निदेशक की कलम से

पर्यावरण कृषि दर्शन

ICAR-VPKAS

(An ISO 9001:2008 Certified Institute)

News Letter

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Director's Desk

Looking into the diversity of crops grown in hills, thorough research effort is being done by ICAR-VPKAS, Almora in diverse field of agriculture. During the period, one variety each of rice (VL Dhan 156), finger millet (VL Maadhu 348), Wheat (VL Gehun 953), Barley (VLB 94) and two soybean varieties (VL S 77, VLB 201) were notified. Besides, a wheat genotype namely, VL 3004 was identified in SVT (rubu) meeting for late sown irrigated condition of Uttarakhand Plains. Hon'ble DG, ICAR, Dr. Trilochan Mohapatra visited the Institute on 3rd and 4th July, 2016 and also presided over the Institute foundation day celebrations on 4th July, 2016 as chief guest. During the period, 11 trainings and a kisan melas at institute and total 66 trainings at institute's KVKs (Uttarkashi and Bageshwar) for farmers, tribal farmers, state officials of Uttarakhand were conducted. Besides, various activities related to Swachhta programs were also conducted at institute and its KVKs. The institute conducted its research advisory committee meeting, and celebrated parthenium awareness week during the period. This publication is a brief of achievements of the institute in the field of research, extension and development during July to December 2016.

The comments of the readers will be appreciated.

(सरोवर मण्डनकार)

अधिसूचित प्रजातियाँ

गुणवत्ता शोध अन्तर

Research Highlights

Varieties Notified

नी. एच. धान 156 (नी. एच. 7620)

नी. एच. धान 156 को उपलब्ध किया गया जिसे नी. एच. 7620 नाम से लिया गया। 10 घंटे का सत्र था जिसमें दैनिक भोजन, खान-पान तथा गर्मी-लुज्जी के विषय के बारे में बांटली गई। 

VL Dhan 156 (VL 7620)

VL Dhan 156 has been notified by Central Sub-Committee on Crop Standards, Notification and Release of varieties for agricultural crops, New Delhi for June sown rainfed upland condition of Uttarakhand hills and valleys. In farmer field, the genotype recorded an average yield potential of 2,250 kg/ha. It has shown resistance against leaf and neck blast brown leaf spot, sheath rot, leaf scald and false smut. It is also resistant against stem borer and leaf folder. It has light yellow, long slender grains, plant height 95-100 cm and it matures in 115-120 days.

VLS 77: VLS 77 is a high yielding soybean genotype recommended for Uttarakhand hills. It is developed from a cross PK 472/JS 335 and shown yield superiority of 7.28% over the best check VL Soya 63 over 3 years of testing in SVT under organic mode in Uttarakhand hills. Its average yield potential is 1,970 kg/ha and maturity duration is 117 days. It is moderately resistant to frogeye leaf spot and pod blight.


VLB 201: This high yielding Bhat (black soybean) genotype has been developed through selection from local germplasm VHC 3071 at VPKAS, Almora. It has shown yield advantage of 55.20% over check VL Soya 65 under organic mode in Uttarakhand hills. It recorded an average yield of 1,642 kg/ha during three years of testing in SVT and matures in about 117 days. It is highly resistant to frogeye leaf spot, target leaf spot and moderately resistant to pod blight.


VL Gehun 953: VL 953 (VW 0185/DORADE 5) is an indigenous bred wheat strain. It has been notified for irrigated timely sown organic conditions of Uttarakhand hills as well as timely sown irrigated conditions of Uttarakhand Plains. It has an average yield potential of 3,341 kg/ha as compared to 3,190 kg/ha of the best check VL Gehun 907 in Uttarakhand Hills and 4,474 kg/ha as compared to 4,184 kg/ha of the best check PBW 343 in Uttarakhand Plains. Besides high yield VL Gehun 953 also possesses high degree of resistance to yellow and brown rust under both hills as well as plains conditions.


VLB 94: VLB 94 (DL 237/VLB 58), a high yielding disease resistant barley variety having an average yield potential of 1,830 kg/ha has been released for cultivation under timely sown rainfed organic condition of Uttarakhand hills. VLB 94 is resistant to yellow rust and stripe disease of barley.


VL Mandu 348: VL Mandu 348 has been notified for cultivation in the State of Uttarakhand by CVRC vide S.O. 3540 (E) dated 22nd November, 2016. VL Mandu 348 (1,877 kg/ha) out-yielded best check variety VL Mandu 348.
ICAR-VPKAS

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Mandua 324 (1676 kg/ha) by a margin of 12% in State Varietal Trials. It has semi-compact ear heads and crop matures in 104-112 days. It is suitable for cultivation under organic conditions and is resistant to neck and finger blast.

Arun Gupta, Salej Sood, J. C. Bhatt, G. S. Bish, B. M. Pandey, Chandrashekara C.

Varieties Identified

VL 3004: A new wheat genotype, VL 3004 was identified for late sown irrigated condition of Uttarakhand Plains. It has an average 4,388 kg/ha grain yield, which was 17.93% and 12.93% higher than the checks UP 2565 and UP 2536, respectively, during the three years of testing. Under farmers' field it yielded up to 3,500 kg/ha. In addition, it has also shown resistance to yellow and brown rust diseases.

Shodh Utpalabhya

Mandua की उन्नत प्रजातियाँ का प्रदर्शन मंदुआ उपत्यका में की गई शोध के माध्यम से मिली प्रजातियाँ का प्रदर्शन कराया गया है।

Research Achievements

Demonstration of improved finger millet varieties

Finger millet, known as Mandua in Uttarakhand hills is a major kharif crop occupying around 1,22,000 ha in the hill districts of the State. Although the crop area has come down drastically, the grain demand has increased due to high nutritional and economic benefits of the crop. The productivity of the crop in the state is 1,390 kg/ha, which is lower than the national average of 1,700 kg/ha. As an effort to increase the productivity of this nutri-cereal in the hill region, ICAR-VPKAS, Almora has developed several high yielding varieties with suitable packages for both organic as well as inorganic cultivation conditions of the State. Among these varieties, two varieties VL Mandua 324 and VL Mandua 352, one each in Tanakot and Tipola villages of Almora district were demonstrated in 6.2 ha area in Kharif 2016. The average crop yield in the cluster was 1800 kg/ha, which was 46.6 per cent more than the local cultivars. Increased yield not only enhanced the food security but increased the per capita availability of nutrients for both humans as well as milch animals. Farmers informed that for the first time they got surplus finger millet grains for sale. Both the villages were given single variety in order to show them the impact of improved seed and make the villages as model for finger millet seed production in Uttarakhand hills.

Salej Sood, M. L. Roy and G.S. Bishat

Powdery mildew (Oidium neolycopersici) screening in tomato

Powdery mildew is one of the most devastating diseases of greenhouse tomato plants and valuable donors of its resistance are limited to wild species, while only a few resistant genotypes are reported in Lycopersicon
Highly susceptible plant

PTT327-1 (Resistant)

Evaluation of finger millet hill germplasm for blast resistance (neck and finger blast)
A set of 205 finger millet hill germplasm accessions including five checks were evaluated for blast resistance (neck and finger) under field conditions during Kharif-2016 at Malahatta, Hawahalag. Leaf blast incidence was very high during seedling stage of the crop. Entries viz., VHC-4087, VHC-4105, VRBM-MF-1819, VHC-3932, VHC-4200, etc. showed complete resistance to neck and finger blast with moderate resistance to leaf blast disease. Majority of the germplasm showed infection of 5-20% and some genotypes were in extreme categorization 0-70 percent for neck blast disease (Fig. 1). For finger blast majority of germplasm lines showed incidence from 0-10% and only few genotypes showed higher infection. Identified resistant lines need to be screened under different locations for confirming their durable resistance across locations of blast hot-spots.

Rajashekar H, Salej Sood and K K Mishra

A scatter graph depicting the distribution pattern of blast resistance in finger millet germplasm
Annual addition of biomass C and its conversion to soil organic carbon under soybean-wheat system

Total annual C input from different plant parts under rainfed and supplemental irrigation condition of soybean-wheat system were 21.79 and 2.933 kg C/ha, respectively. Soybean root contributed the maximum (22.3 and 19.6%) for rainfed and supplemental irrigation system, respectively) carbon addition to soil among different plant parts and root exudates. The conversion ratio of added biomass C into SOC was 13.8 and 13.6% for soybean-wheat system under rainfed and supplemental irrigation condition, respectively. The annual rate of C losses from the native SOC were 0.29 and 0.34%, which corresponded to 95 and 113 kg C/ha for rainfed and supplemental irrigation system, respectively. It was estimated that the annual C input to maintain the SOC were 692 and 831 kg C/ha for rainfed and supplemental irrigation system, respectively under rainfed soybean-wheat system.

Dibakar Mahanta, S.C. Panday, Sheer Singh, T. Mondal & M. Choudhary

Interactive effect of plant geometry, density and intercropping on maize productivity

The genotype Vivek QPM 9 of maize was evaluated for different plant geometry (equal row at 60 cm and paired row of 75 cm; 45 cm), plant density (intra-row spacing of 15, 20, 25 and 30 cm) and intercropping (solar crop and intercropping with soybean). There was significant interaction between plant geometry, intra-row spacing and intercropping. The optimum intra-row spacing for equal row sole crop, equal row intercropping, paired row sole crop and paired row intercropping were 16.8, 23.2, 15.0 and 21.4 cm, respectively. The estimated potential yield through optimum intra-row spacing with equal row sole crop, equal row intercropping, paired row sole crop and paired row intercropping were 11, 21, 16 and 26% higher than the recommended 60 cm x 25 cm geometry (87.5 q/ha). Hence, the paired row planting of maize intercropped with soybean and with intra-row spacing of 21.4 cm is recommended to harvest the potential yield.

Dibakar Mahanta & I.D. Malik

Evaluation of rice germplasm for cold tolerance

In a cold tolerance study of rice germplasm, total chlorophyll, chlorophyll a, spiklet fertility, tiller number and biomass were found as key physiological parameters for cold stress tolerance in rice. IRCTN-91-82 and Hua-110 were found to be the most cold tolerant rice genotypes. Similarly, in a phosphorus use efficiency study of different wheat genotypes, VHC (BD) 2 and TR 67 were the most phosphorus efficient genotypes.

Laxmi Sharma, J.P. Adivya, R.S. Pal Suman Roy & A. Pattanayak

**Other Activities**

- Dr. Trilochan Mohapatra, Secretary (DARE), & DG, ICAR visited institute on July 3-4, 2016. On July 3, he visited institute's Hawalbag Farm and inaugurated Mushroom Composting unit. On July 4, he graced the foundation day function of the institute as Chief Guest.
• पूर्व महामुखी राम मेमनाग, भारतरूप ने जुलाई 15, 2016 को अक्षराधिकार का बोध कर वहां प्रवाह और ग्रामीण के लिए वापसी का दौरान किया।
• कल्याण में भारतरूप का 88वें स्थापना दिवस जुलाई 16, 2016 को अक्षर धृष्टिकोण से मनाया गया।
• राज्य अधिकारी राम मेमनाग में "शस्त्रीय कला के उत्कृष्ट उपयोग" के लिए पहुंचे।
• विज्ञान और तेल ड्राफ्ट में "संरचना दर्शनी" का आयोजन जुलाई 22-26, 2016 को किया गया।
• राज्य सरकार के स्तर पर उपराष्ट्रपति अर्जुन कृष्ण रामवर्मा का आयोजन जुलाई 28, 2016 को किया गया।
• भारतीय संस्कृति दिवस चुनाव के लिए अमृतेश्वर, अमृतेश्वर, सरायकेर समूह ने राज्य सरकार के स्तर पर कार्य कर दिया।
• राज्य अधिकारी अमृतेश्वर के साथ एक बैठक का आयोजन जुलाई 7, 2016 को किया गया।
• राज्य प्रमुख समिति की बैठक का आयोजन जुलाई 8, 2016 को निर्देशक भारतरूप-अर्जुन रामवर्मा की अध्यक्षता में किया गया।
• राज्य सरकार की शोभा वीरता के लिए आयोजित जुलाई 25-26, 2016 को गृहमंडल विभाग में विभिन्न विभागों के निदेशकों के समागम में किया गया।
• राज्य अधिकारी अमृतेश्वर के साथ एक बैठक का आयोजन जुलाई 7, 2016 को किया गया।
• राज्य सरकार की आयोजित जुलाई 8, 2016 को निर्देशक भारतरूप-अर्जुन रामवर्मा की अध्यक्षता में किया गया।
• राज्य सरकार की आयोजित जुलाई 25-26, 2016 को गृहमंडल विभाग में विभिन्न विभागों के निदेशक के समागम में किया गया।
• राज्य अधिकारी अमृतेश्वर के साथ एक बैठक का आयोजन जुलाई 7, 2016 को किया गया।
• संस्थान के प्रमुख कला प्रयोग विभाग में वीज ने जुलाई में का आयोजन सितंबर 24, 2016 को अवसर पर किया गया।
Ex. DG, ICAR Dr. S. Ayyappan visited Karkighet, and planted clone of People Tree on July 15, 2016.
The institute celebrated 88th Foundation day of ICAR on July 16, 2016 with great enthusiasm.
Krisna goswai on ‘Kharii Fasadon ki Unnat Utpadan Tekniki’ were held at Quam and Dhanpaur village on July 25 & 26, 2016 respectively.
Rajbhusha Karvyam Samiti meeting was organised at the institute on July 29, 2016. The meeting was attended by the officials and representatives of Central Government departments, offices, sub-divisions, SSB and nationalised banks of Almora district.
A meeting with District Magistrate, Almora was held at the institute on August 7, 2016.
The Institute Management Committee Meeting was held on August 8, 2016 under the chairmanship of the Director, ICAR-VPKAS, Almora.
Research Advisory Committee meeting of institute was held under the chairmanship of Dr J.P. Singh, Director (Res.) GIPUAT, Panthag on August 25-26, 2016.
Hindi Chetana Mas was organised during September 14 to October 13, 2016.
The institute organized Rabi Kisan Mela at the Experimental Farm, Haukabagh on September 24, 2016 with great enthusiasm. Sri Savin Bansal, District Magistrate, Almora was the chief guest of the function. Two varieties for rabi namely VL Gehra 953 of wheat and VLB 94 of barley were on this occasion by the Chief Guest. The extension leaflets namely "Soybean evam bhat ka dudh evam paneer" and "Parvatiya kshetra me ghat ki umnat kheti" were also released. More than 500 farmers participated on the occasion.
The institute celebrated the Birth Anniversary of Mahatma Gandhi on October 2, 2016 as Swachhla Diwas. Various cleanliness programs were organized at Almora and Haukabagh campuses of the institute.
The Institute Research Council meeting for Rabi 2016-17 was held on November 7, 2016.
संस्थाव में कृषि शिक्षा दिवस दिसम्बर 3, 2016 को मनाया गया।
संस्थाव में दिसम्बर 5, 2016 के दिन मार्गदर्शक के रूप में मनाया गया। इस दौरान कृषकों को 100 से अधिक मूडा स्वास्थ्य कार्ड वितरित किये गये।

कृषि विभाग केंद्र उत्तरकाशी एवं मार्गदर्शक में दिसम्बर 5, 2016 को झूठी समेतता एवं मिश्र शुद्ध विद्या मनाया गया। इस आयोजन के दौरान 800 कृषकों ने मार्गदर्शकों को और 400 से अधिक मूडा स्वास्थ्य कार्ड का वितरण कृषकों को किया गया।

Swachhata Program

जनसहायता कार्यक्रम के अन्तर्गत निम्न गतिविधियों की गईं:
- अक्टूबर 2 को स्वच्छता दिवस।
- अक्टूबर 2 एवं 25 को अभावी शिक्षा बंदौंक नीले की सफाई।
- अक्टूबर 21 को अभावी परिसर में सफाई कार्य।
- अक्टूबर 25 की स्वच्छता गोतरी।
- अक्टूबर 26 के प्रवासी में स्वच्छता जागरूकता कार्यक्रम।
- अक्टूबर 27 के जल संसाधन सुरक्षित एवं बंद रहे गांवों की सफाई की गई।
- अक्टूबर 31 को अभावी परिसर में कार्यालय की सफाई की गई।

इसके साथ विभिन्न में गांव में में बांध बांध कार्यक्रम नगर सरकार कार्यालय समिति तथा विभिन्न घरों के महान रूप से कृषकों के तथा सरकारी आयुक्त कार्यक्रम का आयोजित किया गया।

Agricultural Education Day was observed at the institute on December 3, 2016.
The institute organized World Soil Day on December 5, 2016. More than 100 soil health cards were distributed to the farmers.

The institute and its KVKs celebrated “Jai Kisan Jai Vigyan” week from 23 to 29 December 2016. On December 28, two krishak Goshis were organized in villages viz., Bhagartola and Papad near Jagdishwar area of Almora district.

Swachhata Programs

During the period following activities were conducted under Swachhata Program:
- Cleanliness day on October 2.
- Cleaning of Badreshwar Spring at Almora on October 2 and 25.
- Cleaning work at Almora Campus on October 21.
- Swachhata Gosti on October 25.
- Swachhata awareness program for students on October 26.
- Water storage facilities and choked waterpipes were cleaner on October 27.
- Cleaning of office premises at Almora Campus on October 31.

Besides, Swachhata awareness program farmers were made aware on cleaning through Mera Gaon Mera Gaurav program, Rajbhushan Karyayvan Samiti and Hindi Cheta Mas also.
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प्रशिक्षण/अभ्यास कार्यक्रम
- अगस्त के दौरान 6 महीने के अर्धकालिक प्रशिक्षण कार्यक्रम आयोजित किया गया जिसमें 30 लोग शामिल हुए।
- पूर्वी साल के विभिन्न आयोजनों का भाग में 11 प्रशिक्षण कार्यक्रम इस क्षेत्र के 300 से अधिक लोगों के लिए आयोजित किया गया।

पुरस्कार एवं सम्मान
जुलाई 04, 2016 को संस्थान के स्क्वायर विद्यालय के आयोजन पर गिद्धतिक सम्मान को विजित करने में सहयोग किया गया।
- आ.एं. जें. शिक्षक, वैज्ञानिक - प्रशिक्षण प्रतिष्ठान
- आ.एं. जें. शिक्षक, वैज्ञानिक - प्रशिक्षण प्रतिष्ठान
- श्री विवेक तालाकार के उपाध्यक्ष - पुरस्कार कार्यक्रम
- श्री शिव बाबा तालाकार के उपाध्यक्ष - पुरस्कार कार्यक्रम
- श्री रविक राम के उपाध्यक्ष - पुरस्कार कार्यक्रम
- श्री महेन्द्र राम के उपाध्यक्ष - पुरस्कार कार्यक्रम
- श्री नारायण राम के उपाध्यक्ष - पुरस्कार कार्यक्रम

शृंगारिणी कृषि विज्ञान केंद्र की गतिविधियाँ
- कृषि विभाग के द्वारा आयोजित किया गया।
- कृषि विभाग के द्वारा आयोजित किया गया।
- कृषि विभाग के द्वारा आयोजित किया गया।
- कृषि विभाग के द्वारा आयोजित किया गया।

Activities of Krishi Vigyan Kendras
Training programmes on different aspects of hill agriculture were organized at KVUK Uttarkashi and Bageshwar for the farmers of hills. Apart from this, different improved technologies as front line demonstrations were also conducted at farmers field by KVUs.

Awards & Recognitions
On the Occasion of foundation day on July 4, 2016, the following staff were given awards in various categories:
- Dr. J. Stanley, Scientist - Certificate of Appreciation
- Dr. Salej Sood, Scientist - Certificate of Appreciation
- Shri Shiv Singh, Technical Officer - Life time achievement award
- Smt. Renu Sanwal, Technical Officer - Outstanding technical staff
- Dr. N.K. Singh, SMS & In-Charge, KVUK, Bageshwar - Outstanding technical staff
- Mr. Sachin Kumar Pandey, LDC - Certificate of Appreciation
- Mr. Khyali Ram, SSS - Outstanding supporting staff
- Shri Basant Lal, SSS - Outstanding supporting staff
- Shri Nandan Singh Jeena, CLTS - Outstanding CLTS staff
- Shri Amar Singh Jeena, CLTS - Outstanding CLTS staff

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