Varieties Released

VL Masoor 514

A bold seeded lentil variety- VL Masoor 514, developed from VL 501 x VL 103 has been released for the timely sown rainfed areas of Uttarakhand hills. It showed yield superiority of 16.04 and 11.19 per cent over the best checks VL Masoor 507 (8.5 q/ha) and PL 05 (8.9 q/ha), respectively under organic conditions. It has 21.13 per cent protein content and was found moderately resistant to wilt and rust diseases.

VL Masoor 133

It is a high-yielding small seeded lentil variety, developed from Masoor VL 103 and DPL-58 has been released for rainfed, timely sown conditions of Uttarakhand hills. It showed yield superiority of 22.28, 27.12 and 33.93 per cent over the checks VL Masoor 125 (9.2 q/ha), PL 05 (8.9 q/ha) and VL Masoor 507 (8.5 q/ha), respectively under organic condition. It has 24.06 per cent protein content and possesses resistance to wilt and rust diseases.

VL Matar 47

VL Matar 47, a high-yielding, dwarf field pea variety, developed from JVP 14 x HFP 4, has been released for timely sown rainfed, condition of Uttarakhand hills. It showed yield superiority 10.62, 13.36 and 24.85 per cent over the checks VL Matar 42 (12.8 q/ha), Pant 4 (12.5 q/ha) and IFPD 1-10 (11.4 q/ha), respectively under organic conditions. It has 21.04 per cent protein content and was found resistant to powdery mildew and rust diseases.

Vivek Matar 11

Vivek Matar 11 (Pisum sativum) - a garden pea was released and notified for Uttarakhand. It is also identified for Agro-ecological Zone I (Uttarakhand, Himachal...
Marker Assisted Breeding for Durable Resistance Against Blast in VL Dhan 206, An Elite Cultivar for the NW Hills of India

Rice is one of the major staple food crops of the hill regions of India. The total area under hill rice is about 1.8 to 2.0 million ha, out of which 0.62 m ha is under North-Western Himalaya, producing about 1.23 million tonnes of rice. The productivity of rice in this region of hills is comparable to the average productivity of India. Blast is one of the major diseases of rice in the hill ecosystem that affects its production and productivity.

VL Dhan 206 is a popular cultivar in the NW Himalayan region. It occupies more than 50 per cent area for the Spring-sown rainfed ecosystem in the Kumaon region of Uttarakhand. This cultivar is susceptible to blast. In order to impart durable resistance against blast, marker assisted breeding was employed to pyramid two blast resistance genes, Pi 2 and Pi 9 in the background of VL Dhan 206. Since the host plant resistance in VL Dhan 206 is often broken down, there was a need of employing more than one blast resistance genes for the durable resistance. Pi 2 and Pi 9 are the two proven resistance genes which have been mapped and site specific.

Table: Agronomic performance of the MAS derived lines

<table>
<thead>
<tr>
<th>Entries</th>
<th>Plant Height (cm)</th>
<th>EBT</th>
<th>MPL (cm)</th>
<th>100-grain Weight</th>
<th>Yield/Plant (g)</th>
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<tbody>
<tr>
<td>1</td>
<td>118.0</td>
<td>9.4</td>
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<td>2</td>
<td>136.0</td>
<td>8.7</td>
<td>22.57</td>
<td>2.03</td>
<td>21.92</td>
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<tr>
<td>3</td>
<td>149.1</td>
<td>11.2</td>
<td>23.32</td>
<td>2.05</td>
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<td>4</td>
<td>99.7</td>
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<td>5</td>
<td>141.8</td>
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<tr>
<td>6</td>
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<td>24.26</td>
<td>2.33</td>
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<tr>
<td>7</td>
<td>91.2</td>
<td>9.0</td>
<td>21.69</td>
<td>2.20</td>
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<tr>
<td>8</td>
<td>100.7</td>
<td>9.4</td>
<td>21.13</td>
<td>3.03</td>
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<tr>
<td>9</td>
<td>148.4</td>
<td>8.1</td>
<td>23.58</td>
<td>2.75</td>
<td>17.72</td>
</tr>
<tr>
<td>10</td>
<td>136.7</td>
<td>9.4</td>
<td>23.54</td>
<td>2.69</td>
<td>19.98</td>
</tr>
<tr>
<td>VL Dhan 206 (C)</td>
<td>154.5</td>
<td>6.3</td>
<td>24.06</td>
<td>2.21</td>
<td>18.88</td>
</tr>
</tbody>
</table>

*EBT – Ear bearing tillers, MPL – Main panicle length*
markers are available for both the genes. The donor used for Pi 2 was C101A51 and the donor for the Pi 9 was a O. minuta derivative. Primers linked to both the genes were found to be polymorphic to the recipient parent VL Dhan 206. The fixed populations of the MAS products generated with both these genes have been developed. The selected lines are not only resistant to the prevailing blast isolates of the region, they are also superior in grain yield and other agronomic traits (Table). The lines are available for multilocation evaluation. This study also showed that MAS is a viable proposition complementary to conventional breeding for durable resistance against blast for the hills of north-western Himalayan states.

P.K. Agrawal, J.C. Bhatt and H.S. Gupta

Impact of Planned Honey Bee Pollination in Cross Pollinated Crops

Crop failure due to inadequate pollination is considered as major problem in vegetables and fruits. Thus, the productivity of several vegetables and fruit crops can be enhanced by proper utilization of honeybees. Bee boxes were introduced in crops like radish, coriander, toria, fenugreek and onion grown for seed production at VPKAS Experimental Farm, Hawalbagh. The yield in the introduced honeybee fields and unintroduced fields away from bee colonies were compared. An increase in yield of 6.9, 10.0, 10.3, 12.5 and 22.2 per cent was recorded in honeybee-introduced crop of radish, coriander, toria, fenugreek and onion, respectively over naturally pollinated crops. Therefore, planned honey bee pollination has been found to increase the seed setting and seed yield in the cross pollinated crops.

J. Stanley and A.R.N.S. Subbanna

Phosphate Solubilization and Growth Promotion by Psychrotolerant Pseudomonas poae

Cold tolerant phosphate solubilizing bacteria RT5RP2 and RT6RP were isolated from rhizoplane of wild grass grown at 3,100 & 3,800 m amsl, respectively from Rudraprayag district of Uttarakhand, on nutrient agar at 4°C. The identities of the isolates were determined by morphological, biochemical and physiological characterization and 16S rRNA gene sequencing. The sequence had 99 per cent identity with sequences of Pseudomonas poae available in the public domain. The isolate grew at temperatures ranging from 4 to 30°C.
30°C. *Pseudomonas poae* RT5RP2 and RT6RP were able to solubilize 102.5 and 114.1 µg ml⁻¹ of P after 7 days of incubation at 4°C, respectively, with a progressive decline in the pH. Apart from phosphate solubilization, these were able to produce IAA and HCN at 15 and 4°C.

The ‘P’ solubilization rate (k) for different times during the incubation period was determined by using first order kinetics. By regression analysis it was found that the kinetics of P solubilization best fitted in power models for NBRIP broth supplemented with Udaipur rock phosphate. The steep of the curve (k) obtained by gradually solubilized phosphorous by both the strains *Pseudomonas poae* RT5RP2 and RT6RP, followed power model and most of the P solubilized in culture solution within 240 h of incubation period was observed.

Pankaj K. Mishra, J. K. Bisht and G. Selvakumar

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**Other Activities**

 Bharat Sankar

**MESSAGE**

It is a pleasure to know that Vivekananda Parvatiya Krishi Anusandhan Sansthan, Almora is celebrating its 87th Foundation Day on July 04, 2010. On this occasion I convey my heartiest congratulations to the Director and entire staff of the Institute.

The Institute primarily caters to the needs of agriculture in the hill and mountain region that requires technological interventions which are very specific to such regions. The technologies developed by the Institute have greatly contributed towards the improvement of agriculture in the region.

I wish the Institute all success in its future endeavours.

(S. Ayyappan)

Dated the 1st July, 2010
New Delhi

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**VPKAS Celebrated its 87th Foundation Day**

The institute celebrated its 87th Foundation day on July 4, 2010. Dr. K.R. Dhiman, Vice-Chancellor, YS Parmar University of Horticulture and Forestry, Himachal Pradesh was the Chief Guest on the occasion. The function started with lightening of lamp and Saraswati Vandana. Dr. J.C. Bhatt, Director of the institute read the messages conveyed by Hon'ble Director General, ICAR, Dr. S. Ayyappan and Deputy Director General, Dr. Swapna Kumar Datta and briefed the audience about the research achievements of the institute. The Chief Guest Dr. Dhiman appreciated the work
done by the institute. He emphasized that if we conserve 11 per cent of rain water in hills then rain water use efficiency will be increased by 5 per cent, which in turn will increase the crop productivity up to a great extent. Expressing his deep tribute and respect to the Founder Director Prof. Bosh Sen, he stated that visiting this institute is just like visiting a temple. The function was presided over by Shri Somdevanand of Shri Ram Krishna Kuteer, Almora. He emphasized upon the importance of food and agriculture in human life and briefed some aspects of the life of Swami Vivekananda and appreciated the institute for following his ideologies. Dr. H.S. Sen, Ex-Director, CJAF, Barrackpur, Former Directors and other dignitaries from other institute/departments, farmers and retired persons also attended the celebration. On this occasion, the leaflets entitled “Parvatiya Kshetron mein Piaz Ka Beejopadan” and “Parvatiya Kshetron mein Sahji Matar Ka Safal Beejopadan” were also released. Institute’s employees and meritorious children of the staff were also honoured on the occasion. The function ended with traditional mango feast.

**Biodiversity Day Organized**

The institute organized Biodiversity Day on 17 July, 2010 to mark the International Year of Biodiversity. This day was organized on Harela, a farmers’ friendly festival of Uttarakhand, in which farmers sow seeds of various crops in a pot and gets idea about the crop production in ensuing season. A discussion on the importance of biodiversity and Harela was broadcasted through All India Radio, Almora. Special sessions were organized at the institute for the lectures on Plant Genetic Resources of the Indian Himalayan Region – A Critical Component for Food and Environment Security of Mountain People by Dr. K.S. Negi, NBPG Regional Station Bhowali; Biodiversity in ancient literature, traditional medicine, agriculture, animal husbandry by Prof. P.C. Pande, Kumaon University SSJ Campus, Almora and Folklore associated with biodiversity by Prof. Diwa Bhatt, Kumaon

**MESSAGE**

It gives me immense pleasure that Vivekananda Parvatiya Krishi Anusandhan Sansthan, Almora is celebrating its 87th Foundation Day on July fourth, 2010. Right from its inception, this institute has devoted itself for the welfare of the hill farmers and have achieved laurels in the field of agriculture.

On this auspicious occasion, I on my own and on behalf of the Indian Council of Agricultural Research, congratulate the Director, staff and farmers of North-West Himalayan Region, and hope that by dedication and hard work, the Institute will achieve glory and flourish further in the coming years.

I wish the Institute all success in its efforts on development of technologies relevant to hill farming to reduce the drudgery of the farmers and upliftment of their livelihood.

(Swapan Kumar Datta)
University SSJ Campus, Almora and biodiversity the food crops in N-W Himalaya by Dr. J.C. Bhatt, Director, VPKAS, Almora. On the day, 501 saplings of different forest trees were also planted voluntarily by the guests and staff of the institute at VPKAS Experimental Farm, Hawalbagh.

**Parthenium Awareness Week Organized**

VPKAS organized the Parthenium Awareness Week from 7-13 August, 2010. In order to create awareness in the people of the region, the institute has initiated a campaign for removal of Parthenium at nearby areas of its Experimental Farm, Hawalbagh on August 7, 2010. Demonstrations were laid on utilization of the weed for preparation of the compost. The Director appraised people about harmful effects of the weed, its removal and utilization. Besides, the experts of the institute have had a discussion on the topic, which was broadcasted from All India Radio, Almora on August 8, 2010. Apart from this, awareness was generated amongst farmers at some villages of Almora and Champawat districts during the week.

**Farmers’ Days Organized**

**Village Khoont**

A Farmers’ Day was organized to create awareness about global climate change and carbon trading issue under the project entitled, “Enabling small holders to improve their livelihood and benefit from carbon finance” on August 9, 2010 at Khoont village of district Almora. Dr. J.C. Bhatt, Director VPKAS, Almora chaired the function. He explained about how plantation will be helpful in sequestering CO₂ from environment into the earth. Dr. A.K. Srivastva emphasized the cause of water pollution and poisoning of water bodies through runoff and explained the role of polytank in conserving water, soil and vegetation and finally lead to C sequestration. Dr. J.K. Bisht informed about the role of agro-forestry in C sequestration and sustainable livelihood. Dr. B.M. Pandey explained about right process of composting and vermicomposting and their role in C emission reduction. Dr. Renu Jethi from VPKAS and Mr. Basuraj from OUTREACH explained about the role of transfer of technology and community organization, respectively in uplifting small holders’ economy. Dr. D. Mahanta sensitized about global climate change.
The function was attended by scientists of the institute and 250 farmers of nearby areas.

**Kisan Mela Organized**

A *Kisan Mela* was organized at Experimental Farm, Hawalbagh on September 18, 2010. Dr. J.C. Bhatt, Director of the institute urged the farmers to make use of newly developed technologies to become economically sound by incorporating improved farming system, protected cultivation, off-season vegetable cultivation, mushroom production, honeybee raring, etc. for their traditional method of agriculture. Dr. K.B. Saxena, Principal Scientist, ICRISAT, Hyderabad emphasized that the main component of agriculture progress are self dependency and cooperation of farmers and scientists. He said that pigeonpea production is one of the profitable option for rainfed agriculture. On the occasion farmers from Champawat, Nainital, Uttarkashi, Pauri Garhwal including two women farmers were also honoured for their significant contribution in the adoption of the improved technologies. National Award winner farmer Shri Amba Dutt Pandey of Bhagartola village was specially honoured during the function. Besides, seeds of two varieties *viz.*., VL Gehun 907 and VL Masoor 129 were released for farmers.

**Monitoring of Field Experiments**

The field experiments conducted during *kharif* 2010 were reviewed and monitored on different dates followed by the Field Monitoring Team on September 13, 2010. The shortcomings of the experiments, if any, were communicated to the concerned scientists and discussed in the succeeding IRC meeting.

**Institute Research Council Meeting**

The meeting of Institute Research Council (IRC) was held on October 29-30, 2010. The meeting was organized to review the progress of research work undertaken during *rabi* 2009-10 and to finalize programme for ensuring *rabi* 2010-11.

**Awards**

- Drs. R. Bhattacharyya, S. Kundu, Ved Prakash, B.L. Meena, Supradip Saha, S.C. Pandey, A.K. Srivastava and H.S. Gupta jointly received *ICAR Outstanding Team Research Award* in the subject area of Natural Resource Management (Soil Science, Agronomy, Agro-forestry) for the biennium 2007-08. The team

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**Village - Doonagiri**

A Farmers’ Day was organized at village Doonagiri, Block Dwarahat, Almora on September 7, 2010. It was organized on the occasion of inauguration function of Todara-Dudhaul Kisan Club, which was sponsored by NABARD and VPKAS, Almora. The club was inaugurated jointly by Shri Pushpesh Tripathi, MLA, Dwarahat, Chaukhtuia and Dr. J.C. Bhatt, Director, VPKAS, Almora.

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![Kisan Mela, Hawalbagh](image-url)
contributed to evaluate the carbon sequestration potential (CSP) of soils in the north-western Himalayas through adoption of integrated nutrient management (INM), conservation tillage, diversified cropping and location specific organic farming. Adoption of INM was the best way to offset global warming under both rainfed and irrigated conditions. The INM practice was very successful in improving soil physical, chemical and biological properties under both the growing conditions. Positive role of short-term zero tillage (ZT) and minimum tillage (MT) in CSP and improvement in soil properties under irrigated rice-wheat, and rainfed soybean and finger millet based cropping systems, respectively, was extensively studied. Other significant achievements include: appraisal of INM effects on sustainability indices (including benefit:cost ratio and selected soil quality indicators) under long-term fertility experiments; quantification of improvement in soil properties and SOC-sequestration under organic farming and relay intercropping; and transfer of technologies related to INM, conservation tillage, organic agriculture and intercropping with providing technologies to prepare vermicomposts and local composts in the farmers’ fields and giving trainings on INM and organic farming.

- Dr. Ravindra Kumar Tiwari SMS (Animal Science) KVK Uttarkashi received Young Scientist Award from Uttarakhand State for Science & Technology for best poster presentation in the 5th USSTC held on 10-12 Nov-2010 at Doon University on the topic “Effect of Supplementary Inorganic Mineral Mixture on Body wt. Gain of Male Goat”.

हिन्दी चेतना मास
संस्थान में 14 सितंबर से 13 अक्टूबर 2010 तक हिन्दी चेतना मास का आयोजन किया गया। इस दौरान सर्वप्रथम संस्थान के निदेशक की ओर से समस्त कार्यकर्ताओं के लिए हिन्दी में अधिक से अधिक कार्य करने सम्बन्धी अपील जारी की गयी, जिसमें इस बात पर वल दिया गया कि हिन्दी दिवस, हिन्दी सप्ताह/पक्षवादा आदि को केवल एक रूप अदायगी के रूप में नहीं लिया जाय अर्थात् इसे एक प्रेमण शोल मानते हुए निरंतर हिन्दी की प्रगति सुनिश्चित की जानी चाहिए। चेतना मास के दौरान हिन्दी टेक्निक प्रतियोगिता, पत्र लेखन प्रतियोगिता तथा निबंध प्रतियोगिता (भाषण) का आयोजन किया गया। मुख्य आयोजन एक संगीतिके रूप में अक्टूबर 13, 2010 को समाप्त किया गया। इस अवसर पर कुमाऊँ विश्वविद्यालय संबोधित सिंह जीना परिसर, अलमोड़ा के हिन्दी विभाग के विभागाध्यक्ष एवं परिसर निदेशक प्रो. देव सिंह पोखरिया जी मुख्य अतिथि थे।
<table>
<thead>
<tr>
<th>Duration</th>
<th>Participants</th>
<th>Topic/Purpose</th>
<th>Venue</th>
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<tbody>
<tr>
<td>July 1</td>
<td>Mr. Hari Govind</td>
<td>Workshop on Climate Resilience</td>
<td>CRIDA (ICAR), Hyderabad</td>
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<tr>
<td>July 6-7</td>
<td>Dr. Lakshmi Kant</td>
<td>Core Valley Seed Production and Rabi Seed Availability meeting</td>
<td>Director of Agriculture, Dehradun</td>
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<td>July 19-20</td>
<td>Dr. Lakshmi Kant</td>
<td>Review Meeting of ICAR Seed Project on seed production in agricultural crops</td>
<td>NASC Complex, New Delhi</td>
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<td>July 19</td>
<td>Mr. A.R.N.S. Subbanna</td>
<td>Inception and National Project Coordination Meeting of Global Pollination Project</td>
<td>GBPIHED, HP Unit, Mohal-Kullu</td>
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<td>July 21</td>
<td>Dr. Lakshmi Kant</td>
<td>QRT of DSR</td>
<td>IARI, New Delhi</td>
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<td>August 17-18</td>
<td>Dr. Pankaj Kr Mishra &amp; Mr. K. Jeevanandan</td>
<td>4th Annual Review Meeting of AMAAS Project</td>
<td>NASC Complex, New Delhi</td>
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<td>August 27-30</td>
<td>Drs. S.K. Jain and Dibakar Mahanta</td>
<td>49th Annual Wheat &amp; Barley Research Workers' Meet</td>
<td>PAU, Ludhiana</td>
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<td>September 1-2</td>
<td>Drs. A.K. Srivastva and Renu Jethi</td>
<td>Workshop on Gender in SRLS</td>
<td>DRWA, Bhuveshwar</td>
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<td>September 14-16</td>
<td>Dr. Ravindra Kr Tiwari and Mr. Kamal Pande</td>
<td>Training programme &quot;Krishi Prasar Prabandhan-Naye Ayam&quot;</td>
<td>GBPUA&amp;T, Pantnagar</td>
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<td>October 11-13</td>
<td>Drs. Chandrashekara C., Dibakar Mahanta and S.K. Jha</td>
<td>Intensive Training on Maize for Freshers</td>
<td>DMR, New Delhi</td>
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<td>October 24</td>
<td>Dr. Arun Gupta</td>
<td>Krishi Mahotsav Program</td>
<td>Dehradun</td>
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<td>October 25</td>
<td>Drs. J.C. Bhatt and J.K. Bisht</td>
<td>Conference on Role of Science and Technology in the Development of Uttarakhand State</td>
<td>Govt. P.G. College, Bageshwar</td>
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<td>October 28</td>
<td>Dr. P.K. Agrawal</td>
<td>National Seminar on Chemistry Biology Interface- Recent Trends</td>
<td>Govt. P.G. College, Ranikhet</td>
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<td>November 1-3</td>
<td>Drs. J.K. Bisht M. L. Roy and Mr. G.R. Tamta</td>
<td>Kisan Mela</td>
<td>IVRI, Izatnagar, Bareilly</td>
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<td>November 2</td>
<td>Dr. J.K. Bisht</td>
<td>Foundation Day</td>
<td>CARI Izatnagar at Bareilly</td>
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<td>November 3-4</td>
<td>Dr. Mukesh Kumar</td>
<td>Interactive Meet on Information and Communication Technology in ICAR of computer application scientists</td>
<td>NASC Complex, New Delhi</td>
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<td>November 7-10</td>
<td>Dr. P.K. Agrawal</td>
<td>DBT-Biofortification Review and NAIP-BAM meeting</td>
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<th>Topic/Purpose</th>
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<tr>
<td>November 9</td>
<td>Drs. J.K. Bisht and Arun Gupta</td>
<td>Colloquium Uttarakhand Development: Retrospect and Prospects – A Scheme for Future Strategy organized on the occasion of XI Foundation Day of Uttarakhand</td>
<td>Kumaon University Campus, Nainital</td>
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<td>November 10-12</td>
<td>Drs. Pankaj Kr Mishra, Ranjan Bhattacharyya, Mr. Pankaj Nautiyal &amp; Dr. Ravindra Kr Tiwari</td>
<td>5th Uttarakhand State Science Congress</td>
<td>Doon University, Dehradun</td>
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<td>November 15</td>
<td>Dr. Mukesh Kumar</td>
<td>Training-cum-Sensitization workshop on Project Information &amp; Management System for Indian Council of Agricultural Research (PMIS-ICAR)</td>
<td>IASRI, New Delhi</td>
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<td>November 17-21</td>
<td>Drs. J.K. Bisht and V.K. Sachan</td>
<td>Horticulture Science Congress</td>
<td>National Physical Laboratory, Pusa, New Delhi</td>
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<td>November 20</td>
<td>Drs. J.C. Bhatt and P.K. Agrawal</td>
<td>State Varietal Release Committee meeting</td>
<td>Directorate of Agriculture, Dehradun</td>
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<td>November 23</td>
<td>Drs. J.K. Bisht and Mukesh Kumar</td>
<td>Interface Meeting for Data Sharing &amp; Management for NRM Crop Science and Horticulture Division</td>
<td>NASC Complex, New Delhi</td>
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<td>November 27-29</td>
<td>Dr. P.K. Agrawal</td>
<td>National Seminar on QPM</td>
<td>CRRI, Cuttack</td>
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<td>December 2-7</td>
<td>Dr. Nirmal Chandra</td>
<td>ICAR Sponsored 15th Management Development Programme in Agricultural Research</td>
<td>NAARM, Hyderabad</td>
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<td>December 9-10</td>
<td>Dr. V.K. Sachan and Mr. Hari Govind</td>
<td>Zonal Workshop of KVKs</td>
<td>IIVR, Varanasi</td>
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<td>December 12</td>
<td>Dr. J.C. Bhatt</td>
<td>Effect of Climate Change on Hill Farming</td>
<td>SSJ Kumaon University Campus, Almora</td>
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<td>December 14-17</td>
<td>Dr. Pankaj Kr Mishra &amp; Mr. K. Jeevanandan</td>
<td>51st Annual Conference of Association of Microbiologist of India (AMI)</td>
<td>Birla Institute of Technology, Ranchi (Jharkhand)</td>
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<tr>
<td>December 22-24</td>
<td>Dr. V.K. Sachan</td>
<td>5th National Conference on KVKs</td>
<td>MRPUAT, Udaipur</td>
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</table>
Foreign Visit

- Dr. Lakshmi Kant, Principal Scientist (Plant Breeding) visited Plant Breeding Institute Cobbity, University of Sydney Australia as Australian Leadership Award Fellow funded by Ausaid for three months from August to November 2010. He worked with Associate Professor Dr. Harbans Bariana for rust resistance in Indian Wheat varieties.

- Dr. Vijay Avinashilingam, N.A., SMS relieved on September 28, 2010 to join at Central Agriculture University, Imphal, Manipur.

- Dr. Suheel Ahmad Dand, Scientist, Forestry relieved on October 8, 2010 to join at Srinagar Centre of IGFRI, Jhansi.

- Dr. S.K. Pant (Retired Senior Scientist) has been promoted as Principal Scientist w.e.f. May 26, 2008.

- Prof. (Dr.) Ajit Pal, IIT, Kharagpur on July 12, 2010.

- Dr. K.B. Saxena, Principal Scientist, ICRISAT, Patancheru, Andhra Pradesh on September 18, 2010.

- Shri P.C. Kumar, AGM, BHEL, Haridwar on October 2, 2010.

- Mr. Mahadevia, Chairman, Narain Trust, Mr. Satish Pathak, Indian Oil Corporation, Mumbai; and Dr. K.N. Bhatt, Govind Ballabh Pant Institute of Social Science, Allahabad on October 21.

- Mr. A.K. Khan, Manager S&E and Sanjay Kumar, Senior Officer of THDC, Tehri on November 1.

- Dr. E. Sharma, ICIMOD, Kathmandu, Nepal on December 5, 2010.

Publications

Institute Publication

- Annual Report 2009-10

- Parvatiya Krishi Darpan (April to September, 2010)

New Colleagues

- Dr. Pratibha Joshi, Scientist (Home Management and Farmers Resources) on August 28, 2010.

- Mr. Ramesh Pal, Scientist (Biochemistry) on September 18, 2010.

- Mr. Ram Prakash Yadav, Scientist (Forestry) on September 18, 2010.

- Miss Pooja Rana, Steno Gr. III on November 15, 2010.

Transfer/Promotion

- Mr. Ram Murti, Technical Officer relieved on August 13, 2010 to join IISR, Lucknow.

Retirement

- Dr. A.K. Srivastava, Head, Crop Production Division on December 31, 2010.

Study Leave

- Shri B. Kalyan Babu for Ph.D. at GBPUA&T, Pantnagar on July 26, 2010.

- Ms. Shobha, SMS, KVK Bageshwar for Ph.D. at GBPUA&T, Pantnagar on September 13, 2010.

- Dr. Shailesh Sood, Scientist (Plant Breeding) for 92nd FOCARS Course at NAARM, Hyderabad from September 1 to December 29, 2010.

Activities of Krishi Vigyan Kendras

The two Krishi Vigyan Kendras (KVKs) of the institute established in the districts of Uttarkashi and Bageshwar, carried out the following activities during July to December, 2010.

Trainings - For uplifting socio-economic status of farmers, KVKs had conducted 57 and 38 training programmes at Uttarkashi and at Bageshwar, respectively on various topics like Crop Improvement, Crop Production, Horticulture, Plant Protection, Animal Science,
Home Science, Agricultural Extension in which 1,167 and 865 farmers including farm women, rural youths and extension functionaries participated.

**Front Line Demonstrations** – At KVK, Chinyalisaur front line demonstrations (FLDs) on *kharif* and *rabi* crops were laid on 15.94 ha and 7.70 ha land, respectively, which benefited more 750 farmers. Besides, at Bageshwar FLDs were laid on 39.04 ha area and total 840 farmers were benefited.

**Seed Production Programme** – Seed production programme was carried out in an area of 5.25 ha at KVK farm comprising of Wheat (3.0 ha), Lentil (1.0 ha), Vegetable pea (0.75 ha), Field pea (0.2 ha) and other vegetable crops (0.3 ha) in *rabi* 2010-11 and 4.75 quintal seed and 25810 nos. of planting materials were produced in *kharif* 2010.

**Obituary**

With profound grief, we inform our readers that Shri Harish Lal Shah, Skilled Supporting Staff, suddenly passed away on October 27, 2010, who served VPKAS for about 33 years.

**From Director’s Desk**

Hill and mountains are fragile ecosystem subjected to harsh climatic conditions and vulnerable to natural disasters coupled with poor and shallow soils prone to erosion. Keeping in view the fragile ecology, increase in farm-productivity of major crops for attaining food, nutritional and environmental security are indeed a major challenge in hill agriculture. Adoption of the science driven technology and conservation of natural resources and their management are the key components for achieving sustainable production and increased profitability in hill agriculture. Biotechnology and genetic engineering have the potential to transform hill agriculture from subsistence farming to development of export-oriented niche based-products. The institute has made considerable progress in these areas. Apart from this, disease resistant high yielding varieties, conservation of water in the LDPE tank and its need based utilization in the fields, protected cultivation to grow high value crops, integration of pest and nutrient management techniques, organic farming and development of improved small farm implements suitable for hill region has helped the farmers to adopt diversified agriculture in the villages of the hills.

Presently, besides, 25 institutional projects, 10 projects under Horticulture Mini Mission-I, three each under DBT and NAIP and two each in AMAAS & AICRP are also being run at the Institute. The institute has successfully generated farmer-oriented technologies and their dissemination to the ultimate stakeholders. Thus, the institute plays a significant role in enhancing the yield potential of field, fruit and vegetable crops in N-W Himalayan region.

Wish you all a happy and prosperous New Year 2011.

December 31st, 2010
Almora

(J.C. Bhatt)

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