

JNKVV NEWS

Official Newsletter of the
Jawaharlal Nehru Krishi
Vishwa Vidyalaya, Jabalpur



In this Issue

- 5th National Conference of KVK
- Global Investors Meet 2010
- New Crop Varieties released
- New Projects sanctioned
- Extension Activities
- Awards
- Academics
- Visits Abroad
- Forthcoming Events
- Personalia
- Technology interventions for seed quality assurance

Editorial Committee:

Dr. S.D. Upadhyaya
Dr. Salil K. Jain
Er. Sharad K. Jain

Published by:

Technical Cell
Jawaharlal Nehru Krishi Vishwa
Vidyalaya
Krishinagar, Adhartal
Jabalpur 482 004 (M.P.), India
Tel.: +91-761-2681858, 2681706
Fax: +91-761-2681389
website: www.jnkvv.nic.in

5th National Conference of KVKs



Her Excellency the President of India Smt. Pratibha Devisingh Patil and Shri Ashok Gahlot, Chief Minister, Rajasthan visiting the exhibition stall of the KVKs of JNKVV

His Excellency the Governor of Punjab Shri Shiv Raj V. Patil and Dr. S. Ayyappan, Secretary, DARE and Director General, ICAR visiting the exhibition stall of the KVKs of JNKVV

JNKVV participated in the "5th National Conference of KVKs" at Maharana Pratap University of Agriculture & Technology, Udaipur, Rajasthan on December 22-24, 2010. Her Excellency, the President of India, Smt. Pratibha Devisingh Patil inaugurated the Fifth All India Krishi Vigyan Kendra Conference - 2010, organised under the theme "Development of Entrepreneurship among farmers".

An exhibition on entrepreneurship in agriculture was also organized depicting farm innovators. Her Excellency, the President of India visited the exhibition stall of the KVKs and appreciated the work and urged that the scientists should work actively and dedicatedly in their respective areas. The efforts of scientists, KVKs group of JNKVV and extension specialists are praiseworthy.

Global Investors Meet - 2010

Business Planning and Development Unit of NAIP, ICAR Project participated in the Global Investors Meet – 2010 held at Khajuraho from October 22-24, 2010. Technologies of seeds, biofertilizers, medicinal & aromatic

plants and electronic instrumentation were displayed in the exhibition. Large number of visitors enquired about the technologies available in the university and services provided by BPD unit for setting up agribusiness ventures.



Shri Shivraj Singh Chouhan, Hon'ble Chief Minister, Madhya Pradesh visiting JNKVV stall

Distinguished Guests visiting the Stall at Global Investors Meet 2010



Wheat JW 1201



Wheat JW 3269



Gram JG 2001-12

NEW CROP VARIETIES RELEASED

- **Wheat JW 1201:** It matures in 115-20 days and is suitable for irrigated timely sown conditions. Grains are shining, bold, sarbati with high protein (13%). Plants are semi erect, green, leaves medium broad, ear tapering and waxy. It is resistant to all the three rusts (black, brown and yellow) and other diseases of wheat.

- **Wheat JW 3269:** It is semi dwarf, water use efficient genotype with early maturing (110-115 days) which is presently not available in any partially irrigated wheat. JW 3269 is having good grain appearance, high hectoliter weight, high protein and appropriate sedimentation value. It is tolerant to moisture stress and high temperature and gave 36 and 44-46 q/ha yields in one and two irrigations respectively. It has high level of field resistance to stem leaf and strip rust.

- **Gram JG 2000-12:** It matures in 105-115 days. Plant is semi

spreading, of medium height, dark green foliage, pink flower and seed are brown, medium in size and angular in shape. It is resistant to Fusarium wilt and moderately resistant to dry root rot and pod borer. Gave 18-20 q/ha yield and was accepted by farmers due to brown medium sized seeds.

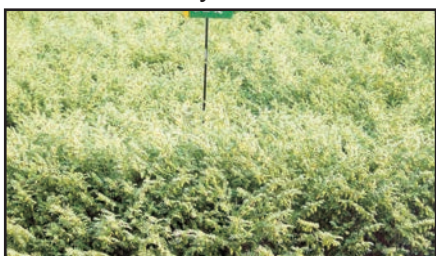
- **Gram JG 12:** High yielding 20 q/ha, resistant to vascular wilt and moderately resistant to dry root rot. Recommended as donor parent for vascular wilt at national level, semi spreading, profuse podding, maturing in 100 days with brown, medium sized seed (15g).

- **Linseed PKDL 41:** It matures in 115-120 days. It has more branching, has white flower & brown colour seed. Oil content 35 to 40 per cent with high Omega (Lino Lenic acid). Moderately resistant to bud fly, rust, alternaria leaf blight and suitable for limited irrigation. It is tolerant to lodging and resistant to drought. It gave 17 q/ha yield under restricted irrigation.

- **Linseed JLS 66:** Plant is short in height, flower disc shaped, blue colored, round petals, medium pollen sacs with bluish grey anthers. It matures in 109-120 days. It showed resistance to rust, moderate resistance to powdery mildew and wilt. It gave 12 q/ha yield. Being extra early variety escapes from both biotic and abiotic stresses. Light brown seed is highly preferred by farmers and oil content is 42.85 per cent.

- **Oat JO 2:** It matures in 145-150 days with yielding ability 18-20 (seed) and 635-650 q/ha of (fodder). Being a medium duration can be best suited to the area where farmers are growing oat varieties. Tolerant to lodging/shattering and moderately resistant against leaf blight and powdery mildew.

- **Kodo JK 98:** Plant erect, regular spikelet arrangement on rachis, ear semi compact, ear exertion complete, spikelet dense, grain brown and pigmentation present. Matures in 102-107 days.



Gram JG 12



Linseed JLS 66



Sesame TKG 308



Kodo JK 98

Moderately resistant to head smut and resistant to shoot fly. Suitable for sole and inter cropping and also for feed and fodder.

● **Sesame TKG 308:** Parentage: Pb – 1 x TC – 25. White seeded, high yielding (952 kg per ha), maturity 75-77 days under field condition, tolerance to *phytophthora*, *alternaria*, bacterial leaf spot, phyllody, leaf curl, stem blight and capsule borer. It is highly responsive to higher doses of fertilizer application. It is tolerant to lodging. It has high oil content (55.6%) and 1000 seed weight is 3.13 g.

NEW PROJECTS SANCTIONED

● “Marker assisted breeding of abiotic stress tolerant rice varieties with major QTLs for drought, submergence and salt tolerance at Rewa”. P.I.: Dr. P. Perajju, Senior Scientist (PB), Rewa, Budget outlay: Rs. 48.60 lakh, Duration: 1.11.2010 to 31.10.15, Funding Agency: Govt. of India.

● “Integrated Agri-biotechnologies of socio-economic upliftment of Baiga and Gond tribal of Madhya Pradesh”. P.I.: Dr. Sharad Tiwari, Principal Scientist (PB, JNKVV, Jabalpur, Budget outlay: Rs. 108.48 lakh, Duration: 1.1.2011 to 31.12.2014, Funding Agency: Govt. of India.

● “Use of microbes for plant protection and nutrient management in increasing crop productivity”. P.I.: Head, Department of Soil Science Agricultural Chemistry, JNKVV, Jabalpur, Budget outlay: Rs. 697.68 lakh, Duration: 3 years, Funding Agency: Mandi Board, Bhopal

EXTENSION ACTIVITIES



Scientists of ALCORN State University, USA visiting farmer's fields

● A team of scientists from ALCORN State University, USA Dr. Read, Dr. Reddy, Dr. Dennial and Dr. A. Shrivastava visited JNKVV, Jabalpur on December 6-8, 2010 and monitored various activities in the villages Muskura and Gugharia of Gohalpur, District Jabalpur. Dr. Nalin K. Khare, Professor & Head (Extension Education) explained the outreach activities of JNKVV in villages.

● A Training Programme on “Integrated Pest Management”

was conducted from October 5-7, 2010 at Krishi Vigyan Kendra, Mandla, in which 50 scientists participated. They were trained in various aspects of IPM practices. This training was organized under NAIP Component-III.

● Pre Zonal workshop of KVKs was held on October 12-13, 2010 at Directorate of Extension Services, Jawaharlal Nehru Krishi Vishwa Vidyalaya, Jabalpur to review the progress and finalization of the action plan.

● KVK Regional Interface - 2010 was organised on December 4, 2010 at CIAE, Bhopal during the XXI Meeting of ICAR Regional Committee VII. Dr. P.K. Bisen, Joint Director Extension along with Programme Coordinators of 20 KVKs participated in the interface meeting, which was inaugurated by Dr. Ramkrishna Kusmariya, Minister of Farmer Welfare and Agriculture Development, Government of Madhya Pradesh.



Dignitaries addressing the farmers during World Food Day

● World Food Day was celebrated on Oct. 16, 2010 at village Amarpur, Patan, Jabalpur to create awareness among the farmers about the production & protection of food grains especially the pulses for their livelihood

security. Dr. S.S. Tomar, Director Research Services was the Chief Guest. Dr. P.K. Bisen and Dr. S.D. Upadhyaya were the Special Guests. The function was chaired by Shri Mahesh Narayan Pachouri. Dr. D.P. Sharma, Programme Coordinator, KVK, Jabalpur coordinated the programme.



Scientists-entrepreneurs meeting in progress

- Interface for scientist, extension officers and programme coordinators was organized at KVK, Jabalpur on Dec. 16, 2010 in collaboration with Zonal Project Directorate, Zone VII, ICAR. The scientists, extension functionaries and farmers of different districts participated in the programme. Dr. S.S. Tomar, Director Research Services was the Chief Guest. Dr. U.S. Gautam, ZPD expressed his views to enhance the production of pulses. The programme was coordinated by Dr. D.P. Sharma, Programme Coordinator, KVK, Jabalpur.

- BPD Unit, JNKVV participated in the Business Expo-2010, Jabalpur conducted by Jabalpur Chamber of Commerce and Industries (JCCI). Food Technologies and Medicinal & Aromatic Plants Processing Technologies were displayed. Large number of

visitors inquired about technologies available in the university and services provided by the BPD Unit.



Training session on tailoring and stitching in progress

- A one month training for generating self employment by tailoring and stitching for farm women and school dropout girls was organized at KVK, Jabalpur from Oct. 4 -Nov. 3, 2010.



Training programme on nursery management of horticultural crops in progress

- Krishi Vigyan Kendra, Jabalpur organized 10 days (Sept. 7-17, 2010) Vocational training on "Nursery Management of Horticultural Crops" for entrepreneurship development for unemployed youths. Twenty rural youths were benefitted by this programme.

- Twenty five scientists attended a workshop on sensitization towards agribusiness development through incubation. Mr. S.M. Karuppanchetty delivered a lecture on business incubation

process and its importance in agribusiness development. He emphasized that the role of scientists is of paramount importance in development of market oriented innovations. Besides this, scientists can help entrepreneurs by minoring.

- Krishak Dhan Divas was organized by College of Agriculture, Rewa on October 7, 2010 at Village Amiliki District Rewa. Dr. T. Ram, Principal Scientist, DRR Hyderabad, Dean Dr. S.K. Rao, Dr. S.N. Shrivastava, Dr. S.K. Tripathi, AICRP and KVK staff attended the programme. More than 300 farmers participated in the programme and visited FLD plots of PS-3 and PS-5 conducted at Amiliki. The monitoring team appreciated the efforts of AICRP scientists. Major stress was given on adoption of hybrid rice in the State.

- Seed Societies Meeting was organized at College of Agriculture, Rewa on Nov. 9, 2010. The meeting was chaired by Dr. R. Pastore, Commissioner, Rewa. Secretaries, RAEO, and officers of Department of Agriculture, Rewa. participated in the training programme. 350 seed societies and 150 milk societies formulated in the division and farmers were benefitted. The meeting was conducted by Dr. S.K. Rao, Dean, College of Agriculture, Rewa.

- National Fertilizer Ltd. organized training at KVK, Rewa on Nov. 23, 2010. Dr. S.K. Rao, Dean addressed the participants. Major stress was given on use of balanced fertilizer and improved

varieties for increasing the production and productivity of crops in the region.

- MAPWA training was organized at College of Agriculture, Rewa on Dec. 3-4, 2010. Dr. R. Pastore, Commissioner, Rewa addressed the women for adoption of improved agricultural technologies.



Award presentation ceremony during the Youth Festival

- **Youth Festival** was organized during December 21-23, 2010. The function was inaugurated by Prof. Gautam Kalloo, Vice Chancellor on December 21, 2010. Total 172 students of all colleges of the V.V. participated in different competitions. Valedictory function was held on Dec. 23, 2010 in the presence of Smt. Sushila Singh, Former Mayor, Jabalpur. College of Agriculture, Rewa was awarded Best College, Fine Arts Siromani Award, Music Siromani



Winners posing for photographs with dignitaries during Youth Festival

Award and obtained 15 other awards in the cultural meet.

- Ten students of College of Agriculture, Rewa participated in the Inter Collegiate painting and Slogan competition on National Girl Child day organised at S.S. Medical College, Rewa. Miss Vandana Dwivedi awarded First prize and Mr. Jay Chandra Lodhi second prize in painting competition.



Plantation by NSS group during Foundation Day celebration

- **JNKVV Foundation Day Celebration:** For the first time in the history of JNKVV, the Foundation Day was celebrated for a week (September 30 - October 5, 2010) by organising various activities viz., plantation, farmer's visit, kisan goshti and students activities. Every day the well structured programme was framed starting from 7 am to 6 pm. Plantation in the University campus was the major activity



Plantation by NCC Batalion during Foundation Day celebration

performed by scientists and staff. The whole campus was divided into 6 areas where plantation of ficus, palm tree, neem, ashok etc. was done on a large scale. During six days, about 1000 farmers visited crop cafeteria and seed production units. Their queries were answered by concerned scientists in krishak goshti programme held at Directorate of Extension and KVK, Jabalpur. Student activities were coordinated by Dean Student's Welfare and Dean, College of Agriculture, Jabalpur and College of Agricultural Engineering. Students showed great enthusiasm in essay writing, debate, rangoli, cultural programme, sports, athletics, blood donation, extempore speech, etc. The programme was coordinated by Dr. P.K. Bisen, Dean Student Welfare.

- Exposure visit of undergraduate students of B.Sc. Forestry programme: On October 7, 2010, B.Sc. Forestry III year students underwent an educational/learning and exposure visit to Orient Paper Mills, Amali - a forest based industry under the leadership of Dr. R. Bajpai and Yashpal Singh. Students learned about wood products and their utilization technologies.

- During October 24-25, 2010, B.Sc. Forestry IV year students visited National Research Centre on Agroforestry and Indian Grassland Fodder Research & Institute, Jhansi to learn about on-going research activities under



Exposure visit of Forestry students to IGFR, Jhansi

Forestry Work Experience Programme (FAWE). Dr. L.D. Koshta, Professor and Dr. K.K. Jain, Professor coordinated the visit.



Exposure visit of Forestry students to Nepa Paper Mill, Neapanagar

As a part of exposure visit during November 8-14, 2010, B.Sc. Forestry students visited Nepa Paper Mill, Neapanagar (Burhanpur). In one week programme, the students attended practical training to learn raw material production, nursery and paper making process. Dr. K.K. Jain, Professor and Mr. Manoj Pathak accompanied the students to facilitate effective training. At the end of the training programme, the students gave presentations. Certificate was awarded to each student. Training was given by Shri P.P. Asthana, Deputy Manager (P&A) and other Nepa Mill Officials.

Department of AYUSH, Ministry of Health and Family Welfare, Govt. of India, Govt. of Karnataka and Vijnana Bharti organised the 4th World Ayurveda Congress at Bangalore during December 9-13, 2010. National Medicinal Plants Board supported the event. Dr. S.D. Upadhyaya, Dr. (Smt.) Anubha Upadhyay and Dr. Noor Khan contributed research papers and made oral presentations. Dr. Upadhyaya also delivered a guest lecture on cultivation of medicinal plants in wastelands in the International Seminar on afforestation of medicinal trees at REI plants which was also one of the important event of World Congress. During Buyer-seller meet at World Congress, the medicinal plants based products of JNKVV were also exhibited.

AWARDS



Award presentation ceremony during the National Symposium of Indian Phytopathological Society

Dr. S.K. Tripathi was awarded "KPV Menon Award" of IARI, New Delhi in the National Symposium organized by the Indian Phytopathological Society held at Anand Agriculture University, Anand from Dec. 14-16, 2010. This award was conferred for best

research paper presented in the International Conference on Plant Pathology in the Globalized Era at IARI, New Delhi in the year 2009.

Ms. Stuti Mishra, M.Sc. student won the best research thesis award for Poster Presentation on the topic "Genetic variability for Phenological and yield attributing traits in desi and kabuli chickpea under high temperature condition 2010-2011" under the guidance of Dr. Anita Babbar and Dr. D.K. Mishra in "National Symposium on Food Security in context of Changing Climate" organized by 'The Society of Agriculture Professionals' in Kanpur on Oct. 30- Nov. 1, 2010. She also won the Young Scientist Award 2010-11 in "Madhya Pradesh Mahila Vigyan Sammelan 2010" held at Mata Gujari Mahila Mahavidyalaya, Jabalpur from Dec. 18-19, 2010.

ACADEMICS

Twenty nine students of first batch (2008-09) holding Diploma in Horticulture from "Horticulture Vocational Education Institute" Garhakota, District-Sagar were placed in different districts on the post of Horticulture Assistant in Panchayat and Rural Development Department, Govt. of M.P. due to keen interest and continuous efforts of Pt. Gopal Bhargava, Minister, Govt. of M.P.

As per the guidelines of IVth Deans' Committee of ICAR, the courses on Experiential Learning for UG students of Agriculture and Forestry has been started from 2nd

Semester of the Academic Session 2010-11 at all the colleges of Agriculture.

VISITS ABROAD

- Dr. R.S. Shukla, Principal Scientist, Wheat Improvement Project, Department of Plant Breeding and Genetics, Jabalpur visited Kenya for seven days to attend a course on "Standardization of stem rust (Ug99) field notes and germplasm evaluation" under the programme organized by the International Maize and Wheat Improvement Centre (CIMMYT), Mexico.

FORTHCOMING EVENTS

- **26th M.P. Young Scientist Congress:** On February 28 - March 1, 2011, the National Science Day will be celebrated by organising 26th M.P. Young Scientist Congress at JNKVV,

Jabalpur with the sponsorship of M.P. Council of Science & Technology, Bhopal. About 170 young scientists of disciplines Agricultural Sciences, Behavioural Science/Social Science, Bio-Science, Botany, Chemistry, Engineering Science & Technology, Environmental Science & Forestry, Home Science including Textile, Food, Nutrition & Child development, Mathematics, Statistics and Computer Science, Medical Science including Pharmaceutical Science, Physics, Zoology are going to present their research papers, which will be judged for Best Research Paper Award. Prof. S.D. Upadhyaya, Convener and Er. Sharad K. Jain, Local Organizing Secretary can be contacted for further correspondence.

BOOK PUBLISHED

- A book entitled "Experimental Designs and Survey Sampling: Methods & Applications" by Dr. H.L. Sharma, Professor & Head (Mathematics & Statistics), published by Agrotech Publishing Academy, Udaipur (Rajasthan).

PERSONALIA

New assignments to staff:

- Dr. O.P. Veda - Dean, College of Agriculture, Jabalpur.
- Dr. (Mrs.) Om Gupta - Professor & Head, Department of Plant Pathology.
- Dr. H.L. Sharma, Professor & Head, Department of Mathematics & Statistics.
- Dr. A.K. Rawat, Professor & Head, Department of Soil Science & Agricultural Chemistry.

TECHNOLOGY INTERVENTIONS FOR SEED QUALITY ASSURANCE

Indian Agriculture has witnessed a spectacular advancement. Ushering in a Green Revolution and transforming our status from food deficient to sufficient Nation could be achieved primarily due to availability of seeds of high yielding in varieties and thereafter the hybrids in major food crops. The concurrent development of matching technologies for water-nutrient and decrease-insect-pest-management provided the impetus for higher productivity

Accounting for approximately 17.5 per cent of the National GDP, Agriculture is the backbone of our economy. During last 3 decades the national food grain production nearly doubled from 102 million

tones during 1972-73 to 200 million tones by 1999-2000. During 2008-2009 production was about 233.8 million ton will the production of _____ tones of Breeder seed of field crops.

Seed has always been considered as the basic vital input for sustainable production. In the post GATT era and with the continued advancement in basic and applied sciences, the seed has assumed a greater importance. Seed related technologies have played a very vital role.

The University has been the harbinger of Green Revolution in Central India. Considering the importance of seed, even before the launching of National Seed

Project (NSP), very systematic Breeders' Seed production programme was taken up in the University during 1970s. Since last two decades, the University is the largest producer of Breeder's Seed and ranked top at the national level.

With the advent of time, the seed science has undergone several scientific advancements and developed technologies for seed quality enhancement and management.

Impact of multidisciplinary approach for enhancement of seed quality through various technologies has been witnessed at JNKVV, Jabalpur. Some of the major technological interventions have been presented herewith.

- The Seed Testing Laboratory of Seed Technology Research Unit, Department of Plant Breeding and Genetics, JNKVV, Jabalpur has been notified by the Government of Madhya Pradesh on 25th October, 2007 by the order No. B14-9/2007/14-2 2055 under sub clause 2 of clause 4 of Seed Act 1966 no. 54. Looking to the thrust area the proposal for establishing a Referral Seed Testing Laboratory in JNKVV, Jabalpur is approved by the State government under RKVY during financial year 2010-2011.

- For implementation of Protection of Plant Variety and Farmer's Right Act extant varieties of the following crops have been characterized.

Crop	Varieties	Characteristics
Soybean	40	20
Pigeon pea	55	17
Sunflower	29	40
Mung bean	40	39
Urid bean	35	32
Lentil	30	13
Field pea	66	20
Linseed	69	16
Sesame	71	20
Wheat	12	35
Niger	08	16
Kodo millet	08	20



Expression of diagnostic traits

- The seeds identified as genetic impure at seed level by the seed analyst of MP State Seed Certification Agency in the following crops has positive and significant association with genetic impurity at plant level in Grow Out Test.

Crop	Variety	Sample
Soybean	11	117
Mung bean	3	34
Urid bean	4	28
Chickpea	15	182
Sesame	04	40
Lentil	02	12
Mustard	03	08
Vegetable pea	01	24

- Hybrid seed of rice can be produced successfully at Jabalpur, katni, Rewa, Balaghat and Waraseoni. At Jabalpur perfect nicking may be achieved with the spray of GA₃ and Single Super Phosphate in male parent. With the recommendation of the University hybrid seed production programme is initiated in summer at Balagaht by private seed agencies.

Hybrid seed production of pigeonpea can be taken successfully during Kharif at all the locations representing the agro-climatic zones Kaymore Plateau and Satpura hills, Bundelkahn region and Central Narmada valley.

- Genetic purity of all the Breeder seed produced by Jawaharlal Nehru Krishi Vishwa Vidyalaya, Jabalpur IS tested through Grow Out Test as Post Control Plot in the Seed Technology Research Unit, Department of Plant Breeding and Genetics, JNKVV, Jabalpur.

- Pre sowing priming of seeds with slow hydration treatment in combination with fungicide Thiram (0.25%) was found the most superior for better crop estab-

lishment was in chickpea soybean and rice .

- Use of Polylined gunny bags, high density polythene (HDPE) bags has been demonstrated for longer seed storage matching with certification standards for soybean, chickpea, wheat and pulses. Less deterioration due to storage spoilage was noticed.

- Seed coating with synthetic polymers and colorant, fungicides (thiram and vitavax) and insecticides (imidachloprid) exhibited promising results for maintaining the germination of freedom from insects-pests in Maize.

- Application of propiconazole (0.1% as Tilt) at 30 and 40 days after transplant effectively controlled the rice bunt pathogen *Neovossia hormida*. The bunt pathogen is objectionable in seed production programme.

- Soybean (initial moisture 10%) seed treatment with Thiram plus carbendazim (1:1) (0.2%) reduced fungal flora and maintained the seed germination above MSCS even after 210 days of storage in polylined bags.

- Detection methods for colletotrichum dematium, phona medicaginis, macxophomine phoseoline, fusarium oxyporum have been worked out in accordance with ISTA protocols. Standard blotter method with slight modifications has been recommended to ensure the detection.

- Application of *Trichoderma visidi* @ 4g/kg seed was promising in maintaining the stand and vigor, among the five biopesticides tested.