Seed Newsletter

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Brainstorming on 'Informal Seed Sector- Way Forward' organized

ICAR- Indian Institute of Seed Science, Mau in collaboration with Alliance of Bioversity International and CIAT, New Delhi organized a virtual panel discussion on **'Informal Seed Sector- Way Forward'** on 23rd March, 2022 to contemplate on the status of informal seed sector, bottlenecks for balanced growth, desired technical backstopping and institutional support for improving quality of farm saved seeds, and to devise apposite framework for semi-formalization of informal seed sector. The event was chaired by Prof. S.K. Rao, Vice-Chancellor, RVSKVV, Gwalior and Co-Chaired by Dr. D.K. Yadava, ADG (Seed), ICAR, New Delhi. Around 55 participants from various states and UTs joined the brainstorming session, where the panel emphasized on the contribution of ICAR in making robust seed system, insights pertinent to role of public sector in varietal development, augmentation of seed indices (VRR & SRR) and in productivity maximization. The deliberations pondered upon issues such as existence of bartering of seeds in rural areas, establishment of seed production and quality assurance system at community level there by highlighting the need for creation and sustenance of community seed banks (CSBs). The panel opinioned that formal seed sector should complement informal seed sector for better efficiency and benefit, of the farm community and emphasized the need for strengthening community based seed system by the inclusion of indigenous, farmer's varieties and landraces in to formal seed chain. Need for creation of community based seed system in dry land areas and establishment of viable linkages, seed entrepreneurship on community mode etc. were adroitly accentuated in the discussion. The emphasis was brought in that, for successful operation of seed collectives at grass root level, aspects such as demand creation, production, certification, processing and marketing need to be well orchestrated. The opinion was raised that despite modernization of seed industry, informal seed sector is holding prominence especially in meeting local seed demand of farmers in hilly areas and specific ecologies. Points were raised for the enablement of community seed systems in resource deprived areas and thereby encouraging the farmers' led seed enterprises and for the institution of suitable standard operating procedures needed for quality assurance in respective community seed systems.Need to focus on conservation of biodiversity, ensuing necessary technical backstopping and institution of infrastructure pertinent to processing, quality assurance and storage at local level was emphasized. The talk concluded focusing on the utmost importance in the development of seed standards as per requisites of informal seed system, provisioning of regulatory framework and involving grassroots administration in the process of evolving a sectarian approach, so that adept harmonization of formal and informal seed sectors to be achieved.

Research Highlights

ICAR-IISS, Mau

- We have developed a nanotechnology approach using metal (silver) nanoparticles with neem extract applicable against seed storage insect pests. We successfully prepared the green synthesized nanoparticles and characterized them by confirming the color change of the reaction (Fig. 1 A) and increased intensity by UV-vis spectra (Fig. 1 B). The interaction of nanoparticles with the neem extract was confirmed by UV-VIS spectra (Fig. 1 C).

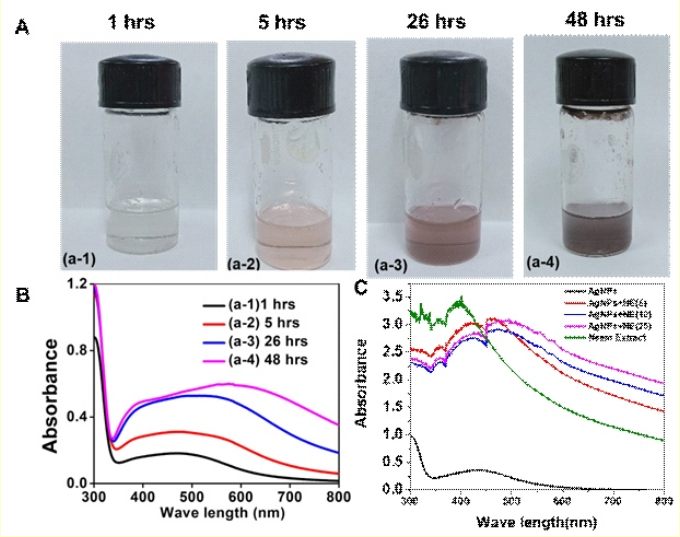


Fig. 1. The synthesis of silver nanoparticles was confirmed by the change in color of the solution from light orange to Gray by imaging (A) and UV-Vis spectra showing the increased intensity with different time intervals (B); The interaction of neem extract with different ration with prepared silver nanoparticles confirming the green synthesis.

- Pre harvest spraying of Emamectin benzoate @ 0.3ml/L and Neemazal 10000 ppm @ 6ml/L and twice spraying at 50% pod maturity respectively were found effective for the control of bruchid during storage.

- HDPE bags were found to be better storer for Barley *viz*. DWRB-182 and DWRB 137 and Lentil *viz*. RVL 31 and IPL 316 in comparison to jute bags up to 180 days.

- Twenty one rice genotypes were screened for early seed germination trait *viz*., speed of germination. Germination index varied from 19.99±0.83 to 46.750±0.83. Among them GM 83 and GM 24 were found to be more vigorous and GM 74 was found to be less vigorous.

- Infusion of analyte, GA_3 @ 100 ppm in ethyl cellulose polymer system and coating of resultant microcapsules, improved the germination potential in maize seeds.

- Optimum working sample size (weight of 2500 seeds) for purity analysis in Davana, Primrose and Anise were standardized as 0.5, 1.5 and 5 g, respectively. GA_3 treatment @ 500 ppm or prechilling were found to effectively break dormancy in Anise. Among the temperature regime's studied mean germination time and days taken for maximum germination were less at 25 °C followed by 20-30 °C in Davana, Primrose and Anise.

- Seven (05 in paddy and 02 in maize) microbial gene sequences have been submitted to NCBI (NCBI accession numbers- ON063449, ON063485, ON063492, ON063497, ON063528, ON063638, ON202915).

- Total Soluble Solid (TSS) of the parental inbred lines and F_1 seeds in sweetcorn have been recorded for 21 days after pollination (DAP) as brix reading (ºBrix) using handheld refractometer. TSS for WNCDMRSCY18R716 was 15 ºbrix, WNCDMRSCY18R715 was 13 ºbrix and for hybrid was 17 ºbrix. Further TSS was also recorded in sweet corn inbreds categorized under low (<35 %), average (35-70 %) and high (>70 %) germination percentage lines. Brix reading indicated positive correlation (0.23) between TSS and germination percentage.

- Grow-out test (GOT) of maize hybrid PMH-1 along with reference sample was conducted. Among the SSR markers used, two markers *viz.,* Bnlg 1296, Umc 2069 were found to be polymorphic between the parents and could serve as unique markers for detection of hybrid purity of maize hybrid PMH-1.

- In chickpea after six months of storage, Dry Nano TiO_2 @250 ppm maintained 94% germination and performed better than control with 65% germination, along with other seed quality parameters.

PAJANCOA&RI, Karaikal

- Twenty per cent higher seed yield per plot was obtained in Dry Nano SiO_2 @ 500 ppm followed by Dry Nano TiO_2 @ 250 ppm and Wet Bulk TiO_2 @ 750 ppm treatments over control (dry seed) in paddy.

UAS, Raichur

- Desi chickpea seeds could be subjected to seed coating (on hydro primed seeds- 4 hours followed by air drying for 72 hrs) with BioNPK + Drought alleviating bacteria for better field performance and higher seed yield while Kabuli chickpea seeds could be subjected to seed coating on hydro primed (4h @ 20^{o}C) seed with DAB+ Biogrow). Higher economic returns in primed seeds were evident from higher B:C ratio (1:2.13) in primed seeds than (1:1.72) in unprimed seeds of Kabuli.

Optimum sieve size and type of screen for grading seeds

Recommended optimum sieve size and type of screen for grading seeds

Crop	Variety/Hybrid	Sieve size recommended	Registered recovery (%)
Maize	RCRMH-3	7.00 mm (R)	94.25
Redgram	GRG 152	3.75 mm (R)	89.31
Bengalgram	Super Annigeri-1	4.75 mm (R)	93.50
Soybean	JS 335	3.75mm (S)	83.90
Bengalgram	NBeG 49	6.00mm (R)	92.81
Bengalgram	NBeG 47	5.50mm (R)	98.49
Paddy	Gangavathi Sona (GGV-05-01)	1.40 mm (S)	99.30
Paddy	RNR-15048	1.60 mm (S)	96.00
Paddy	MTU-10-10	1.80 mm (S)	96.00
Sunhemp	JRJ-610	2.00 mm (S)	88.70
Dhaincha	Local variety	2.00 mm (S)	91.40

KAU, RARS, Pattambi

- Study conducted using A line, R line and F1 hybrid of JRH5 (hybrid rice) from JNKVV, Jabalpur, utilising RM 276 SSR marker confirmed the characters of the parental lines and the band size ranged from 100 bp to 150 bp.

- The storability and planting value of paddy was found to be enhanced by treating with the Dry Nano SiO_2 @500 ppm.

PJTSAU, Hyderabad

- Confirmation of isolation distance in redgram demonstrated that the highest seed setting (40.8%) occurs at the isolation distance of 200 m followed by 26.6% at 250 m and 6.0% at 300 m. Seed setting was not observed on the A-lines planted at isolation distances of 350 m and 400 m.

- Seed coating with nano Zn + Fe in groundnut recorded highest seed yield (33.44 q/ha) when treated with 50% seed coating with nano Zn + Fe and foliar application of 50% nano Zn + Fe followed by 100% seed coating with nano phosphorous (30.41q/ha).

- Among different seed invigoration treatments tested in fodder maize crop, osmo priming with PEG 6000 was effective in recording higher seed germination and seedling vigour index at six months after storage in cloth bag under ambient conditions.

- While reaffirming the validity periods of certified seeds of field crops, it was observed that germination per cent of onion cultivars were dropped below IMSCS during third month of storage in both gunny and HDPE bags.

- Among different priming technologies evaluated for their effectiveness in improving the planting value in two redgram varieties (PRG-176 & TDRG-4), halo priming resulted in highest increase in seed yield (8.76 % in PRG 176 and 8.81% in TDRG 4).

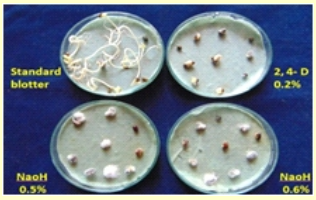
- In paddy, seed treatment with Spinotoram @ 3 ppm/kg seed was found effective against lesser grain borer (*Rhizopertha dominica*) and Angoumois grain moth (*Sitotroga cerealella*) upto nine months of storage without impairing germination and seed viability.

- In greengram, solarization of fresh seeds kept in polythene (700 guage) bag for four hours and 6 days restricted insect damage (0.87%) below permissible limit (<1.00%) and maintained germination (97%) above IMSCS upto nine months of storage.

- Pre-harvest spraying of Azadirachtin 10000 ppm @ 6 ml/ litre or Emamectin benzoate 5 SG @0.3g/litre

at 50% pod maturity and complete maturity stage was found effective in controlling field infestation of pulse beetle and subsequent adult emergence during storage in redgram.

- NaOH (0.6%) blotter soak method in blackgram recovered more seed borne pathogens like *Fusarium* sp., *Macrophomina* sp. and *Alternaria* sp. than standard blotter method (SBM). The per cent recovery of pathogens in blotter method varied from 5-12% whereas, NaOH 0.6%, the recovery of pathogens varied from 19-30% which is significantly better than SBM.



0.5% Detection methods for seed borne pathogens in blackgram (Standard blotter, 2, 4-D 0.2% and NaOH


NaOH blotter soak method


Standard blotter method

SCSP/TSP/NEH

SCSP

- Mung bean seeds (521 kg) and *Kudals* (1000 Nos.) were distributed to farmers (Rs. 61,245 and Rs. 2,46,000 respectively) at ICAR-IISS, Mau.

- Twenty battery-operated sprayers were distributed to the SC farmers of Karaikal district comprising 4 communes, 16 villages at PAJANCOA&RI, Karaikal.

- Input distribution and supply of quality seed at Rathna, Keso and Suchani villages by SKUAST, Jammu benefitting 105 villager's on 9th March, 2022.

- An awareness programme on Mushroom Production was conducted on 26th March, 2022 for 25 farmers at Slama Chak, Bagga Zanna (R S Pura) by SKUAST, Jammu.

TSP

- Tarpaulin was distributed and training programme was organized on 'Post-harvest seed management' at Huda, Sirwar taluk, Raichur District by UAS, Raichur on 15th February, 2022 benefitting 39 farmers.

- ICAR-VPKAS, Almora, Uttarakhand distributed agricultural inputs and conducted two *Krishak Gosthis* during January to March, 2022 benefitting 54 farmers.

- KAU, RARS, Pattambi, distributed agricultural implements like spade, cutting knife, sickle, mini rice mill and sprayers at Pulpally panchayat in Wayanad district on 24th February, 2022 benefitting 45 farmers.

- SKRAU, Bikaner distributed seeds to 135 farmers of Pindwara, District, Sirohi, Rajasthan on 3-4 March, 2022.

- ICAR-IARI, RS, Indore, Madhya Pradesh organized field day and scientist farmers interaction session at Sherkund villagefor 190 farmers and Barkheda Kaytha village for 500 farmers on 3rd and 5thMarch, 2022, respectively.

- BAU, Sabour, Bhagalpur, Bihar distributed inputs and organized training programme on 'Seed Production Techniques in Mungbean and vegetable crops' at Kishanganj, Purnia and Munger districts for 375 farmers during February, 2022.

- SKUAST, Jammu conducted two training programmes, 39 input distribution programmes, 4 walnut & pecan nut quality planting material distribution programme and 1 exposure visit benefitting 148 people.

NEH

- Rs. 7.74 lakh fund was released from ICAR-IISS, Mau to three NEH centers (AAU, Jorhat, CAU, Imphal, ICAR Research Complex for NEH Region, Barapani) under NEH component.

Extension Activities

S.N.	Topic	Date	Place	No. of Participants (Approx.)
1.	Field day on 'Hybrid sunflower seed production'	12th March, 2022	Suntanur Village of Kalburgi Dist. by Seed Unit, UAS, Raichur	150 farmers
2.	Training on 'Quality Seed Production of Wheat'	14th – 15th February, 2022	Patlion and Fatehpur, Tehsil, Sirmour (HP) by CSKHPKV, Palampur	112 farmers
3.	Pulses day cum training programme on 'Seed Production, Processing and Quality Testing'	8th March, 2022	RSS Akrot, Una (HP) by CSKHPKV, Palampur	180 farmers
4.	Quality seed production in paddy	16th March, 2022	Different blocks of Palakkad district by KAU, RARS, Pattambi	80 farmers
5.	Harvest festival of Ptb 61 KAU Supriya	17th March, 2022	Urganttiri panchayat, Malappuram by KAU, RARS, Pattambi	20 farmers
6.	Field Day of Ptb 61 KAU Supriya verity of rice	24th March, 2022	Pazhayannur panchayat, Thrissur by KAU, RARS, Pattambi	34 farmers
7.	Cultivation of pulses in rice fallow of North and Middle Andaman	8th February, 2022	Madhupur, Diglipur by ICAR-CIARI, Port Blair	32 farmers
8.	Scientific cultivation of pulses and application of Bioconsortia in agricultural crops	22nd March, 2022	Harminder bay, Little Andaman by ICAR-CIARI, Port Blair	67 farmers
9.	Cultivation of wilt resistant CARI Brinjal varieties in Nicobar Islands	16th March, 2022	Tamaloo, Car Nicobar by ICAR-CIARI, Port Blair	50 farmers
10.	Eight training programmes on 'Wheat seed Production Technology'	January to February, 2022	ICAR-IARI, RS, Indore, Madhya Pradesh	400 farmers
11.	Plant protection and Rouging in Wheat Demonstrations	13th January, 2022	ICAR-IARI, RS, Indore, Madhya Pradesh	51 tribal farmers and 2 NGO
12.	Five training programme on 'Seed production technology and fertilizer management in rice cropping system'	February – March, 2022	Various districts of Maharashtra by BSKKV, Dapoli	200 farmers

S.N.	Topic	Date	Place	No. of Participants (Approx.)
13.	Three training programme on 'Seed production in rabi season crops'	January – February, 2022	Various villages of Bikaner Rajasthan by SKRAU, Bikaner	135 farmers
14.	Seminar on International Pulse Day	10th February, 2022	SKRAU, Bikaner	46 stakeholder comprising Scientists, Farmers
15.	Four training programmes on 'Quality seed production, testing and storages'	7th to 28th January 2022	Various villages of Hisar by CCS HAU, Hisar	180 farmers
16.	Three training programmes on 'Quality seed production of Field Crops' and 'Importance for developing Rainfed Horticulture'	18th January - 23rd February, 2022	SKUAST, Jammu	200 farmers and departmental officers
17.	Krishi Mela	7th to 11th March, 2022	SKUAST, Jammu	15000 farmers & NGOs
18.	Trainings programmes on 'Quality seed production technology'	11th, 15th and 25th March, 2022	Difrent villages of Palem, Karimnagar and Kunaram by PJTSAU, Hyderabad	250 farmers
19.	Four training programmes and one Field Day	February to March, 2022	IGKV, Raipur	250farmers
20.	Training programme on 'Management of fungi and pests during storage of seeds'	12th January, 2022	AAU, Anand	50 farmers
21.	Five days farmers training programme on 'Quality Seed Production'	22nd March to 26th March, 2022.	ICAR-IISS, Mau	30 farmers
22.	Kisan Mela	15th March, 2022	ICAR-IISS, Mau	5000 farmers
23.	Training programme on 'Quality seed production in Traditional Paddy varieties'	11th March, 2022	PAJANCOA&RI, Karaikal	42 farmers
24.	Three farmers' training programmes at nearby villages of Kota viz; ArandKhera, Bhandaheda and Jharaamli	9th March, 2022 10th March, 2022 24th March, 2022	AU, Kota	80 farmers

Publications

Research Papers

- Seema Sheoran, Sandeep Kumar, Vinita Ramtekey, Priyajoy Kar, Ram Swaroop Meena, Chetan Kumar Jangir (2022). Current Status and Potential of Biofortification to Enhance Crop Nutritional Quality: An Overview. *Sustainability*, 14(6): 3301. **(ICAR-IISS, Mau)**

- Susmita C, SP Jeevan Kumar, Anjani Devi, Chintagunta, Eric Lichtfouse, Bhojaraj Naik, Ramya P, Kalyani Kumari, Sanjay Kumar (2022). Non-thermal plasmas for disease control and abiotic stress management in plants. *Environmental Chemistry Letters*, 20, 2135-2164. **(ICAR-IISS, Mau)**

- Bhuker A, Mor VS, Puneeth Raj MS, Jakhar SS (2022). Germination study in Gokhru (*Pedalium murex* L.) seeds. *Journal of Ayurvedic and Herbal Medicine;* 8(1): 18-21. **(CCS HAU Hisar)**

- Nidhi Mor, VS Tanwar, H Duhan, DS Bhuker, A. Singh, V. Malik, A. Dalal, P. K. Raj, M. S. P. Shivani (2022). Impact of Hydropriming on Fresh and Naturally Aged Seeds of Bottle Gourd (*Lagenaria siceraria* (Molina) Standl). *Current Journal of Applied Science and Technology*, 41(10): 1-11. **(CCS HAU Hisar)**

- Muthu M.C., Lenka D., Bastia D. N., Samal K. C., Mohanty S. (2022). Characterization of aromatic short grain rice varieties based on modified phenol test, *The Pharma Innovation Journal*, 11(2): 2923-2925. **(OUAT, Bhubaneswar)**

- Misra S., Rayaguru K., Dash S. K., Mohanty S., Panigrahi C. (2022). Efficacy of microwave irradiation in enhancing the shelf life of groundnut (*Arachis hypogaea* L.), *Journal of Stored Products Research*, 97: 101957. **(OUAT, Bhubaneswar)**

- Sony S., Mohanty S., Das S., Das B. C., Beura J. K. (2022). Enhancing seed yield and quality of chilli by application of plant growth regulators, *The Pharma Innovation Journal*, 11(3): 2325-2330. **(OUAT, Bhubaneswar)**

- Shabnam Katoch, Vivek Sharma, Devender Sharma, Richa Salwan, S K Rana (2022). Biology and molecular interactions of *Parastagonospora nodorum* blotch of wheat. *Planta,* 255: 21. **(CSKHPKV, Palampur)**

- Anubhav Thakur, KC Dhiman, Rajesh Kanwar (2022). Effects of seed treatment on seed quality and storability in wheat (*Triticum aestivum* L.) in north western Himalayas. *Bangladesh Journal of Botany* 51(1): 113-121. **(CSKHPKV, Palampur)**

- Amritpal Mehta, SK Singh, Amrish Vaid, Ranbir Singh, Sachin Gupta, Ashwani Kumar Basandrai, VB Singh, AK Singh, Jitender Sharma, Sonali Bhagat (2022). Prevalence and Distribution of Rice Sheath Rot (*Sarocladium oryzae*) in Jammu Division. *The Pharma Innovation Journal,* 11(2): 31-35. **(SKUAST, Jammu)**

- B. C Sharma, Rakesh Kumar, P.S Slathia, Ramphool Puniya, AmrishVaid (2022). Evaluation of Refresher Training Programme on conservation Agriculture practices. *Indian Journal of Extension Education,* 58 (1): 49-52. **(SKUAST, Jammu)**

- Gohel N. M., Mistry S. Rathava A., Dhaduk H. L. (2022). Management of leaf blotch (*Taphrina maculans* Butler) and leaf spot (*Colletotrichum capsici* (Syd.) Butler & Bisby) diseases in turmeric through ready-mix fungicides under field conditions. *Indian Phytopathology*, DOI: 10.1007/s42360-021-00452-x. **(AAU, Anand)**

- Parmar H. V. and Gohel N. M. (2022). Biochemical basis of resistance in chickpea (*Cicer arietinum* L.) against wilt complex of chickpea. *Legume Research An International Journal*, DOI: 10.18805/LR-4795. **(AAU, Anand)**

Book

- Rice Varieties Released in Kerala (2022). Vanaja T, Ambily A K, Veena Vighneswaran, Biji K R, Vidhu Francis, Lovely B, Hani Babu, Sruthy Menon V. Kerala Agricultural University. **(KAU, RARS, Pattambi)**

- Released Varieties of NAU (2004-2021), (2022). Published by Nodal officer (Megaseed) and Unit Head, Navsari agricultural university. **(NAU, Navsari)**

Book Chapter

- Gohel N. M., Prajapati B. K., Srivastava, J. N. (2022). Major diseases of citrus and their management. *In:* Diseases of Horticultural Crops: Diagnosis and Management: Volume 1: Fruit Crops. (Ed. J. N. Srivastava, A. K. Singh) pp. 155. CRC Press. ISBN: 9781771889896 **(AAU, Anand)**

- Prajapati B. K. and Gohel N. M. (2022). Important diseases of papaya (*Carica papaya* L.) and their management. *In:* Diseases of Horticultural Crops: Diagnosis and Management: Volume 1: Fruit Crops. (Ed. J. N. Srivastava, A. K. Singh) pp. 123. CRC Press. ISBN: 9781771889896. **(AAU, Anand)**

- Gohel N. M. and Srivastava J. N. (2022). Major diseases of coriander (*Coriandrum sativum* L.) and their management. *In:* Diseases of Horticultural Crops: Diagnosis and Management: Volume 3: Ornamental Plants and Spice Crops. (Ed. J. N. Srivastava, A. K. Singh) pp. 213-224. CRC Press. ISBN: 9781771889926. **(AAU, Anand)**

- Patel J. K., Gohel N. M., Prajapati B. K., Srivastava J. N. (2022). Current status of potato (*Solanum tuberosum* L.) diseases and their management. *In:* Diseases of Horticultural Crops: Diagnosis and Management: Volume 2: Vegetable Crops. (Ed. J. N. Srivastava, A. K. Singh) pp. 369. CRC Press. ISBN: 9781771889896 **(AAU, Anand)**

- Prajapati B. K. and Gohel N. M. (2022). Diseases of isabgol (*Plantago ovata* Forsk.) and their management. *In:* Diseases of Horticultural Crops: Diagnosis and Management: Volume 4: Important Plantation Crops, Medicinal Crops and Mushrooms. (Ed. J. N. Srivastava, A. K. Singh) pp. 141-148. CRC Press. ISBN: 9781771889926**(AAU, Anand)**

- Prajapati B. K. and Gohel N. M. (2022). Diseases of senna (*Cassia angustifolia* M. Vahl.) and their management. *In:* Diseases of Horticultural Crops: Diagnosis and Management: Volume 4: Important Plantation Crops, Medicinal Crops and Mushrooms. (Ed. J. N. Srivastava, A. K. Singh) pp. 151-158. CRC Press. ISBN: 9781771889926 **(AAU, Anand)**

- Parmar T. D. and Gohel N. M. (2022). Green synthesis of silver nanoparticles using *Azadirachta indica* leaf extract and screening its antifungal activity against *Alternaria solani* causing early blight of tomato. *In:* Crop Protection-driven Food Safety and Security. (Ed. Ghatak, A., Vishwakarma, R., Prakash, N. Kumar, R.) pp. 181-187. International Books & Periodical Supply Service, Delhi ISBN: 978-93-90425-60-0 **(AAU, Anand)**

Popular Articles

- Vishal Tyagi, Umesh Kamble, Gopi Kishan, Kalyani Kumari and Govind Pal (2022). *Krishak sahbhagita se beejotpadan. Kheti* (ICAR Publication), January 2022 issue, page no.51-52. **(ICAR-IISS, Mau)**

- Dhedhi K. K., Chaudhari N. N., Sorathiya J. S., Mungra K. D. (2022). *Unalama Sankar Bajranu Vadhuane Gunvattayukt Beej Utpadan Melvo. Krushijivan*, January-2022 (6) : 11-18. **(JAU, Jamnagar)**

- अक्षय भूकर, सोनिया सिंह व अमित कुमार (2022) ''मोरिंगा (सहजन)–एक बहुपयोगी चमत्कारी वृक्ष'' Haryana Kheti, October, Vol.2, p 21. **(CCS HAU Hisar)**

- अक्षय भूकर, सतबीर सिंह जाखड़, अमित कुमार व वी.एस. मोर (2022) ''गोखरू–एक महत्वपूर्ण औषधीय पौधा'' Krishi Kumbh, E-ISSN: 2582-9769.**Volume-1 Issue-8 (January). (CCS HAU Hisar)**

Training Manual

- Arvind Nath Singh, Kalyani Kumari**,** Vishal Tyagi (2022). Training Manual on seed production. Published by ICAR-IISS, Mau (IISS/2022/27) **(ICAR-IISS, Mau)**

Papers presented and abstracts published in seminars /conferences

- Swain D., Lenka D., Agarwal A. K., Tripathy S. K., Mohanty S., Reddy V. S. K., Prusti A. M. (2022). Combining ability and heterosis analysis of quality protein maize (QPM) inbreds for grain yield and agronomic traits. *In:* National Conference Maize for Resource Sustainability, Industrial Growth and Farmers' Prosperity, 23-25 February 2022, organized by Maize Technologists Association of India, New Delhi at MPUAT, Udaipur. (**OUAT, Bhubaneswar)**

- Jayanth M., Mohanty S., Lenka D., Swain D., Beura, J. K. (2022). Micronutrient delivery systems through

seed for enhancing seed yield and quality of maize. *In*: National Conference Maize for Resource Sustainability, Industrial Growth and Farmers' Prosperity, 23-25 February 2022, organized by Maize Technologists Association of India, New Delhi at MPUAT, Udaipur. **(OUAT, Bhubaneswar)**

- Dash S. S. S., Lenka D., Swain D., Mohanty S., Lenka D., Dutta B., Dhar S. (2022). Maize hybrids tolerant to excessive soil moisture stress based on morphological and biochemical attributes. *In*:National Conference Maize for Resource Sustainability, Industrial Growth and Farmers' Prosperity, 23-25 February 2022, organized by Maize Technologists Association of India, New Delhi at MPUAT, Udaipur. **(OUAT, Bhubaneswar)**

- Gohel N. M. and Chavda N. S. (2022). Occurrence of target spot caused by *Corynespora cassiicola*, a new foliar disease on cotton in Central Gujarat, India. An abstract paper published in Souvenir of National Symposium on "Crop protection through bio-rational approaches current trends and future perspective" & Annual Meeting of Indian Phytopathological Society (Northern Zone) held at CCSHAU, Hisar on March 10, 2022. **(AAU, Anand)**

Personnel

Centre	Name of Scientist	Post	Date of Joining/ Transferred
Joined			
BSKKV, Dapoli	Dr. P. Pramod Patil	Assistant Seed Production Officer	March, 2022
ICAR-IISS, R.S., Bengaluru	Dr. A.Anandan	Principal Scientist	March, 2022
PJTSAU, Hyderabad	Dr. B. Rajeshwari	Principal Scientist	February, 2022
	Dr. P. Bindu Priya	Scientist	February, 2022
Transferred			
PJTSAU, Hyderabad	Dr. B. Pushpavathi	Principal Scientist	February, 2022
	Dr. D. Shashibhushan	Senior Scientist	February, 2022

Meeting/Training

ICAR-IISS, Mau

- A farmer-scientist interaction programme in the near-by villages of ICAR-IISS, Mau under AICRP on seed crops, during 22nd-26th March, 2022.
- World Pulses Day celebration on 10th February 2022, for 70 farmers.
- International Women's Day celebration on 8th March 2022.
- International webinar cum workshop on OECD Seed Certification with the theme 'Indo-German Cooperation on Seed Sector Development' was held from 21st to 24th February 2022.
- National Girl Child Day celebration at ICAR-IISS, Regional Station, Bengaluru on 24th January 2022.
- Brainstorming session on 'Informal Seed Sector: Way Forward' in collaboration with Alliance of Biodiversity International and CIAT, New Delhi on 23rd March, 2022.
- One day workshop on "PPV&FR" on 15th March, 2022 under Intellectual Property Rights (IPR) Cell.

NAU, Navsari

- Training programme on Scientific Cultivation of Chickpea and Greengram on 10th February, 2022 for 50 farmers.
- World Pulses Day celebration on 10th February, 2022 for 146 farmers.

Others

- BSKKV, Dapoli signed three MoU with Agro Narmada Seeds Ltd., Pune, Mahavid Seed Pvt. Ltd. Buldhana and Neogene Seeds Science Pvt. Ltd., Jalana.
- SKUAST, Jammu signed MoU with Indian Institute of Wheat and Barley research, Karnal.

किसानों ने बीज उत्पादन, परीक्षण के गुर सीखे

बीज विज्ञान संस्थान कुशमौर में पांच दिवसीय प्रशिक्षण कार्यक्रम में भाग लेने वाले किसानों को... फोटो : IIVS

बबुआगोदाम। भारतीय कृषि अनुसंधान परिषद के उत्तरांचल में क्षेत्र के कुशमौर स्थित भारतीय विज्ञान संस्थान की तरफ से पांच दिवसीय कृषक प्रशिक्षण कार्यक्रम संपन्न हो गया। संस्थान के समस्त प्रयोगशालाओं में किसानों ने वैज्ञानिकों के निगरानी में बीज उत्पादन व परीक्षण के विभिन्न विधि प्रधान वैज्ञानिकों द्वारा संबंधी तकनीकों व विभिन्न पहलुओं के गुर सीखे। किसानों ने संस्थान में लगी प्रायोगिक फसलों का अवलोकन भी किया। किसानों ने भारतीय सब्जी अनुसंधान वाराणसी में निर्धारित भ्रमण के दौरान सब्जी बीज उत्पादन के तकनीक भी सीखे। प्रशिक्षणार्थियों ने संस्थान के सहायता से संचालित किसान प्रशिक्षणार्थियों ने संस्थान के प्रक्षेत्र में लगी प्रायोगिक फसलों का अवलोकन किया। किसानों ने भारतीय सब्जी अनुसंधान संस्थान, वाराणसी में निर्धारित भ्रमण के दौरान सब्जी बीज उत्पादन के तकनीक भी सीखे।

प्रशिक्षणार्थियों ने संस्थान के सहायता से संचालित किसान प्रशिक्षणार्थियों ने संस्थान के प्रक्षेत्र में लगी प्रायोगिक फसलों का अवलोकन किया। किसानों ने भारतीय सब्जी अनुसंधान संस्थान, वाराणसी में निर्धारित भ्रमण के दौरान सब्जी बीज उत्पादन के तकनीक भी सीखे।

बबुआगोदाम। भारतीय कृषि अनुसंधान परिषद के उत्तरांचल में क्षेत्र के कुशमौर स्थित भारतीय विज्ञान संस्थान की तरफ से पांच दिवसीय कृषक प्रशिक्षण कार्यक्रम संपन्न हो गया। संस्थान के समस्त प्रयोगशालाओं में किसानों ने वैज्ञानिकों के निगरानी में बीज उत्पादन व परीक्षण के विभिन्न विधि प्रधान वैज्ञानिकों द्वारा संबंधी तकनीकों व विभिन्न पहलुओं के गुर सीखे। किसानों ने संस्थान में लगी प्रायोगिक फसलों का अवलोकन भी किया। किसानों ने भारतीय सब्जी अनुसंधान वाराणसी में निर्धारित भ्रमण के दौरान सब्जी बीज उत्पादन के तकनीक भी सीखे। प्रशिक्षणार्थियों ने संस्थान के सहायता से संचालित किसान प्रशिक्षणार्थियों ने संस्थान के प्रक्षेत्र में लगी प्रायोगिक फसलों का अवलोकन किया। किसानों ने भारतीय सब्जी अनुसंधान संस्थान, वाराणसी में निर्धारित भ्रमण के दौरान सब्जी बीज उत्पादन के तकनीक भी सीखे।

असम के कृषि अधिकारी बीज विज्ञान संस्थान में लेंगे प्रशिक्ष

कृषि मेले में भारतीय सब्जी अनुसंधान संस्थान को पहला स्थान

में कृषि मेला 15 को

स्थान द्वारा रबी फसलों तथा आगामी जायद
द किसान मेला 15 मार्च को आयोजित किया
के विशेषज्ञों द्वारा भाषण, प्रदर्शनी, प्रशिक्षण
के बारे में अवगत कराया जाएगा। मेलें में
भारतीय कृषि अनुसंधान परिषद के संस्थानों
जानकारी उपलब्ध कराई जाएगी।

कृषि वैज्ञानिकों

विश्व दलहन दिवस पर संगोष्ठी आयोजित

गुजरात के किसानों किया कृषि संग्रहालय भ्रमण

फलों के बारे में दी जानकारियां

एसकेआरएयू : आगामी रबी फसल के उन्नत बीज की ग्रेडिंग व पैकेजिंग

किसानों के लिए खरीफ-रबी फसलों का बीज तैयार

असम के 20 कृषि अधिकारी लेंगे प्रशिक्षण

बबुआगोदाम। असम सरकार ने बीज उत्पादन के क्षेत्र में मजबूती देने के लिए अपने 20 कृषि अधिकारियों को प्रशिक्षण के लिए भारतीय बीज विज्ञान संस्थान कुशमौर भेजने का निर्णय लिया है।

बीज विज्ञान संस्थान के निदेशक डॉ. संजय कुमार ने बताया कि असम राज्य से 20 कृषि अधिकारियों का प्रतिनिधिमंडल तीन अप्रैल को बीज विज्ञान संस्थान कुशमौर पहुंचेगा। चार और पांच अप्रैल को प्रशिक्षण मंडल को संस्थान का भ्रमण कराया जाएगा। साथ ही बीज प्रतिचयन तथा विश्लेषण विषय पर कृषि अधिकारियों को प्रशिक्षण दिया जाएगा। संस्थान में उनके प्रशिक्षण के लिए व्याख्यान एवं विभिन्न तकनीकों का प्रायोगिक प्रदर्शन की व्यवस्था की जा रही है। पूर्वोत्तर में संगठित बीज क्षेत्र को मजबूती देने के लिए यह अधिकारियों का मंत्रिमंडल प्रशिक्षण प्राप्त करेगा। संवाद

किसान मेले का आयोजन 15 को

मऊ। भारतीय बीज विज्ञान संस्थान कुशमौर द्वारा रबी फसलों तथा आगामी जायद फसलों को के लिए एक वृहद किसान मेले का आयोजन 15 मार्च को किया जा

बीज उत्पादन कर किसान करें दोगुनी आय

किसानों ने बीज उत्पादन व परीक्षण के गुर सीखे

भारतीय बीज विज्ञान संस्थान में पांच दिवसीय प्रशिक्षण

बीज विज्ञान संस्थान कुशमौर में पांच दिवसीय प्रशिक्षण कार्यक्रम में भाग लेने वाले किसानों को प्रमाणपत्र देते वैज्ञानिक डा. अरविंद नाथ सिंह। संवाद