



ICAR RCER NEWS

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From the Director's Desk



Site specific nutrient management (SSNM), involving soil test based application of fertilizers is critical to enhance nutrient-use efficiency. The United Nations has declared the Year 2015 as the International Year of Soils to increase the awareness and understanding of the importance of soil for food security and essential ecosystem functions. Soil management needs to maintain soil cover and return organic matter to the soil alongwith chemical fertilizers and microbial inoculants. It would be the best option for ensuring long-term soil sustainability and biodiversity conservation. Low productivity in floodplain

wetlands, 11.0 million ha of rice-fallow area, 7.5 million ha acidic and 3.81 million ha sodic soils also limits the productivity of soils of Hill and Plateau region and Eastern Himalayas. The wastelands/degraded lands (6.16 million ha) also need rehabilitation through agroforestry and horticulture interventions. Restoration of coal mining areas in the states like Jharkhand, Chhattisgarh and Odisha also needs to be addressed in the long-run.

Micronutrient deficiency, particularly zinc, iron, boron, manganese, copper and sulphur, also need to be addressed in the soils of Eastern Indo Gangetic Plains (EIGP). Furthermore, organic carbon pools and C/N dynamics in the soils need to be studied as they are components of the global carbon cycle. Residue management in soil would help to improve physico-chemical properties of soil, particularly in EIGP. Nutrient and water use efficiency has to be improved for long-term sustainable production. Conservation agriculture needs to be strengthened in rice-wheat ecosystem.

Technologies have been standardized to enhance the dissolved oxygen (DO) level in fish ponds using solar energy and value addition in makhana. The institute has initiated work on management of low temperature tolerance in *boro* rice nursery and management of rice-fallows through Conservation Agriculture. In the field of crop improvement, wheat genotypes were identified for terminal heat stress tolerance. Varieties for upland rainfed rice, faba bean, vegetable crops such as tomato, chilli, lima bean and leaf amaranth were developed by the institute. In addition, 12 sapota and 41 bael genotypes were evaluated for fruit quality and yield under Eastern Plateau and Hill conditions. In addition, the Institute successfully organized 87th ICAR Foundation Day and Award Ceremony and 9th National KVK Conference, and also distributed more than 750 soil health cards to the farmers of Bihar and Jharkhand on the occasion of World Soil Day on 5th Dec 2015.

Research Highlights

Wheat Genotypes for Terminal Heat Stress Tolerance Identified

Of the 41 wheat genotypes evaluated for terminal heat stress tolerance, NW1012 (4.1-4.22 t ha⁻¹), RAJ 4238 (3.61- 3.95 t ha⁻¹), Kundan (3.77- 4.03 t ha⁻¹) and Halna (3.04-3.18 t ha⁻¹) performed better under late sown heat stress conditions.



Plant Genetic Resource Management

Sapota

Performance of 12 sapota genotypes was evaluated for fruit quality and yield under eastern plateau and hill conditions. Keeping in view the fruit quality and yield, the sapota genotype Murrabba exhibited consistency in its superiority among the genotypes evaluated.



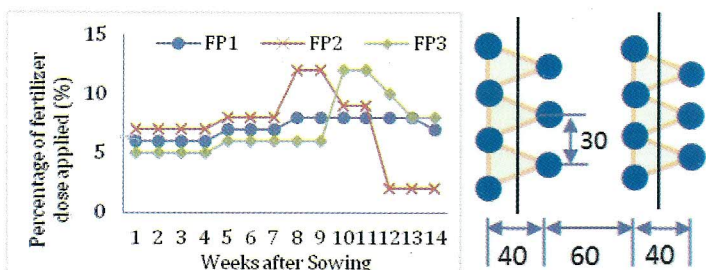
Bael

A total number of 41 bael genotypes including 4 varieties were evaluated for fruit quality and yield. The genotype Barabanki collection was found promising during the year (average fruit weight – 1.01 kg, skull content – 13.87%, seed content – 2.03%, TSS – 21.4°B and yield – 113.6 kg/tree).



Fertigation and Planting Geometry Technology for Enhancing Water Productivity

Field study in broccoli showed that triangulated paired row planting (S₂) having 60 cm spacing between paired row with crop spacing of 40 x 30 cm in combination with fertigation pattern (FP₂) recorded the highest yield of 31.34 t/ha which was 46.7% more yield than conventional fertigation pattern and rectangular planting geometry with (FP₁ & S₁). In fertigation pattern FP₂ higher fertilizer is applied during initial stage of crop growth and it is reduced



towards the maturity and end stages of crop growth. This technology achieved the highest water productivity of 15.8 kg/m³ and the economic water productivity to the tune of 157.7 Rs/m³ under FP₂ & S₂ which was 38.6% more than conventional rectangular planting and fertigation (FP₁ & S₁). The best combination of fertigation pattern (FP₂) and planting geometry (S₂) also improved the fertilizer use efficiency. The nitrogen, phosphorous and potassium use efficiency of about 52.2, 15.0 and 39.0 % can be achieved under this technology in comparison to conventional fertigation pattern and rectangular planting geometry.

Varieties Released

Paddy: Swarna Shreya

Description: Suitable for rainfed low land and direct seeded aerobic condition with maturity period of 120-125 days. It can withstand drought and tolerant to many disease and insect. Avg. productivity: 4.5-5.0t/ha.



Faba bean

Swarna Surakhsha

Description: Suitable for rainfed situation under Bihar cond. Medium duration matures in 115-120 days. Avg. productivity: 2.5-3.1t/ha.



Swarna Gaurav

Description: Suitable for irrigated and intercropping situation under Bihar cond. Medium duration, matures in 120-125 days. Avg. productivity: 4.0-4.6t/ha and 2-2.6t/ha under sole and intercropping, respectively.



Swarna Safal

Description: Plant ht.: 85-113 cm; days to first harvest: 89-94 days; pod colour: Green; pod wt.: 3.04-3.38 g; pod length: 5.47-6.09 cm; fresh pod yield: 20-25 t/ha.

Tomato: Swarna Kanchan

Description: Determinate plant with plant ht of 70-80cm; Medium fruit size; Fruit wt. 90-100g; Fruit length 8.5-9.0 cm; No of fruits/plant: 25-30; yield/plant: 2.5-3.0 kg; Yield: 50-55t/ha; TSS: 4.0-4.5°brix; Suitable for processing



Swarna Ratan

Description: Semi determinate with a plant ht of 50-60cm; fruit wt.:15-20 g; Round fruited; No of fruit/plant:200-250; yield/plant: 2.5-3.0 kg; Yield: 50-60 t/ha; TSS: 6.0-6.5 %brix. Suitable for table purpose.



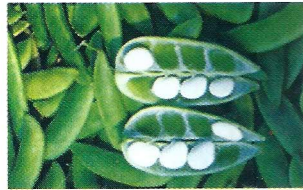
Chilli: Swarna Tejaswini



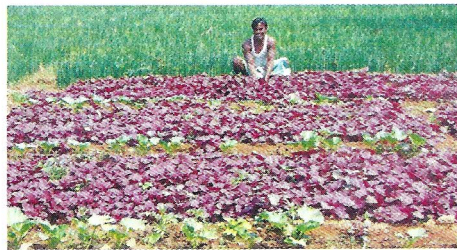
Description: Long, less pungent with a fruit wt. of 15-20 g, No. of fruits/plant: 75-80; Yield/plant: 1.0-1.25 kg; Yield: 20-25 t/ha. Suitable for pickle purpose.

Lima bean: Swarna Poshan

Description: 55-60 days for flowering; first harvest: 90-100 days; pod length: 8.2-8.4 cm; pod wt.: 5.9-6.0 g; no of seeds/pod: 3.0-4.0; total yield: 12-15 t/ha



Leaf amaranth: Swarna Raktim



Description: Red coloured, 30-35 days for first harvest; Total yield: 25-30 t/ha.

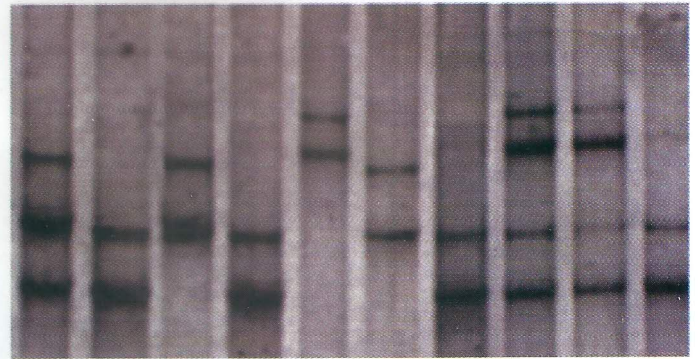
Growth Performance of Pigs Fed on Rice Polish and Kitchen Waste with Phytase Enzyme

A study was conducted to find out the growth performance of crossbred piglets fed on rice polish and kitchen waste based feeding regime supplemented with phytase. The ration was prepared by the farmer after mixing 20% of rice polish in kitchen waste (control). The phytase was supplemented in control diet @ 20g/100kg feed. The rations were offered to the respective groups @ 2.5 kg/d/head on DM basis. The results revealed that the average growth rate was increased by 14.8 per cent in pigs fed on rice polish and kitchen waste based ration supplemented with phytase enzyme.



Exploring Growth Hormone and Fecundity Gene Black Bengal goat

A 472 bp fragment (partial intron 2, exon 3 and intron 3 and partial exon 4) of growth hormone gene was amplified (100 samples) by polymerase chain reaction. Single Strand Conformation Polymorphism (SSCP) technique revealed that growth hormone gene is polymorphic in nature and it had



AB AA BB AA CC BB AA AC AC AA

five genotypes AA, AB, AC, BB and CC and consequently, only three alleles A, B and C at this locus. The frequencies of AA, AB, AC, BB and CC genotypes and A, B and C alleles were estimated as 0.12, 0.40, 0.36, 0.07 and 0.05; and 0.50, 0.27 and 0.23, respectively. AB genotype and A allele was predominant in Black Bengal goat. Accession no. of various allelic variants were KJ666532 (A allele), KJ666533 (B allele) and KJ666534 (C allele) for 245 bp fragment and KJ782050 (A allele), KJ782051 (B allele) and KJ782052 (C allele) for 472 bp fragment. Least squares analysis revealed that genotypes of 472 bp fragment had significant effect ($P \leq 0.05$) on body weight at both 6 and 9 months of age in Black Bengal goat. The order of performance for body weight at 6 months of age was $CC < AA, AB, BB < AC$ whereas the order of performance at 9 months of age was $CC < BB < AA, AB < AC$. The homozygote AA and CC were having the lowest body weight. However, heterozygous condition, i.e., AC genotype is having the highest body weight.

Solar Power Aerator Developed

A solar powered aerator was developed using a 1 HP pump with permanent magnetic DC motor of 750 watt. This pump was powered by 900 WP solar arrays with module combinations to get output voltage in the range of 28-33 V (as per the power characteristics of the pump). Since total dynamic head was kept near to 4.0 m, it was observed that aerator spray about 50000-60000 liters of water per day. This aerator is installed in a pond of 50 m x 30 m size with water level of 1.5 m. It was found that dissolved oxygen level in water was more uniformly distributed throughout the water column in pond where solar operated pump was used compared to control pond. Moreover the dissolved oxygen level was also relatively higher especially in the bottom of the pond compared to control.



Value Added Products of Makhana

The handling of raw puffed makhana is not convenient because of high volume whose shelf life is increased through compact packaging. The popped makhana was heated in a microwave oven for about 2-3 min; the heated makhana was kept outside the oven for tempering for about 15-20 min. It was grinded in a rotary grinder for obtaining powder. The grounded makhana was sieved using a fine sieve of size 0.2 mm to finally get the fine powder of makhana. The brown seed coat is partially removed during the process and a good coloured with fine textured makhana powder is obtained. The powder is packed in polypropylene envelopes in a convenient size and kept for shelf life studies with quality analysis. No qualitative change was observed up to 9 months.



Coarse powder



Fine powder

Transfer of Technology

Demonstration of Bajra as Contingent Crop in Rice Fallow

Buxar district of Bihar has faced with severe drought situation very low precipitation (533.4mm) against normal rainfall 975mm. KVK, Buxar has introduced two pearl millet var. HHB 67 and VBH 380 in 6 ha. (beneficiaries 15 farmers) and 24 ha.(beneficiaries 100 farmers) area, respectively.



Demonstration of Mat Method Nursery of Paddy

To combat delayed monsoon in Buxar district one intervention of staggered mat method nursery of paddy crop was demonstrated in 500 m² area of paddy variety MTU7029 and Sahbhagi. The total mechanical paddy transplantation has been promoted in 1 ha area with three beneficiaries.



Events Organized

Institute Foundation Day

The 15th foundation day of the institute was celebrated with great enthusiasm at main complex Patna on 22nd Feb 2015. Shri Radha Mohan Singh, Hon'ble Union Minister of Agriculture was the Chief Guest and Dr. HS Gupta, Director General BISA was the guest of honour of the occasion. The Chief Guest stressed on the implementation of lab to land programme in large scale for taking technologies to the villages, and urged the scientist to visit at least one village every month and interact with the farmers. The extension bulletins and leaflets should reach to the district agricultural officers for effective extension, he added. Four publications were also released on the occasion.



Training Programme on Ornamental Fish Culture and its Management

Training programme on ornamental fish culture and its management was conducted at ICAR-RCER, Patna from 08th to 12th March, 2015, funded by NFDB, Hyderabad. Five days of training encompass various topics like scope, challenges, breeding, rearing, diseases and management of ornamental fishes. 28 numbers of women trainees from Samastipur district of Bihar participated in the training programme. They were also made aware regarding the schemes and financial assistance that state Government and central government offers for smooth and successful fisheries activities.



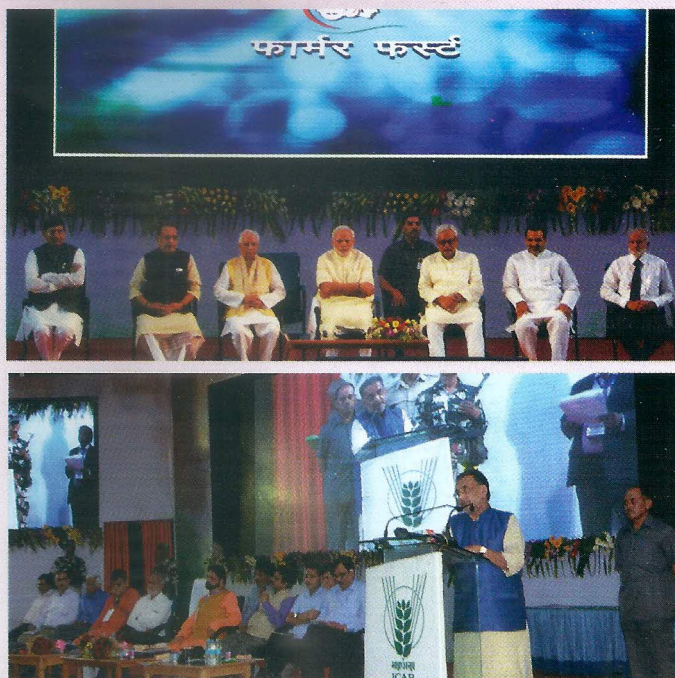
Institute Research Council

The institute research council meeting was held under the chairmanship the Director, ICAR-RCER, during 09-10th July 2015 to review the ongoing projects, to discuss and approve new projects to be taken up by the scientists of the institute participated in the meeting. He also emphasized that the scientists have to work for the livelihood upliftment and nutritional security of the small and marginal farmers

87th ICAR Foundation Day and 9th KVK National Conference

The ICAR 87th Foundation Day Award Ceremony and 9th National KVK Conference was organized by the ICAR-RCER, Patna. The programme was inaugurated by Hon'ble Prime Minister Shri Narendra Modi on 25th July, 2015 at Patna. He called upon agricultural scientists and planners to design second green revolution with new vision, dimensions and objectives to address the agricultural challenges in this modern era. He reiterated that second green revolution will begin from the land of eastern India which has immense potential in terms of natural resources and willing farmers to take up experiments in fields. Emphasizing on the lab to land initiative, he urged agricultural scientists to make farmers their fellow travelers in development and refinement of farm technologies. Adoption of villages by teams of scientists can bring significant changes in the life of farmers by enhancing productivity, he said. Prime Minister suggested developing linkages with architecture experts in designing of agricultural infrastructure like canals, storage structures and other facilities so that benefits of new advances can reach to agriculture. He also suggested refining and revalidating traditional knowledge abundantly available in villages particularly with regard to value addition of agricultural products. He urged agricultural scientists to blend their knowledge with potential of farmers to enhance farm productivity per hectare. Prime Minister launched ICAR schemes Farmer FIRST, ARYA, Student READY and Mera Gaon Mera Gaurav.

On 26th July 2015, Shri Radha Mohan Singh, Union Minister of Agriculture inaugurated the national conference



of KVKs as the Chief Guest. He highlighted the basic aims of initiating four schemes namely, Farmer FIRST; Attracting and Retaining Youth in Agriculture (ARYA); Mera Gaon Mera Gaurav and Student Ready and asked for timely implementation of these schemes to enhance lab to land process. He also conferred eight awards to the best performing KVKs which include national award and zonal awards.



by crop diversification including nutri-cereal crops like sorghum, pearl millet, maize, small/minor millets and pulses in cropping system.

Research Advisory Committee (RAC)

XIIIth RAC meeting was held under the chairmanship of Dr. D.P. Singh on 16-17th June, 2015 at ICAR-RCER, Patna. The committee has given inputs and guidance for the ongoing and future research and developmental programs of the institute.



Foundation Stone of NRC on Integrated Farming System Laid Down

The foundation stone of NRC on IFS was laid down by Shri Radha Mohan Singh, Union Agriculture and Farmers Welfare Minister on 21st Aug. 2015 at Pipra Kothi, Bihar. The mandate of the Institute is to conduct research on the development of location specific integrated farming system models for diverse agro-ecological conditions, especially flood and wetland situation with emphasis on rice, sugarcane and banana which require more water. Progressive farmers and entrepreneurs from the region including seven women farmers were felicitated during the programme that have excelled in cultivation of mushroom, banana cultivation and rice production.



Inauguration of Administrative-cum-Laboratory Building of KVK Buxar

Inaugural function of administrative cum laboratory buildings was held on 19th August 2015 in the Town hall, Buxar, Bihar. Sri Radha Mohan Singh, Honourable Union Minister of Agriculture and Farmers Welfare, GOI, was the Chief Guest of the programme. Other dignitaries Dr. A.K. Singh, DDG Extension, Prof. (Smt) Dr. Sukhada Pandey, MLA Buxar, Dr. A.K. Singh, Director, ATARI, Kolkata, Dr. B.P. Bhatt, Director, ICAR-RCER were also present in the inaugural function. The Chief Guest said that the KVK will cater the need of the farmers to agriculture production of high value crop and can also take benefits of residential training, soil testing laboratory, mushroom spawn etc. 1500 farmers participated in the programme. Ten farmers were felicitated for their contribution on IFS, conservation agriculture, fisheries, dairying, mushroom production, beekeeping, fruit processing and preservation and vermicomposting.



Kisan Goshthi at KVK, Buxar

One day Kisan Goshthi was organized by KVK, Buxar on 2nd September, 2015. Hon'ble Member of Parliament, Shri Ashwini Kumar Choubey inaugurated the programme. 500 farmers, Block Agriculture Officer, Agriculture Coordinators, Kisan Salahkar and other line department officers participated in the programme. Hon'ble MP addressed the issue of increasing population, decreasing land availability and the challenges to feed the large population in the current scenario of climate change. He also suggested that the challenges can be tackled with the inclusion of new technologies, quality inputs, judicious and needful use of pesticides. Inclusion of income generating activities, vocational training to generate self-employment among rural youth through the



KVK is equally important. He stressed upon strengthening the KVK for better delivery of agriculture technology from lab- to- land.

Stakeholders meeting of NRC on Integrated farming system

To finalize the mandates and objectives of newly developed NRC on Integrated farming system, one- day stakeholders meeting were conducted on 17th Sept. 2015 at ICAR-RCER, Patna under the Chairmanship of Mr Vijoy Prakash, Agricultural Production Commissioner, Govt. of Bihar. Directors and scientists of different ICAR institutes, SAUs, and KVKs of eastern region participated in the meeting. Since one ICAR institute on farming system research (IIFSR) is already there at Modipuram, it was emphasized that the newly developed institute should work on the low land ecology in order to avoid duplicacy of research.



Winter School on Water Productivity

A winter school on "Recent Advances in Enhancing Water Productivity in Hill and Plateau Region" was conducted at the Ranchi Centre of the institute from September 25 - October 15, 2015. The Hon'ble Vice Chancellor of the BAU, Ranchi was the chief guest of the valedictory function. The major emphasis of the school was on increasing productivity of water resources to achieve more value and benefits from each drop of water used for crops, fish, forests and livestock while maintaining or improving ecosystems. The winter school was structured to impart the knowledge on approaches to improve food security and livelihood improvement in the context of precise water use. Various aspects like basic concepts, methodologies, constraints and examples on improving water productivity drawn across



various sub-domains of agriculture practiced in the eastern plateau and hill region were covered in during the course of the winter school. Twenty three participants from different agricultural universities (Anand, Bihar, Ranchi, Tamil Nadu), KVKs (Barh, Palamu, West Singhbhum, Darbhanga, Vaishali, Lohardaga), Zonal Research Stations (Darisai, Palamu) and ICAR institutes (IIAB, ICAR-NEH) participated in the winter school.

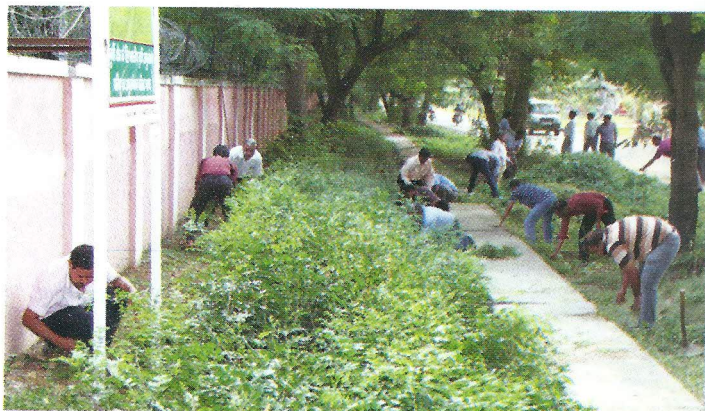
Workshop for Identifying the Production and Technologies Gaps in middle IGPs Region

One-day workshop for identifying the production and technological gaps in middle IGP regions was organized under the Chairmanship of Dr. J. S. Sandhu, DDG (Crop Science) on 7th Oct 2015 at the ICAR RCER, Patna. The meeting was attended by more than 100 participants from various ICAR institutes, SAUs, KVKs, NGOs, Policy makers and farmers of the region. At the outset Dr. B.P. Bhatt Director, ICAR-RCER, Patna welcomed the participants of the Workshop. The Chairman Dr. J.S. Sandhu briefed participants the very purpose of organizing this workshop. He urged the participants to flag the technological, educational, marketing and policy gaps of the region so that a road map could be prepared to bridge these identified gaps. Farmers of different districts of middle IGP raised number of problems related to production, processing, marketing and value addition of their produce (food grains, vegetables, milk, poultry, fish, animals, mushroom, etc).



Swachha Bharat Mission

Under the Swachha Bharat Mission Programme, the institute also organised the cleanliness drive programme on 1st & 3rd Oct, 2015. In this programme, all the staff of the institute actively participated in cleaning of the institute premise.



Soil Health Card Distribution Ceremony

On the occasion of World Soil Day on 5th Dec 2015, a soil health card distribution programme was organized by the institute at its main campus, Patna as well as on its regional centre at Ranchi and KVK Buxar. In this programme, large number of farmers participated from nearby villages. Shri Ram Kripal Yadav, Member of Parliament, Patna and Minister of drinking water and sanitation, GOI was the Chief Guest; and Shri Sanjeev Chourasia, MLA, Digha was the Guest of Honour. The Chief Guest suggested farmers to apply fertilizers only after soil testing and according to the need of the crop. By doing so, it not only increases yield but the condition of the soil also improves. During this programme soil health card was distributed to 250 farmers. In KVK, Buxar, Shri Aswini Choubey, Member of Parliament, Buxar distributed 250 soil health cards to the farmers. Vermibed was also distributed to 15 progressive farmers of Buxar.



Livelihood Improvement of Rural Youth through Livestock and Poultry Based Intervention

An ICAR sponsored short course on "Livelihood improvement of rural youth through livestock and poultry based interventions" was organized at ICAR Research Complex for Eastern Region, Patna during December 15-24, 2015. The Short course comprised of the 22 participants from 5 states covering 18 institutes comprising SAU, KVK and ICAR institutes. A total of 31 theory classes, 3 practical sessions and 01 field visit were organized during the course. The faculty consisted of 20 scientists from six divisions of ICAR RCER, Patna and six guest speakers.



Jai Kisan Jai Vigyan Day Celebrated

Jai Kisan Jai Vigyan Day was celebrated by farmers'-scientist-interaction and exhibition at Motihari, Bihar on 25th December 2015. More than six thousand farmers, entrepreneurs, ICAR institutes, KVKs, NGOs, SAUs, National Seed Corporation, National Horticulture Board, IFFCO participated in the programme. Shri Radha Mohan Singh, Hon'ble Union Minister of Agriculture & Farmers' Welfare inaugurated the programme. He urged the farmers to adopt new technologies developed by the scientists and to adopt integrated farming system for increasing agricultural productivity as a whole and nutritional security in particular. He discussed regarding different farmer friendly schemes launched by the Central Govt. and assured the farmers to launch New Crop Insurance Policy next year. He also stressed the need to develop climate resilient agricultural technologies. Ministers conferred awards to seven farmers for their excellency in agriculture.



Selections/Promotions/Transfer/Retirements

Our new colleagues

- Sh. Karnena Koteswara Rao joined as a Scientist (Soil Science) at ICAR-RCER, Patna w.e.f. 10.04.2015.
- Dr. Priya Ranjan Kumar, joined as Scientist (Plant Breeding) at ICAR-RCER Regional centre Ranchi w.e.f. 25.05.2015.
- Dr. Rakesh Kumar, joined as Scientist (Agronomy) at ICAR-RCER, Patna w.e.f. 10.11.2015
- Sh. Dhiraj Prakash, Technician (T-1) at ICAR-RCER, Patna w.e.f. 10.04.2015.
- Sh. Md. Sajid Mustaq, Assistant at ICAR-RCER, Patna w.e.f. 14.12.2015.
- Sh. Dushyant Kumar Raghav, SMS (Plant protection) w.e.f. 17.08.2015.
- Sh. Vipul Raj, Administrative Officer w.e.f. 21.12.2015.
- Sh. Sunny Kumar, Farm manager (T-4) w.e.f. 31.08.2015.
- Dr. Indrajeet, SMS (Agri. Extension) w.e.f. 21.08.015.
- Dr. Dharamjeet Kherwar, SMS (Horticulture) w.e.f. 08.12.2015.

Promotions

- Sh. Murari Maharaj promoted to Sr. Technical Assitant (Driver) w.e.f. 01.01.2015.
- Sh. Akhilanand Ray promoted to Sr. Technical Assitant (Driver) w.e.f. 01.01.2015.
- Sh. Chandradev Rai promoted to Technical Officer w.e.f. 01.01.2015.
- Sh. Kamal Kumar Lal promoted to JAO, w.e.f. 09.02.2015
- Sh. Firoz Akhtar promoted to Assistant w.e.f. 16.03.2015
- Sh. Bharat Ram promoted to Assistant w.e.f. 21.03.2015
- Mr. Markanday Mishra, promoted to UDC w.e.f. 18.04.2015.
- Sh. Vijay Kumar Singh promoted to Technical Officer w.e.f. 15.06.2015.
- Sh. Afroz Sultan promoted to Technical Officer w.e.f. 13.08.2015.
- Sh. Rajesh Kumar Rai promoted to Sr. Technical Assitant (Driver) w.e.f. 12.08.2015.
- Sh. Sarfaraj Ahmad Khan promoted to Sr. Technical Assitant (Driver) w.e.f. 16.08.2015.
- Sh. Sarfaraj promoted to technical Officer w.e.f. 09.09.2015.
- Smt. Prabha Kumari promoted to Assistant Admin. Officer w.e.f. 28.12.2015.
- Sh. Rakesh mani promoted to Assistant w.e.f. 31.12.2015.
- Sh. Madan Paswan promoted to Assistant w.e.f. 31.12.2015.

Transfer

- Dr. Asit Chakrabati, Senior Scientist transferred from ICAR-RCER, Patna to ICAR-RCER Regional Centre Ranchi w.e.f. 02.01.2015

Retirements

- Sh. Kishore Kumar, T.O (Driver) retired from service on superannuation on 28.02.2015
- Sh. Suresh Ram , SSS (Safaiwala) retired from service on superannuation on 31.01.2015
- Smt. N.D. Barla, Private Secretary retired from service on superannuation on 28.02.2015
- Sh. Kishan Singh, Chief Technical Officer retired from service on superannuation on 31.11.2015.
- Suresh Prasad Singh (Mali) retired from service on superannuation on 30.06.2015.

VRS

- Sh. Bandhu Mahli took VRS w.e.f. 01.01.2015
- Sh. Siril Oraon took VRS w.e.f. 01.01.2015

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