Research Highlights

Varieties Notified

VL Tamatar 4

'VL Tamatar 4', a new open pollinated tomato variety has been released and notified for Uttarakhand. It is suitable for cultivation under both organic & inorganic conditions. Plants are indeterminate in growth, fruits medium, round, attractive red (T.S.S -5° Brix) with thick pericarp having longer storage life and suitable for distant market. The variety is moderately resistant to seedling rot, fruit rot and blight diseases. In hills, it yields 20-30 t/ha (400-600 kg/200m²) under open-field conditions and 55-65 t/ha (1100-1300 kg/200m²) under protected conditions.


Resurgence of Wheat Yellow Rust in Northern Hills and Tarai Regions

Sudden outbreak of yellow rust in the northern part of the country has been recorded during rabi 2010-11 ranged from 5 to 80S. The disease on majority of areas started in mid February and the severity reached up to 80S in the last week of March. Surveys were conducted by the scientists of VPKAS (ICAR), Almora in Uttarakhand, CSKHPKV, Palampur in H.P. and SKUAST, Chatha, Jammu in J&K. The team in Uttarakhand was headed by ADG (Plant Protection), ICAR, New Delhi.

In Uttarakhand hills, the severity reached up to 80S with high prevalence in local wheats. However, the recommended varieties like VL Gehun 804, VL Gehun 829 and VL Gehun 907 showed resistance whereas, VL Gehun 738 was susceptible. In tarai region, the crop was at grain filling stage and the yellow rust prevalence was 80-100% with 60-80S severity in varieties PBW 343, PBW 373 and PBW 154, whereas, the fields of PBW 226 were having 5-10MR yellow rust. The late sown crop was having relatively less incidence than the timely sown crop. In PBW 343 and PBW 502 the average incidence was 30-40% with a severity up to 30-40S. The unsprayed fields showed yellow rust severity upto 30-40S on variety DBW 17.

In Himachal Pradesh, yellow rust was observed ranging from 10 to 80S in parts of Kangra, Hamirpur, Bilaspur and Mandi districts of H.P. The yellow rust was observed on varieties PBW 343, PBW 502, PBW 373, Raj 3765, UP 2338, HS 240, HS 295 and HS 420 during the first week of March.
However, low severity up to 5-10S was observed in variety VL 829. Varieties HPW 184, HPW 42, HPW 155 and VL 907 were free from disease.

In Jammu and Kashmir prevalence of yellow rust was observed in majority of farmers' fields with varied intensity ranging from 5 to 80S in Jammu, Samba, Kathua and Akhnoor areas. Varieties like PBW 343, PBW 550, PBW 502 and DBW 17 were most affected with 30-60% prevalence. PBW 175 and RSP 561 were moderately susceptible with severity up to 30MS. Raj 3077 and Raj 3765 were less affected by yellow rust (10S). Other affected areas were Chatha, RS Pura, Ghaghwal, Mathura Chak, Gial band, Merheen and Udaywala with severity up to 60S.

Lakshmi Kant & S.K. Jain

Development of Cold Tolerant Bacterial Consortia

Based on compatibility, eight cold tolerant bacterial strains selected for the development of bacterial consortia under AMAAS project. Inoculation with cold tolerant bacterial consortia enhanced plant growth parameters (root length–3.1 to 21.7%, shoot length–34.8 to 69.2%, dry shoot biomass–14.2 to 76.1%, dry root biomass–14.2 to 42.8%) and cold alleviating parameters (free proline– 5.7 to 77.1%, starch content–0.9 to 72.5%, amino acids–2.7 to 42.5%, anthocyanin–1.04 to 1.65 fold) of wheat (VL Gehun 804) at 60 DAS as compared to uninoculated control in field condition. All the individual strains in the consortium showed wheat root colonization in the range of 6.0–8.4 log cfu after 60 DAS. Among four bacterial consortia tested on wheat (VL Gehun 804), three consortia C4, C3 and C1 significantly enhanced grain yield 29.5, 27.4 and 25.4% respectively, over uninoculated control (33.2 q/ha) under field condition. Increase in nutrient content in inoculated plants was recorded.

Pankaj K. Mishra, K. Jeevanandan & J. K. Bisht

Studies on Spring Sown Rajmash Based Cropping System

Seven rajmash based cropping system were evaluated for their production potential and monetary returns against june seeded rice-wheat cropping sequence. The result showed that rajmash equivalent yield (37.46 q/ha) was highest in rajmash-frenchbean-toria cropping system followed by rajmash-maize-toria cropping system.

M.D. Tuti, D. Mahanta, B.L. Mina & J.K. Bisht

Other Activities

Swami Vivekananda Statue Unveiled

Dr. S. Ayyappan, Secretary (DARE) and Director General (ICAR) visited the institute on January 1, 2011, alongwith Dr. S.K. Datta, Deputy Director General (Crop Science) and unveiled the statue of Swami Vivekananda at VPKAS Almora Campus. The inauguration of the Museum/Technology Park and 'Bhoomi Poovan (भूमि पूजन) at Mushroom Compost Unit site' was done at Experimental Farm, Hawahgal. In his address, the DG mentioned Hawalbagh as the 'ICAR's Top Hill Crop Cafeteria.' On this occasion, VPKAS Newsletter (July-December, 2010) was also released. The DDG (CS) appreciated the institute's contribution to hill agriculture and suggested workers to abide by Swami Ji's teaching "helping others is the true service to the humanity".
 Farmers’ Participatory Seed Production taken up

In case of non-availability of quality seed, most of the hill farmers are forced to use their own saved seed. As a part of strategy for availability of quality seed, farmers’ participatory seed production of the newly released wheat variety VL Gehun 907 was taken up with Sri G. Chimwal and P.P.S. Bisht at Bail Parav and Kumola, respectively in Nainital. Farmers were trained and they followed all the recommended package of practices and could achieve an average yield of 35.63 q/ha, part of which was purchased back by the institute.

Inauguration of KVK Uttarkashi Administrative Building

Dr. S. Ayyappan, Secretary (DARE) & Director General (ICAR) inaugurated the administrative building of KVK Uttarkashi at Chinyalisaur on May 16, 2011 in the presence of Dr. K. D. Kokate, DDG (Agri. Extension) ICAR; Dr. J.C. Bhatt, Director, VPKAS, Almora and Dr. A.K. Singh, Zonal Project Director, Zone – IV, Kanpur and public personnel. On this occasion, the DG emphasized on integration of secondary agriculture such as mushroom cultivation, protected cultivation, off season vegetable cultivation with primary agriculture for increasing the economic profitability of hill farmers.

The project on “National Initiative on Climate Resilient Agriculture” was also launched at village Dunda. On this occasion, Dr. Ayyappan addressed the farmers emphasising on importance of the project in relation to agricultural productivity. Dr. K.D. Kokate told about mitigation of the effect of changing climate and informed that ICAR has launched this project at
Hon'ble DG, ICAR Inaugurating Administrative Building at KVK, Chyalisaur

Unfolding of Krishi Calendar by Shri Harish Rawat, Hon'ble Minister of State for Agriculture and Food Processing Industries

100 KVKs including KVK, Uttarkashi.

- A review meeting of HMNEH project under Uttarakhand was held at KVK, Dhakrani, Dehradun on January 20, 2011 under the Chairmanship of Dr. Gorakh Singh, Horticulture Commissioner, Govt. of India.

- Farmers' Day was organized on February 28, 2011 at Darim village of Nainital district under Horticulture Technology Mini Mission Programme of VPKAS, Almora. The Day was sponsored by NABARD.

- Research Advisory Committee meeting of the institute was held on February 18-19, 2011 under the Chairmanship of Dr. C.L. Acharya, Ex-Director, IISS, Bhopal.

- Kharif Kisan Mela was organized at Experimental Farm, Hawalbagh on March 29, 2011. Shri Harish Rawat, Hon'ble Minister of State for Agriculture and Food Processing Industries, Govt. of India, was the chief guest on the occasion. Shri Pradeep Tamta, Hon'ble Member of Parliament presided over the function. Twenty five exhibition-cum-sale stalls were put by various line departments, institutes and NGOs. More than 800 farmers participated in Mela.

- Zonal meeting of the wheat and barley research workers of Northern hills Zone was held during April 18-22, 2011. The group comprising of 11 wheat and barley research Scientists monitored 14 wheat, 10 barley and 1 triticale trials by visiting Nagaur-Chakrata, Ranichauri, Gagar, Majhera and Hawalbagh-Almora.

- The meeting of Institute Research Council of VPKAS for Kharif 2011 was held during May 23-24.

New Colleagues

- Dr. Krishna Kant Mishra, Sr. Scientist (Plant Pathology) on February 1.

- Dr. Navinder Saini, Sr. Scientist, Biotechnology on February 28.

Retirement

- Shri Pan Singh, Skilled Supporting Staff on February 24.

- Smt. Gawali Devi, Skilled Supporting Staff on February 28.

Promotion

- Mrs. Shakku Goswami, Asstt. Finance and Accounts Officer to Finance and Accounts Officer w.e.f. March 4.

- Mrs. Radhika Arya, Sr. Clerk to Assistant w.e.f. March 30.

- Mr. Lalit Mohan Tewari, Sr. Clerk to Assistant w.e.f. March 30.

- Mr. Sunder Singh Kanwal, Sr. Clerk to Assistant w.e.f. April 1.

Selection

- Dr. J.K. Bisht, Pr. Scientist joined as Head, Crop Production Division on June 10.

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