov, 2023
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B. Exhibitions

S. No.	Training Title	Venue	Duration
1.	Exhibition on Kisan Diwas	KVK Premises	23 Dec, 2023

C. Events

S. No.	Training Title	Number of Participants	Duration
1.	Kisan Diwas celebrated with collaboration of AGMARK, Directorate of Marketing and	135 Farmers and Farm women	23 Dec, 2023
2.	Scientist Farmers Interaction on Agro processing at village Nukera	50 Farmers	25 Dec, 2023
3.	SAC Meeting of KVK at KVK premises	26 Members	26 Dec, 2023

D. Trainings

S. No.	Training Title	Number of Participants	Duration
1.	Vocational training on Beekeeping	34	17-19 Oct, 2023
2.	Protected Cultivation of Vegetables	22	7-9 Nov, 2023

3.	Value Addition and Processing of Millets (AWW)	30	20-24 Nov, 2023
4.	Development of Low Cost Balance Diet (AWW)	31	11-13 Dec, 2023

*AWW: Anganwadi workers

E. Exposure visits

S. No.	Particular	Visited at	Number of visitors	Date
1.	Farmers from KVK Fazilka	IIFA-2023 (under CRM)	55	3 Oct, 2023
2.	SC Farmers from KVK Fazilka	IIFA-2023 (under SCSP plan)	232	3-5 Oct, 2023
3.	CRM Farmers from KVK Fazilka	KVK Ferozpur for CRM kissan mela	13	12 Oct, 2023
4.	Students Visit Govt. Sen. Sec. School Sappain wali	KVK Ferozpur	46	22 Dec, 2023



OTHER ACTIVITIES

Participation in conferences/ seminar/ symposia/ workshop/ meetings

Name of the official	Title of the programme	Name of conference/ seminar/ symposia/ workshop/ meetings	Dates
Dr. Sandeep Mann, Dr. Leena Kumari, Er. Shagahf Kaukab, and Dr. Th.	ISAE annual convention	International Symposium on Engineering Interventions for Making Millets a Global Food at Raichur	6-8 Nov, 2023

Bidyalakshmi			
Dr. Manju Bala	Current Trends in biological sciences for sustainable agriculture, environment and health	National conference under climate change & XV Convention of the Indian Society of Agricultural Biochemists' at University of Lucknow, Lucknow (UP)	23-25 Nov, 2023
Ms. Surya Tushir	Microbes for Life-Lifestyle for the Environment: A Strategy for wellbeing	64 th Annual International Conference of Association of Microbiologists of India (AMI) at Bundelkhand University, Jhansi (UP)	1- 3 Dec, 2023
Dr. Ramesh Kumar, Pr. Scientist	Management Development Programme on leadership development	Management Development Programme, NAARM, Hyderabad during	11-22 Dec, 2023

AWARDS & RECOGNITIONS

Awards

Name of the Awardee	Name of Award	Awarded from
Dr Sandeep Mann, Er. Yogesh Kumar et al.	Best JAE Research Paper Award	ISAE annual convention on 'Agri-Food Systems' Transformation Through Engineering Innovations' and International Symposium on "Engineering Interventions for Making Millets a Global Food" at Raichur on 6-8 Nov, 2023
	ISAE Commendation Medal	
Dr. Leena Kumari and Er. Shagahf Kaukab	First prize in Oral presentation awards	
Ms. Surya Tushir	Best Oral Award	64 th Annual International Conference of Association of Microbiologists of India (AMI) on 'Microbes for Life-Lifestyle for the Environment: A Strategy for wellbeing' from 1-3 Dec, 2023 held at Bundelkhand University, Jhansi (UP) in association with ICAR-Central Agroforestry Research Institute (ICAR-CAFRI)
Dr. Manju Bala	Fellow of The Indian Society of Agricultural Biochemists (FISAB)	National conference on 'Current trends in biological sciences for sustainable agriculture, environment and health under climate change & XV Convention of the Indian Society of Agricultural Biochemists' held during 23-25 Nov, 2023 at University of Lucknow (UP)
Ms. Surya Tushir	Best Scientist Award	ICAR-CIPHET, Ludhiana during 35 th Foundation Day of ICAR-CIPHET on 3 Oct, 2023
Ms. Pragya Singh	Best Technical Award	
Ms. Sunita Rana	Best Administrative award	
Dr. Guru P. N.	Best Oral Presentation Award	During National Symposium on 'Crop Health Management: Safeguarding Crop through

		diagnostics and Innovations’ held during 29-30 Sep, 2023 organised by ICAR-VPKAS, Almora
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HUMAN RESOURCE DEVELOPMENT

S. No.	Staff name	Title of the programme	Venue	Dates
1.	Dr. Shrikrishna Nishani	Professional Attachment Training	CAE Raichur, Karnataka	28 Aug-27 Nov 2023
2.	Dr. Shilpa S Selvan		ICAR-Central Institute of Agricultural Engineering, Bhopal	28 Aug-27 Oct, 2023
3.	Dr. Abhinav Dubey		National Institute of Technology, Rourkela	4 Sep- 4 Dec, 2023
4.	Er. Urhe Sumit Bhausahab		BITS, Pilani K K Birla Goa Campus, Goa	11 Sep-10 Oct, 2023
5.	Dr. Shilpa S Selvan		National Institute of Food Technology, Entrepreneurship and Management (NIFTEM-T)	29 Oct-28 Nov, 2023
6.	Sh. Mahesh Kumar Samota	Green Revolution: A Journey Mexico to Bharat	Online	24 Sep-14 Oct, 2023
7.	Scientists and Assistant Professors (25 No.) from various SAUs and RRSs	ICAR sponsored Winter school on “Igniting the Millet Renaissance: Advancing the Millet Year with Post-Harvest Engineering and Technology for Nutritional Security, Loss Minimization and Enhanced Profitability” at ICAR-CIPHET, Ludhiana	ICAR-CIPHET	1-21 Dec, 2023
8.	Lab interns (8 No.) of CGMFP Fed., Chhattisgarh	Technical training on ‘Testing and Quality Analysis of Selected Minor Forest Produce of Chhattisgarh’ under the collaborative research project on ‘Research, Development & Capacity Building activities on processing & value	ICAR-CIPHET	13-23 Dec, 2023

		addition of forest produce of Chhattisgarh state' for laboratory analysts of CGMFP Federation		
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PATENT FILED

S.No.	Title	Application No.	Inventors	Date of file
1.	Visible Light Insect Trap	202311072493	Dr. Guru P. N. Dr. Dhritiman Saha Er. Yogesh Kalnar Dr. Virinder Kumar Dr. Manju Bala Dr. Nachiket Kotwaliwale	25 Oct, 2023

TRANSFER OF TECHNOLOGY

S. No.	Technology	Firm	Date of Licensing
1.	Buckwheat dehuller	M/s M.S. Roll Products, Ludhiana, Punjab	3 Oct, 2023
2.	Technology on process for quality protein maize-based gluten free muffins	Ms. Simranjit Kaur, Batala, Punjab	29 Nov, 2023
3.	Pearl millet based composite extrudates	Komalika Farmer Producer Co. Ltd., Aligarh	14 Dec, 2023

PERSONALIA

S. No.	Name of the official	Date of promotion	Designation
1.	Dr. Rahul K. Anurag	11 May, 2023 (<i>vide order dated 26 December 2023</i>)	Senior Scientist
2.	Dr. Swati Sethi	01 Jan, 2023 (<i>vide order dated 26 December 2023</i>)	Senior Scientist
3.	Dr. Guru P.N.	02 Jul, 2022 (<i>vide order dated 26 December 2023</i>)	Scientist (SS)

ICAR-CIPHET in News

1022923, 1053 AM Training program on "Protein-Enriched: Cereal and Millet Based Value-Added Products" conducted by ICAR-CIPHET Ludhiana.

Training program on "Protein-Enriched: Cereal and Millet Based Value-Added Products" conducted by ICAR-CIPHET Ludhiana



Ludhiana, October 26, 2023: ICAR-Central Institute of Post-Harvest Engineering and Technology, Ludhiana organized a three days training program on "Protein-Enriched: Cereal and Millet Based Value-Added Products" from 18th to 20th October, 2023 under the Scheduled Caste Sub Plan scheme of Government of India.

The programme was aimed to strengthen Scheduled Caste poor families and nurture them to initiate activities in the field of cereals, and millets processing with special emphasis on value added food products. Fifty Scheduled caste women participants from villages Sekha, Kot Dhuna, Maumba, Dhiwan, Bhaktigarh, Tallawal, Bhotna, Ugokle village of Sehna block of Barnala District of Punjab participated in the program.

The training program was Coordinated by Ms. Surya Scientist, Dr Manju Bala, Principal Scientist & Dr. Swati Sethi, Scientist, FG&OP Division, ICAR-CIPHET Ludhiana. The skill development program provided hands-on training on processing of food grains such as milling of millets, and cereals, pasta making, bakery products from millets (biscuits and muffins from finger millet), extruded and popped products from coarse cereals like pearl millet and sorghum. The experts delivered lectures during the training program on various government schemes and marketing strategies.

Dr. R. K Vishwakarma, Incharge Director, ICAR-CIPHET highlighted that the processing facilities of ICAR-CIPHET can be utilized by interested participants to initiate entrepreneurial activities, and attain experience for entering into the processing field. Dr. Manju Bala, Head, FG&OP Division motivated the participants to form FPO/groups and start processing in the area of millet processing and value addition. A training manual on the subject was also released and distributed to the participants for knowledge sharing. Manpreet Singh and Sakshi from Grant Thornton Bharat team Ludhiana provided support in facilitating involvement of participants in this 3 days training.



फल-सब्जियों की संरक्षित खेती पर प्रशिक्षण कार्यक्रम का आयोजन



प्रतिभागी को प्रमाणपत्र सौंपते कृषि विज्ञान केंद्र के प्रमुख डा. अरविंद कुमार अहलावात।

सवेरा न्यूज़/क्युरिया अहोहर: कृषि विज्ञान केंद्र सीफेट अहोहर द्वारा फल सब्जियों की संरक्षित खेती पर 7 से 9 नवंबर को प्रशिक्षण कार्यक्रम का आयोजन किया गया। कार्यक्रम का संचालन राजेश कुमार सहस्रकर मुख्य तकनीकी अधिकारी द्वारा किया गया। इस कार्यक्रम के सहित कुमार द्वारा संरक्षित खेती करने समय आने वाली समस्याओं एवं लघु सिंचाई प्रणाली के बारे में विस्तार पूर्वक बताया गया। डा. महेन्द्र कुमार द्वारा सिंचाई प्रणाली के सहित विभिन्न तरह के उपकरणों के बारे में बताया। डॉ. प्रकाश मल्हाना द्वारा संरक्षित खेती के अंतर्गत विभिन्न तरह की संरक्षित उपकरणों की तकनीकी के बारे में जानकारी दी गई। रमन कुमार द्वारा संरक्षित खेती में सरकार द्वारा प्रदान की जाने वाली विभिन्न परियोजनाओं के बारे में प्रकाश डाला। डॉ. अरविंद कुमार द्वारा किसानों को इस तरह की नई तकनीकी उपकरणों अधिक उपकरण वाली खेती करने के लिए प्रेरित किया। इस कार्यक्रम में प्रायोगिक जानकारी भी प्रतिभागियों को दी गई। इस कार्यक्रम में कुल 22 प्रतिभागियों ने भाग लेकर कार्यक्रम को सफल बनाया।

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Printed by: MHC&C-004

दैनिक सवेरा टाइम्स पराली प्रबंधन पर ब्लॉक स्तर का जागरूकता शिविर लगाया

सवेरा न्यूज़/क्युरिया अहोहर, 2 नवंबर: कृषि विज्ञान केंद्र-सीफेट अहोहर द्वारा पराली प्रबंधन पर ब्लॉक स्तर के जागरूकता शिविर का आयोजन किया गया। कार्यक्रम में डा. अरविंद कुमार द्वारा पराली प्रबंधन पर कृषि विज्ञान केंद्र द्वारा किए गए शोधों के बारे में जानकारी दी गई। डॉ. अरविंद कुमार द्वारा पराली प्रबंधन पर कृषि विज्ञान केंद्र द्वारा किए गए शोधों के बारे में जानकारी दी गई। डॉ. अरविंद कुमार द्वारा पराली प्रबंधन पर कृषि विज्ञान केंद्र द्वारा किए गए शोधों के बारे में जानकारी दी गई।



जागरूकता शिविर के शेष पर संबोधित करते कर्मा।

य इससे तैयार करने की विधिवत् जानकारी दी। पुणेरीय द्वारा पराली प्रबंधन संबंधी शोधों के संबंध में सरकारीय करने तक पराली को अधिकतर कर रहे हैं। विज्ञान केंद्र के तकनीकी पर प्रकाश डाला। संशोधन कर्मचारी द्वारा पराली के बारे में जानकारी दी गई। डॉ. अरविंद कुमार द्वारा पराली प्रबंधन पर कृषि विज्ञान केंद्र द्वारा किए गए शोधों के बारे में जानकारी दी गई। डॉ. अरविंद कुमार द्वारा पराली प्रबंधन पर कृषि विज्ञान केंद्र द्वारा किए गए शोधों के बारे में जानकारी दी गई।

जमीन की उर्वरा शक्ति में गिरावट चिंतनाय: डा. अहलावात



कृषि विज्ञान केंद्र के विशेषज्ञों किसानों के साथ-साथ चिंतनायों में किया पराली प्रबंधन पर डा. अहलावात से तैयार साद का प्रयोग करने की अभी तक हो जाती है।

उन्होंने कहा उन्होंने इस पण्डित से कई महत्वपूर्ण जानकारियां की हैं। इस पण्डित के अतिरिक्त वे किसानों को भी प्रशिक्षण दे रहे हैं। उन्होंने कहा कि पराली प्रबंधन के समय-समय पराली और तैयार से तैयार करने और फेजलिक के नतीजे बर्तने बरतार है। इस मौके किसानों ने सलाह लिया कि वह पराली को आग नहीं लगायें और बुराई के आकार पर तैयार को गर्म करने और जागरूकता के लिए पराली को आग में जला दें। उन्होंने कहा कि पराली प्रबंधन के समय-समय पराली और तैयार से तैयार करने और फेजलिक के नतीजे बर्तने बरतार है। इस मौके किसानों ने सलाह लिया कि वह पराली को आग नहीं लगायें और बुराई के आकार पर तैयार को गर्म करने और जागरूकता के लिए पराली को आग में जला दें।

दैनिक सवेरा टाइम्स मधुमक्खी पालन पर 3 दिवसीय प्रशिक्षण कार्यक्रम का आयोजन

सवेरा न्यूज़/क्युरिया अहोहर: कृषि विज्ञान केंद्र-सीफेट अहोहर द्वारा 17 से 19 अक्टूबर तक तीन दिवसीय मधुमक्खी पालन पर प्रशिक्षण कार्यक्रम का आयोजन किया गया। इस कार्यक्रम का संचालन डॉक्टर अरविंद कुमार हेड कृषि विज्ञान केंद्र के निदेशन में पूर्वीराज सहस्रकर मुख्य तकनीकी अधिकारी द्वारा किया गया। इस कार्यक्रम के अंतर्गत मधुमक्खी पालन की विभिन्न तकनीकों के बारे में विस्तार पूर्वक जानकारी दी गई।



कैदीके के अधिकारियों व स्टाफ के साथ प्रतिभागी।

डॉक्टर अहलावात सिद्धांत द्वारा मधुमक्खी पालन में आने वाली बीमारियों की रोकथाम के बारे में जानकारी दी। मधुमक्खी पालन पर 15 वर्ष से कार्य कर रहे प्रशिक्षण विभाग के कर्माचारियों को समग्र रूप से इस तरह के प्रशिक्षण लेना लाभ प्राप्त करने में सहायक है। इस कार्यक्रम में कुल 34 प्रतिभागियों ने हिस्सा लेकर कार्यक्रम को सफल बनाया।

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दैनिक सवेरा टाइम्स पराली प्रबंधन पर प्रशिक्षण कार्यक्रम का आयोजन



पराली प्रबंधन पर प्रशिक्षण कार्यक्रम में प्रतिभागियों को संबोधित करते डा. अरविंद कुमार अहलावात।

सवेरा न्यूज़/क्युरिया अहोहर, 31 अक्टूबर: कृषि विज्ञान केंद्र-सीफेट अहोहर द्वारा पराली प्रबंधन पर ब्लॉक स्तर के जागरूकता शिविर का आयोजन किया गया। कार्यक्रम में डा. अरविंद कुमार द्वारा पराली प्रबंधन पर कृषि विज्ञान केंद्र द्वारा किए गए शोधों के बारे में जानकारी दी गई। डॉ. अरविंद कुमार द्वारा पराली प्रबंधन पर कृषि विज्ञान केंद्र द्वारा किए गए शोधों के बारे में जानकारी दी गई। डॉ. अरविंद कुमार द्वारा पराली प्रबंधन पर कृषि विज्ञान केंद्र द्वारा किए गए शोधों के बारे में जानकारी दी गई।

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आंगनवाड़ी कार्यकर्ताओं के लिए तीन दिवसीय प्रशिक्षण कार्यक्रम का आयोजन



आंगनवाड़ी कार्यकर्ताओं को प्रमाण पत्र देते डा. अरविंद कुमार।

सवेरा न्यूज़/क्युरिया अहोहर: कृषि विज्ञान केंद्र द्वारा 11-13 दिसंबर को सुदूरपश्चिम ब्लॉक की आंगनवाड़ी कार्यकर्ताओं के लिए कम लागत में संतुलित आहार बनाने पर तीन दिवसीय प्रशिक्षण कार्यक्रम का आयोजन किया गया। इस कार्यक्रम का संचालन डा. अरविंद कुमार हेड कृषि विज्ञान केंद्र के निदेशन में डा. रूपेंद्र कौर द्वारा किया गया। इस प्रशिक्षण के अंतर्गत डॉ. रूपेंद्र कौर द्वारा संतुलित आहार के विभिन्न घटकों पर चर्चा करते हुए डा. अरविंद कुमार द्वारा मधुमक्खी पालन पर प्रशिक्षण कार्यक्रम का आयोजन किया गया। इस कार्यक्रम में कुल 22 प्रतिभागियों ने भाग लेकर कार्यक्रम को सफल बनाया।

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INDIA TODAY

Home News

Scientists in Ludhiana develop bio-thermocool using paddy, wheat stubble

A type of thermocool which is biodegradable and does not cause any harm to nature has been developed by scientists at the Central Institute of Post Harvest Engineering and Technology (CIPHET) of the Indian Council of Agriculture Research (ICAR).

The bio-thermocool will also help solve the stubble burning problem in Haryana and Punjab. (Courtesy)

ICAR-CIPHET Scientists Develop Bio-Thermocool from Paddy and Wheat Stubble

Scientists at ICAR-CIPHET have created an environmentally friendly, biodegradable type of thermocool that poses no harm to the natural environment.

Shivangi Rai Updated 4 November 2023 2:43 PM IST

The bio-thermocool will also help solve the stubble burning problem in Haryana and Punjab. (Image Courtesy: ICAR Website)

Scientists at the Central Institute of Post Harvest Engineering and Technology (CIPHET) under the Indian Council of Agriculture Research (ICAR) in Ludhiana, Punjab, have achieved a significant breakthrough in addressing the issue of stubble burning in Haryana and Punjab.

ICAR-Central Institute of Post-Harvest Engineering and Technology inaugurates Winter School to Propel Millet Renaissance

ICAR-Central Institute of Post-Harvest Engineering and Technology inaugurates Winter School to Propel Millet Renaissance

23 December 2023 Ludhiana

ICAR-Central Institute of Post-Harvest Engineering and Technology (CIPHET) inaugurated a 21-day winter school on "Igniting the Millet Renaissance: Advancing the Millet New with Post-Harvest Engineering and Technology for Sustainable Security, Loss Minimization and Enhanced Profitability." The program aimed to stimulate the revival of millet farming, processing, and utilization.

Dr. Naresh Kumar, Director, ICAR-CIPHET emphasized the potential benefits of mechanization in primary millet processing for Punjab farmers and urged future inter-institutional collaborations in millet processing research.

Dr. K. T. Nani, Secretary, Chaudhary Charan Singh University, Ludhiana, stressed the need for millet-based products, including flours, snacks, ready-to-cook mixes, and high-protein health beverages. He also recommended regular millet sops to prevent obesity diseases and improve the health benefits of millet grain based on scientific research.

Dr. Manoj Kumar, Director and Head, ICAPD, stressed the need for millet-based products and urged the utilization of the 21-day winter school. The program provided attendees with innovative methods for millet processing, storage, and value addition. (Source: ICAR-Central Institute of Post-Harvest Engineering and Technology Ludhiana)

ICAR-CIPHET's recent training program highlights crucial role of post-harvest mechanization and food processing in national economic growth

The ICAR-Central Institute of Post-Harvest Engineering and Technology (CIPHET) marked the successful conclusion of a two-week training program on Food Processing, Packaging, and Value Addition of Agricultural and Livestock produce on Saturday.

This initiative is part of the Human Resource Development plan of the Indian Council of Agriculture Research, involving technical staff from various organizations.

The inaugural ceremony, Dr. Manoj Singh, Dean of CIPHET, Ludhiana emphasized the significance of mechanization in Punjab and stressed the need for similar advancements in food processing. He highlighted the growing importance of food processing as a means of income enhancement and its pivotal role in the current economic landscape.

Dr. Naresh Kumar, Director, ICAR-CIPHET, briefed post-harvest technologies developed by ICAR and various organizations, including the private sector to make the attendees participants that the training would benefit both academic and entrepreneurial pursuits. ICAR-CIPHET as a nodal institute in the post-harvest sector is open to providing technical assistance to stakeholders aiming to become entrepreneurs or processors.

The training program, was attended by eleven participants from nine states across India. (Source: ICAR-Central Institute of Post-Harvest Engineering and Technology Ludhiana)

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ICAR-CIPHET IIFA & Kisan Mela 2023 a Resounding Success in Ludhiana

ICAR-CIPHET IIFA & Kisan Mela 2023 a Resounding Success in Ludhiana

30 December 2023 Ludhiana

ICAR-Central Institute of Post-Harvest Engineering and Technology (CIPHET) Ludhiana marked the successful conclusion of the 2023 Industry Interface Fair on Agro-processing & Kisan Mela, marking a resounding success in Ludhiana. The event was inaugurated by Dr. Naresh Kumar, Director, ICAR-CIPHET.

ICAR-CIPHET has consistently championed innovation in sustainable agriculture practices and agro-processing from 5th to 10th October 2023, ensuring Ludhiana and stakeholders from the agricultural and agro-processing sectors.

The event, titled "Industry Interface Fair on Agro-processing & Kisan Mela 2023" was inaugurated by Dr. Naresh Kumar, Director, ICAR-CIPHET. The event was inaugurated by Dr. Naresh Kumar, Director, ICAR-CIPHET. The event was inaugurated by Dr. Naresh Kumar, Director, ICAR-CIPHET.

The industry interface meetings on "Trends of Innovation: Post-harvest Industry Connect" featured speakers from various departments, including Dr. K. T. Nani, Secretary, Chaudhary Charan Singh University, Ludhiana, and Dr. Manoj Kumar, Director, ICAR-CIPHET. There were live demonstrations of agro-processing in agriculture using the industry interface technology.

Agri-engineering units crucial to boost mechanisation: ICAR DDG

By HT Correspondents, Ludhiana

Oct 04, 2023 05:06 AM IST

With an aim to foster collaboration between the agricultural processing and farming communities, the Central Institute of Post-Harvest Engineering and Technology (CIPHET) inaugurated CIPHET-IIFA 2023 and Kisan Mela in Ludhiana

HT Image

Establishment of a directorate of agricultural engineering in each state is crucial for accelerating agricultural mechanisation, enhancing food security and increasing farmers' income, said SN Jha, deputy director general (agricultural engineering) ICAR, during the inauguration of CIPHET-IIFA 2023, an industry interface fair on agro-processing, and Kisan Mela in Ludhiana on Tuesday.

ICAR-CIPHET IIFA & Kisan Mela 2023 a Resounding Success in Ludhiana

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ICAR-Central Institute of Post-Harvest Engineering and Technology (CIPHET) Ludhiana inaugurated a 21-day winter school on "Igniting the Millet Renaissance."

दैनिक सवेरा टाइम्स

राष्ट्रीय किसान दिवस पर चौ. वरणसिंह को किया याद

सरकार द्वारा संचालित विभिन्न योजनाओं, एमार्किंग ई-मार्केटिंग की जानकारी दी



सीकर/केरल में आयोजित प्रदर्शनी का उद्घाटन करते हुए डॉ. अरविन्द कुमार (दा.)। (हिंदी संस्करण)

सीकर/केरल में आयोजित प्रदर्शनी का उद्घाटन करते हुए डॉ. अरविन्द कुमार (दा.)। (हिंदी संस्करण)

दैनिक सवेरा टाइम्स

स्वरोज्जेगार के लिए लघु उद्योग स्थापित करें किसान : डा. नचिकेत कोतवाली वाले

किसानों को बड़ा प्लेटफार्म मुहैया करवाएगा सीफेट : डा. नचिकेत कोतवाली वाले



सीफेट परिसर में छद्म वैज्ञानिक सहाकारक समिति में शामिल अधिकारी व अन्य।

दैनिक सवेरा टाइम्स

किसानों को बड़ा प्लेटफार्म मुहैया करवाएगा सीफेट : डा. नचिकेत कोतवाली वाले



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कृषि उत्पादन में मूल्य संवर्धन समय की जरूरत : डॉ. निचिकेत

संगरिया, 26 दिसम्बर (गर्ग) : कृषि विज्ञान केंद्र संगरिया, कृषि विज्ञान केंद्र अयोधर, भारतीय कृषि अनुसंधान परिषद केन्द्रीय कटार्ड उत्पादन अभियांत्रिकी एवं प्रयोगिकी संस्थान लुधियाना व श्री सुखगणी शांति सेवा चैरिटेबल ट्रस्ट के संयुक्त तत्वाधान में कृषक वैज्ञानिक संवाद का आयोजन नुकैरा में किया गया।

प्रभाव कर रहा है जबकि आलू के उत्पादन जैसे विषय बनावकर 300-400 रु. फिली तक से सकता है। जिसके लिए आप सिफेट अयोधर व कृषि विज्ञान केंद्रों में सम्पर्क कर अच्छा लाभ प्राप्त कर सकते हैं।



कार्यक्रम में किसानों को जानकारी देते वैज्ञानिक।

कृषि विज्ञान केंद्र संगरिया के चारिटेबल वैज्ञानिक डॉ. अरविन्द कुमार ने किसानों को जैविक खादों, किसान गार्डन तथा प्राकृतिक खादों की जानकारी देते हुए कहा कि आप कम से कम परिवार के उपयोगी हुए प्राकृतिक खादों का उपयोग करें। इसी तरह से पशुधारा तथा सज्जियों की पैदावार भी प्राकृतिक ही रखें जो कि परिवार के स्वास्थ्य के लिए जरूरी है। कृषि विज्ञान केंद्र अयोधर के चारिटेबल वैज्ञानिक डॉ. अरविन्द कुमार ने किसानों को मूल्य संवर्धन के लिए केंद्र पर आवागमन से अवगत कराया।

सीफेट लुधियाना के निदेशक डॉ. निचिकेत कोतवाली वाले ने कहा कि आज किसान फसल का अच्छा उत्पादन प्राप्त कर रहा है लेकिन वह अपने उत्पाद का मूल्य संवर्धन नहीं कर रहा है। मूल्य संवर्धन के बिना खेती से लाभ नहीं प्राप्त कर सकता है। उन्होंने कहा कि मक्का को हम बाजार में बेचने पर 20-30 रु. प्रति किलोग्राम तक प्राप्त कर सकते हैं।

इसी तरह आलू को किसान बाजार में बेचकर 10-20 रु. प्रति किलो

आंगनवाड़ी कार्यकर्ताओं के लिए तीन दिवसीय प्रशिक्षण कार्यक्रम का आयोजन



आंगनवाड़ी कर्कर को प्रमाण पत्र देते डा. अरविन्द कुमार।

सवेरा न्यूज/कथुरिया अयोधर : कृषि विज्ञान केंद्र द्वारा 11-13 दिसम्बर को सुखसायर्स ब्लॉक की आंगनवाड़ी कार्यकर्ताओं के लिए कम लागत में संतुलित आहार बनाने पर तीन दिवसीय प्रशिक्षण करवाया गया। इस कार्यक्रम का संचालन डा. अरविन्द कुमार हेड कृषि विज्ञान केंद्र के निदेशन में डा. रूपेन्द्र कौर द्वारा किया गया। इस प्रशिक्षण के तहत डॉ. रूपेन्द्र कौर द्वारा संतुलित आहार के विभिन्न पहलुओं पर चर्चा करते हुए पांच भोज्य समूह की दैनिक आहार में उपयोगिता बताई तथा यह वाटिका में सब्जी उत्पादन कर ताजा सब्जियों का थाली में समावेश करने पर जोर दिया और बताया कि ताजा सब्जियों से मिलने वाले विटामिन व खनिज लवण की शारीरिक गतिविधियों में उपयोगिता के बारे में विस्तृत रूप से जानकारी दी गयी। पृथ्वी राज द्वारा मौसमी फल सब्जियों व खाद्यों के उपयोग के बारे में जानकारी देते हुए इनके दैनिक आहार में शामिल करने के बारे में जागरूक किया। डॉ. रूपेन्द्र कौर द्वारा कम लागत में तैयार होने वाले विभिन्न तरह के पौष्टिक व्यंजन जैसे बाजार पोषक, बेसन के लड्डू, बर्फी, आंवले व निम्बू के उत्पाद बनाने पर प्रायोगिक जानकारी दी गयी। डा. अरविन्द कुमार द्वारा मौसमी फल सब्जियों व अनाजों के संग्रह करने की विभिन्न तकनीकों की जानकारी देते हुए कृषि विज्ञान केंद्र पर दिए जाने वाले प्रशिक्षणों व अन्य गतिविधियों से अवगत करवाया। इस प्रशिक्षण कार्यक्रम में कुल 31 आंगनवाड़ी कार्यकर्ताओं ने धारा लेक्टर कार्यक्रम को प्राप्त बनाया।

दैनिक सवेरा टाइम्स

डीपी शिक्षा महाविद्यालय में पराली प्रबंधन विषय पर जागरूकता कार्यक्रम

सीफेट के कृषि वैज्ञानिकों ने तीन पर साझा किए बहुमुखी विचार



सीफेट परिसर में डॉ. अरविन्द कुमार का सम्मान करते हुए विवेकानंद डा. निदेशक द्वारा।

सीफेट परिसर में डॉ. अरविन्द कुमार का सम्मान करते हुए विवेकानंद डा. निदेशक द्वारा।

दैनिक सवेरा टाइम्स

बाजार के मूल्य संवर्धन व प्रसंस्करण पर पांच दिवसीय प्रशिक्षण कार्यक्रम का समापन



प्रतिभागियों को प्रमाणपत्र भेंट करते हुए केवीके के प्रभारी डा. अरविन्द कुमार व अन्य।

प्रतिभागियों को प्रमाणपत्र भेंट करते हुए केवीके के प्रभारी डा. अरविन्द कुमार व अन्य।

Ludhiana: Scientists develop herbal drink from jute leaves

News / Cities / Chandigarh News / Ludhiana: Scientists develop herbal drink from jute leaves

Jute leaves are highly nutritious and have medicinal properties; they contain approximately 5.1% protein, vitamins (35-40 mcg/100 g), beta-carotene and minerals



Regular consumption of this beverage can help control diseases like diabetes, high blood pressure and blood sugar. (HT Photo)

4 वैश्विक जागरण, 4 अक्टूबर, 2023

जागरण सिटी लुधियाना

सिफेंट में तीन दिवसीय किसान मेला शुरू

प्रदेशीय सर पंहुंघी किसान व उद्योगी, पहले दिन प्रिंससल लुधियाना के बाद मूल्य-संकर्तन तकनीकी हंड्स प्रदर्शनी

अजय खडकना लुधियाना में तीन दिवसीय किसान मेले का शुभारंभ किया। इस अवसर पर किसानों को नए तकनीकी उपकरणों के बारे में जानकारी दी गई।



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सिफेंट में तीन दिवसीय किसान मेले का शुभारंभ किया।

2 | पंजाबी जागरण, 4 अक्टूबर, 2023

लुधियाना जगमग

उकनालेनी 'च बाणीवाली नूँ रँल्लासैरी दा सँदा

रिंन रँगा सौंटे-आदिबा' दे बिस्मन मेले-2023 | सप्ताह, महिगन दे संधे बाँडे सजसहे

लुधियाना में किसान मेले का शुभारंभ किया।



लुधियाना में किसान मेले का शुभारंभ किया।

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लुधियाना में किसान मेले का शुभारंभ किया।

[KISAN MELA INAUGURATED]

Agri-engg units crucial to boost mechanisation, says CAR DDG

HI Correspondent
ludhiana@hindustantimes.com

LUDHIANA: Establishment of a directorate of agricultural engineering in each state is crucial for accelerating agricultural mechanisation, enhancing food security and increasing farmers' income, said SN Jha, deputy director general (agricultural engineering), ICAR, during the inauguration of CIPHET-IFA 2023...

CIPHET-IFA & KISAN MELA 2023 AIMS TO FOSTER COLLAB BETWEEN AGRICULTURAL PROCESSING AND FARMING COMMUNITIES

The event witnessed the presence of dignitaries, including Jha, as the chief guest, and Satbir Singh Gosal, vice-chancellor (P-C) of Punjab Agricultural University (PAU) as the guest of honour. Jha said, "The central government has been providing financial assistance for stable management machinery for some time now. Despite this, stubble burning continues to be a problem in Punjab. One reason for this is the lack of knowledge among farmers regarding the proper use of these machines. In light of this, the Punjab government has decided to appoint agricultural engineers at the block level in every district as soon as possible. Jha also stressed the need for the Punjab government to establish a directorate of agricultural engineering, stating, "In the last Kisan Mela at PAU, the agriculture minister spoke about setting up the directorate of agricultural engineering. However, there has been no progress in this regard so far. In August, union agriculture and farmers welfare minister Narendra Singh Tomar wrote a letter to chief minister Bhupinder Mann, urging the creation of the directorate of agricultural engineering and the appointment of agricultural engineering officers at the district and block levels in Punjab."

Heat-generating cotton fabric hogs the spotlight on Day 2

The fabric can achieve a maximum temp of 50 C within 15 seconds

Dr P Jagannathan, a senior scientist of the quality evaluation and improvement division, with his team, developed cotton-based electrically conductive yarns that can be seamlessly stitched onto any fabric. This innovative approach has paved the way for the creation of heat-generating textiles.



Dr P Jagannathan showcasing heat-generating smart textile products during the CIPHET-IFA 2023.

कृषि-प्रसंस्करण में नवाचार को बढ़ावा देने के उद्देश्य से सिफेंट-आईफा और किसान मेले का उद्घाटन

लुधियाना में किसान मेले का शुभारंभ किया। इस अवसर पर किसानों को नए तकनीकी उपकरणों के बारे में जानकारी दी गई।

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Confluence of agri processing, farming communities at CIPHET-IFA 2023

LUDHIANA: The Central Institute of Agricultural Engineering (CIAE) and Technology (ICAR) have inaugurated the CIPHET-IFA 2023, an industry interface fair on agro-processing and Kisan Mela in Ludhiana on Tuesday. The event witnessed the presence of dignitaries, including Jha, as the chief guest, and Satbir Singh Gosal, vice-chancellor (P-C) of Punjab Agricultural University (PAU) as the guest of honour. Jha said, "The central government has been providing financial assistance for stable management machinery for some time now. Despite this, stubble burning continues to be a problem in Punjab. One reason for this is the lack of knowledge among farmers regarding the proper use of these machines. In light of this, the Punjab government has decided to appoint agricultural engineers at the block level in every district as soon as possible. Jha also stressed the need for the Punjab government to establish a directorate of agricultural engineering, stating, "In the last Kisan Mela at PAU, the agriculture minister spoke about setting up the directorate of agricultural engineering. However, there has been no progress in this regard so far. In August, union agriculture and farmers welfare minister Narendra Singh Tomar wrote a letter to chief minister Bhupinder Mann, urging the creation of the directorate of agricultural engineering and the appointment of agricultural engineering officers at the district and block levels in Punjab."

खेती 'च उकनालेनी आप-उठ दा सँदा

सौंटे-ओसोरे पुरेसैसिग उद्योगी इंदरबस दे बिस्मन मेले दा आगारा

अजय खडकना लुधियाना में तीन दिवसीय किसान मेले का शुभारंभ किया। इस अवसर पर किसानों को नए तकनीकी उपकरणों के बारे में जानकारी दी गई।



लुधियाना में किसान मेले का शुभारंभ किया।

जागरण सिटी लुधियाना

कूड प्रोसेसिंग की ट्रेनिंग लेने हरियाणा से पंहुंची महिलाएं

सिफेंट में आयोजित किसान मेले में आइसीआर के अलग-अलग संस्थानों के स्टाल पर जाकर प्रोसेसिंग की ट्रेनिंग लेने हरियाणा से पंहुंची महिलाएं

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पंजाब जागरण

विशेषज्ञ बोले, पराली प्रबंधन के लिए कृषि इंजीनियरों को नियुक्त करें पंजाब सरकार

अजय खडकना लुधियाना में तीन दिवसीय किसान मेले का शुभारंभ किया। इस अवसर पर किसानों को नए तकनीकी उपकरणों के बारे में जानकारी दी गई।



लुधियाना में किसान मेले का शुभारंभ किया।

अजय खडकना लुधियाना में तीन दिवसीय किसान मेले का शुभारंभ किया। इस अवसर पर किसानों को नए तकनीकी उपकरणों के बारे में जानकारी दी गई।

लुधियाना में किसान मेले का शुभारंभ किया।

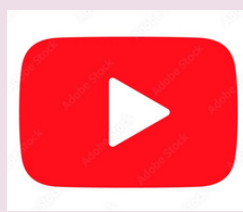
पंजाबी जागरण



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