ICAR-Central Potato Research Institute

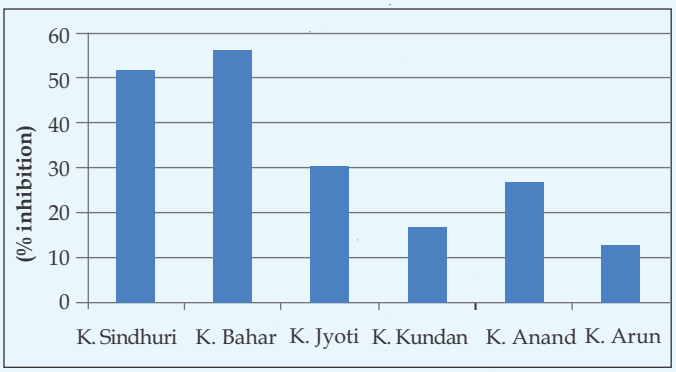
Newsletter

Number 70 October - December, 2017

Research Highlights

Antihypertensive compounds in potatoes

Angiotensin converting enzyme (ACE) increases the blood pressure by converting angiotensin I (inactive decapeptide) to angiotensin II (a potent vasoconstrictor), and bradykinin (a hypotensive peptide) to inactive components. High ACE activity leads to increased concentration of angiotensin II



ACE inhibitors in potato varieties

which in turn leads to hypertension. ACE inhibitors are used as first-line of treatment of hypertension. Plants and plant parts with high antioxidative capacity have the potential to act as ACE inhibitors. With this concept indigenous potatoes were checked for the presence of ACE inhibitory activity using HPLC. Water extract of dried flesh of 25 potato varieties was used to check ACE inhibitory activity. Activity was recorded from 25mg/ml extract. The inhibitory activity ranged from 0 to 56.23% in tested samples. Out of 25 varieties ACE inhibitory activity was recorded in six varieties viz. Kufri Sindhuri, Kufri Bahar, Kufri Jyoti, Kufri Kundan, Kufri Anand and Kufri Arun. The ACE inhibition was the maximum with Kufri Bahar extract followed by Kufri Sindhuri. Out of these six varieties, Kufri Kundan, Kufri Arun and Kufri Anand showed a-glucosidase inhibitory activity (antidiabetic activity) as well, in the previous studies. The results showed that the indigenous potato varieties contain health promoting compounds such as antidiabetic and antihyperstensive ones, however, further *in-vivo* studies are required to check the bioavailability and effectiveness of these compounds.

Pinky Raigond, Tanuja Mishra, Som Dutt & Brajesh Singh

The first report of *Steinernema cholashanense* (Rhabditida: Steinernematidae) from India

Insect-pests are the major threat to the agricultural production and are responsible for both qualitative and quantitative yield losses in crop plants. With the rapid development and advancement in synthetic chemistry, a range of new pesticides had been developed. But due to the environmental and human health hazards many chemicals have been withdrawn from the market. Use of biocontrol agents is an alternative way to chemicals and has been widely adopted by farming community which aims at safer crop protection and sustainable agriculture. In recent years, biological control of insects using nematodes is gaining more popularity as entomopathogenic nematodes (EPNs), which are having symbiotic association with bacteria that helps

to kill the insect by causing septicaemia. To isolate and identify the native strains of EPNs a random sampling was done and soil samples were collected from the farm of ICAR-CPRI, Regional Station, Udhagamandalam, The Nilgiris (TN), India. The soil samples were baited with white grubs/black cutworm and observed regularly for its mortality. The dead insect were collected and kept on white's trap for recovery of EPN. Also dead insects were dissected after 4-5 days of death and the adult stages of EPN were observed. On the basis of adult morphological characters viz., collapsed stoma, anterior position of excretory pore and absence of bursa in males characterized the genus as *Steinernema* sp. For further confirmation, the nematodes were subjected to molecular analysis. Genomic DNA was amplified using sequence of the ITS-rDNA region. Amplicon of ITS-rDNA region yielded a single fragment of approximately 735bp, the obtained sequence was deposited into the GenBank database (Accession no. MH065747) and was compared with published sequences by means of BLAST search in the database. The comparison revealed 99% sequence similarity with *S. cholashanense*. To our knowledge, this is the first report of identification of *S. cholashanense* from India and we designated this isolate as CPRSUS01 strain of *S. cholashanense*. The infectivity of identified *Steinernema* sp. was tested against major pests of potato viz., cutworm (*Agrotis ipsilon*) and potato tuber moth (*Phthorimaea operculella*) and it has been observed that it is killing both the tested insects under lab condition. Hence the identified *Steinernema* sp. would be a potential biocontrol strategy against the major pests of potatoes in future.

Priyank Hanuman Mhatre, Jagadeesh Patil, R. Vijayakumar, E.P. Venkatasalam, Divya K.L., R. Sudha, Aarti Bairwa & J. Jenifer

Weightage score card for identification of new advanced hybrid of potatoes

In potato breeding, the major objective is to develop varieties with higher yields by overcoming various biotic and abiotic constraints, which limit the yield potential of varieties. Potato variety is a group of identical plants produced asexually from a single genotype and is devoid of heritable variation during its propagation. Plants of potato variety are homogenous because they are produced asexually, and heterozygous, because they originate from a heterozygous individual. In potato the integrity of genotype obtained following hybridization, is fixed in seedling stage and maintained with all its intra- and inter-locus interactions responsible for its phenotypic expression. If perceived desirable, it can be multiplied and advanced for commercial cultivation even though initially it may be present as a single plant.

More than 52 traits are required in ideal potato variety and it is perhaps an impossible task to combine all traits to obtain an ideal variety because of complex heterozygous nature of potato. An ideal potato variety affects not only yield and quality but also production cost, environmental issues (requirement of pesticides) and post-harvest losses (susceptibility to mechanical damage, dormancy or total weight losses during storage). Thus, identification of superior variety is dependent upon number of traits like yield, quality traits, resistance/tolerance to biotic/abiotic stresses and consumer acceptability etc. however all traits are not of same importance, therefore weightage score calculated by giving proper weight to different traits according to their relative importance become essential while comparing new advanced hybrid or variety in relation to existing variety of the region.

The new variety should be superior to existing popular variety of the regions in at least one important characteristic, without being

Weightage score for identification of new advanced hybrids of potatoes

Character	Measurement/scale of character	Weightage score to different purpose of potatoes					
		Table	Speciality	Processing	Late blight	Cyst nematode	Abiotic stresses
Foliage maturity	1 to 5 scale: 1-Very late to 5-Very early	5	5	5	5	5	5
Tuber eye depth	1 to 5 scale: 1-Deep to 5-Flat eyes	5	5	5	5	5	5
General impression	1 to 5 scale: 1-Very low to 5-Very high	5	5	5	5	5	5
Dry matter (%)	1 to 10 scale: 1-Low to 10-High	10	10	10	10	10	10
Reducing sugars	1 to 5 scale: (mg/100gram FW): 0-High to 5-Low			5			
Chips/French fry colour	1 to 5 scale: 1-Very dark to 5-Very light			5			
Dormancy period	1 to 5 scale: 1-Short to 5-Extremely long	5	5	5	5	5	5
Storage losses	1 to 10 scale: 1-Very poor to 10-Excellent	10	10	10	10	10	10
Late blight resistance	1 to 10 scale: 1-Highly susceptible to 10-Highly resistant	15	15	15	20	15	15
Cyst nematode	1 to 10 scale: RF value: 1-High to 10-Low					15	
Mite burn tolerance	1 to 5 scale: Burn (%) 1-Very high to 5-Very low						5
Hopperburn tolerance	1 to 5 scale: Burn (%) 1-Very high to 5-Very low						5
Tuber yield	1 marks for every 1% yield increase over control variety: 10 or 15 or 20	20	20	20	25	20	20
Consumer acceptability	1 to 10 scale: 1-Poor to 10-Excellent	10	20	10	10	10	10
Nutritional qualities	1 to 10 scale: 1-Low to 10-High		10				
Additional attributes	1 to 5 scale: other traits not included above	5	5	5	5		5
Total weightage score		100	100	100	100	100	100

significantly inferior to it in any other important traits. Therefore, weightage score card for different purposes of potato breeding has been developed, which enables to compare and judge a new advanced hybrid for introduction in All India Coordinated Research Project on Potato (AICRP-Potato) based on weightage score assigned to different characters as per their importance. For making valid comparison and judging the superiority of advanced hybrids over existing variety, total weightage of 100 is distributed between different desirable characters as per their relative importance. Major attributes, like tuber yield, resistance/tolerance to biotic/abiotic stresses and quality traits are major criteria in evaluating genotypes, therefore, comparatively more weightage has been assigned to these characters in relation to other characters. The scoring for characters is done on 1 to 5 scale or 1 to 10 scale depending upon prevailing standards of the characters. The detailed table is assessable on https:// cpri.icar.gov.in/ misc/ Weightagescorecard2017.pdf. The total weightage scores obtained from different characters is thus used for comparing the new advanced hybrid with existing varieties and making its way for introduction / evaluation in AICRP-Potato.

Potato researchers may select and retain the category in the table and then insert two columns one each for advanced hybrid and control variety of the region. All relevant characters listed in rows should be retained and weightage score of the characters based on actual performance in investigation in respect to control variety and advanced hybrid may be filled. Thus this weightage score devised by assigning relative weights to different characters as per their importance would be helpful in judging the worthiness of advanced hybrid for introduction in AICRP-Potato or release of an advanced potato hybrids as new variety in comparison to existing variety of the region.

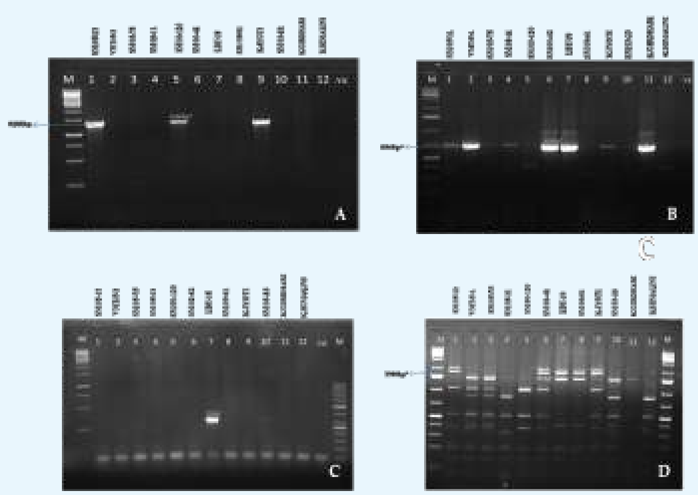
S.K. Luthra, V.K. Gupta and Kamlesh Malik

Marker assisted selection for biotic stress resistance in advanced potato hybrids

Nine advanced potato hybrids along with three check varieties were screened for late blight, viruses and

Screening of hybrids for late blight resistance

potato cyst nematode (PCN) resistance through phenotyping and marker assisted selection (MAS). All the hybrids showed resistant reaction to late blight through detached leaf assay as well as whole plant resistance screening. Among checks, Kufri Girdhari was highly resistant whereas, Kufri Himalini and Kufri Jyoti were moderately resistant and susceptible to late blight, respectively. Late blight resistant gene R1 (AS) was present in only two hybrids (SM/08-11, SM/00-120) and check variety Kufri Jyoti, R2 gene was present in three hybrids (VMT-5-1, SM/00-42, LBY-18) and check variety



Electrophoretic profile of different R genes in 12 potato genotypes A) R1-Late blight, B) R2- Late blight, C) Ry_{adg}-PVY, D) TG 432-PCN

Kufri Girdhari, while R3 gene was observed in six hybrids (SM/08-11, VMT-5-1, SM/05-75, SM/08-11, SM/00-42 and SM/03-23) and one check variety, Kufri Girdhari. The ELISA results for PVY revealed resistant reaction of most of the hybrids and check varieties except two hybrids viz., SM/09-161 and SM/08-11 and Kufri Girdhari. The PVY resistance screening using Ry_{adg}, YES3A and STM003 markers revealed that Ry_{adg} gene was present in one hybrid i.e. LBY 18, while STM003 was found in SM/00-42 and Kufri Himalini. The results were not in agreement with the ELISA indicating the role of other genes in PVY resistance. Similarly, six genotypes LBY-18, SM/09-161, VMT 5-1, SM/05-75, SM/00-120 and SM/00-42 were found to carry one or the other PCN resistance gene in them. Overall, the results indicated that all the advanced hybrids had late blight resistance at par to the best check Kufri Girdhari and in addition most of them were also resistant to PVY and PCN. Among all 9 hybrids, the advanced hybrid, SM/00-42 possessed resistance genes for other traits like PVM (GP250), PVS (SCG17), PLRV (PLRV_SCAR), PVX (GM 339, GM 637, IPM 4) also that was revealed by associated markers. The advanced hybrid, SM/00-42 possessed high resistance against late blight, viruses (PVM, PVS, PVA, PLRV and ToLCNDV) and PCN. This hybrid has great potential for release as a true multi-resistance potato variety in future.

V. Bhardwaj, A. Kumar, P. Kanwar, S. Sood, Dalamu, S. Sharma, A. Jeevalatha, S. Sundaresha, A. Bairwa, B. Raigond, R. Kumar, H. Kardile, M. Lal & S.K. Chakrabarti

Transfer of Technology

Krishi Shiksha Divas celebrated at ICAR-CPRI, Regional Station, Modipuram

"Krishi Shiksha Divas" was organized on 03 December, 2017 at ICAR-CPRI, Regional Station, Modipuram for popularization of Agriculture education among the

students. More than 100 students, 14 teachers of seven local higher secondary schools and 12 farmers participated in this occasion. Dr T. Janakiram, ADG (Horticultural Science-I), ICAR was the Chief Guest of this function. On this day, essay writing competition on"*Krishi Shiksha evam Rojgar"* for students of 11 & 12 class students and drawing competition on "Krishi evam Paryavaran" for students of 9 & 10 class was organized. The lectures to students/teachers on Agriculture Education System in India and importance of Krishi Shiksha for making career in Agriculture sectors were given. Students, teachers and farmers were shown the potato varieties, production, protection and aaeroponics activities related to potato. Awards and certificates were distributed to the winner students and all other participants of both the competitions.

Soil Health Day organized at ICAR-CPRI, Regional Station, Modipuram

This Station celebrated World Soil Health Day on 05

December, 2017. More than 100 farmers from Harsinghpur, Distt-Hapur, Dabthala and Lawar villages of Meerut adopted by this station under *"Mera Gaon Mera Gaurav"* participated in the event. Hon'ble Shri Rajendra Agrawal, Member of

Parliament was the Chief Guest of this function. Pamphlets related to the Soil Health Cards prepared by Ministry of Agriculture and Farmers Welfare, Govt. of India were distributed among the participated farmers. Chief Guest distributed Soil Health Cards prepared on the basis of soil samples collected from farmer's fields to 52 farmers. For benefit of the farmers, lectures on use of balanced fertilizers, irrigation, crop protection etc. were also delivered by the scientists of the station. In his presidential address Shri Rajendra Agrawal described the government policies for the benefit of the farmers and encouraged the farmers for maintaining soil health for sustained production by decreasing the cost of cultivation for increasing their income.

Model Training organized at ICAR-CPRI, Regional Station, Modipuram

A Model training course on "Quality potato seed production, certification and post-harvest management" sponsored by Directorate of Extension, Department of Agriculture, Cooperation and Farmers' Welfare, Ministry of Agriculture and Farmers Welfare was organised at Modipuram during 12-19 December, 2017. Dr. SK Chakrabarti, Director, ICAR-CPRI, Shimla inaugurated this training course. Total 21 officers of Agriculture / Horticulture departments of 10 states viz. Uttar Pradesh, Haryana, Uttrakhand, Punjab, Madhya Pradesh, Chhattisgarh, Telengana, Karnataka, Odisha and West Bengal participated in the training. In his inaugural address Dr. Chakrabarti described scenario of potato production, research and development in India. He motivated the participants to learn techniques of quality potato seed production in this training course and use it for production of quality potato seed in their states. During the training

course about 27 lectures (Theoretical and practical) were organized covering all important aspects of quality potato seed production. The concluding function of the training course was organized on 19th December, 2017. Dr. BP Singh, Ex-Director, ICAR-CPRI was the Chief Guest and Dr. NK Pandey, Head, Division of Social Sciences, ICAR-CPRI presided over the function. Dr. BP Singh motivated the participants for adopting the advanced techniques of production of quality potato seed in their departments/ states as described in training course. At the end of the session, Dr. BP Singh distributed the certificates to the participants.

Three days training programme on scientific potato cultivation organized at ICAR-CPRI, Shimla

A three day's training programme on "Scientific potato cultivation" was organized by ICAR-CPRI Shimla for 15 potato growers of Cooch Behar district, West Bengal on 14th to 16th November, 2017. The training programme was sponsored by National Bank for Agriculture & Rural Development (NABARD), West Bengal. Different aspects of potato cultivation like planting, irrigation, insect and disease pest management, nutrient management, post-harvest management, etc. were delivered to the trainees by the expert scientists from the institute. Lecture-cum-discussion, video shows, demonstrations, practical exercises, field and lab visit, etc. were the modes for imparting training to the participants. Trainees were provided with certificates also.

Farmers' training programme on Potato seed production and plant protection

ICAR-CPRI, Shimla organized a three days training programme on "Potato seed production and plant protection" during 5th to 7th December, 2017. The training was sponsored by Himalayan Action Research Centre (HARC), Dehradun in which seven progressive potato farmers from Uttarakhand participated. In this training programme, different aspects of potato seed production like planting, irrigation, insect and disease pest management, nutrient management, etc. were imparted to the trainees by the scientists of the institute. A variety of training methods, *viz.*, lecture, discussion, video shows, practical exercises, field and lab visits, etc. were used during the training.

ICAR-CPRI Shimla participated in exhibition during 2nd Himachal Pradesh Science Congress

ICAR-CPRI Shimla participated and put up an exhibition stall during the 2nd Himachal Pradesh Science Congress on "Science & Technology for Sustainable Livelihood in Indian Himalayan Region". The event was organised by H.P State Council of Science, Technology & Environment (HIMCOSTE) during 20th to 21st November, 2017 at Hotel Peterhoff, Shimla. Various technologies of the institute like live sample of potato varieties, processed products, True Potato Seeds (TPS), minitubers from net house, microtubers from aeroponic system, virus testing kits, etc. were displayed during the exhibition. A large number of farmers, scientists, students, policy makers, manufactures, companies, NGO members, women entrepreneurs and other stakeholders visited the ICAR-CPRI stall and they were made aware about various technologies of the institute. The visitors were also provided with technical bulletins, folders, etc free of cost.

Live Phone-in Programme at Doordarshan

Scientists from ICAR-CPRI, Shimla participated in the Live-phone programmes on different subjects on Doordarshan from Oct. to Dec., 2017. The details of the topics along with experts are given below.

Month	Topics	Name of the Expert
December	Himachal main aaloo ke vibhinn prajatiyan	Dr. NK Pandey
	Alloo ke Gun aur Gunvatta ke liye kiye jaa rahe shod karya	Dr. Som Dutt

Important Meetings, Events & Visitors

Visit of Dr. Zum Felde Thomas, at ICAR-CPRI, Regional Station, Modipuram

Dr. Zum Felde Thomas, Scientist: Genetics, Genomics and Crop Improvement Sciences from CIP-Lima, Peru visited Modipuram on 20 December 2017. Dr. SK Chakrabarti, Director, ICAR-CPRI, Shimla and Dr. Manoj Kumar, Joint Director, ICAR-CPRI, Regional Station, Modipuram along with

Scientists of Station welcomed to Dr. Zum Felde Thomas. He visited experimental trials of projects collaborated with ICAR-CPRI and CIP. He also visited Seed Production Units of the Station. In the afternoon Dr. Thomas delivered a lecture on "Potential of mineral biofortified potato to help overcome micronutrient malnutrition in developing countries" for CPRI scientists.

Human Resource

Scientific
Joining

1. Sh. Kailash Chandra Naga, Scientist (Entomology) joined on 16.10.2017 in the Division of Plant Protection, ICAR-CPRI, Shimla.
2. Sh. Changan Sushil Sudhakar, Scientist (Plant Biochemistry) Joined on 16.10.2017 in the Division of Crop Physiology, Biochemistry and Post-Harvest Technology, ICAR-CPRI, Shimla.

Promotions

1. Dr. EP Venktasalam, Sr. Scientist, ICAR-CPRI, Regional Station, Ooty promoted to RGP of Rs. 10,000/- as Principal Scientist with effect from 10.09.2016 through CAS.
2. Dr. Shashi Rawat, Sr. Scientist, ICAR-CPRI, Shimla promoted in the RGP of Rs.10,000/- as Principal Scientist with effect from 29.11.2016 through CAS.

Technical
Promotions

1. Sh. Rajinder Kumar, Tech. Asstt., ICAR-CPRI, Shimla promoted to Sr. Technical Asstt. w.e.f. 21.1.2010 and again promoted to Technical Officer w.e.f. 21.1.2015.
2. Sh.Rakesh Kumar Patyal, Tech. Asstt., ICAR- CPRI, Shimla promoted to Sr. Tech. Asstt. 22.2.2005 and again promoted to Technical Officer w.e.f. 22.2.2015.
3. Sh.Kedar Singh, Tech. Asstt., ICAR-CPRI, Regional Station, Kufri promoted to Sr. Tech. Asstt. 4.1.2009 and again promoted to Technical Officer w.e.f. 4.1.2014.
4. Sh. Jagdish Chand, Sr. Technician, ICAR-CPRI, Shimla promoted to Tech. Asstt. w.e.f. 1.1.2017.

Retirement

1. Sh. NK Sud, Tech. Officer, ICAR-CPRI, Regional Station, Modipuram retired on 31.10.2017
2. Sh. Gurdev Singh Tech. Officer, ICAR-CPRI, Regional Station, Jalandhar retired on 31.12.2017

Administrative
Promotions

1. Sh. Jai Ram Thakur, Asstt, ICAR-CPRI, Shimla promoted to the post of Asstt. Admn. Officer w.e.f. 13.10.2017 (A.N.)
2. Smt. Meena Verma, Asstt, ICAR-CPRI, Shimla promoted to the post of Asstt. Admn. Officer w.e.f. 13.10.2017 (A.N.)
3. Smt. IC Dharma Paul, Asstt, ICAR-CPRI, Regional Station, Muthorai promoted to the post of Asstt. Admn. Officer w.e.f. 13.10.2017 (A.N.)
4. Smt. Poonam Sood, Asstt, ICAR-CPRI, Shimla promoted to the post of Asstt. Admn. Officer w.e.f. 13.10.2017 (A.N.)
5. Smt. Babli Bhawani, Asstt, ICAR-CPRI, Regional Station, Kufri promoted to the post of Asstt. Admn. Officer w.e.f. 29.12.2017
6. Sh. Sandeep Verma, UDC, ICAR-CPRI, Shimla promoted to the post of Asstt. w.e.f. 28.11.2017
7. Sh. Santosh Kumar, ICAR-CPRI, Regional Station, Modipuram promoted to the post of Asstt. w.e.f. 28.11.2017 (AN)
8. Sh. Daljit Singh, ICAR-CPRI, Regional Station, Jalandhar promoted to the post of UDC w.e.f. 23.10.2017 (AN)
9. Sh. Gokal Ram, ICAR-CPRI, Shimla promoted to the post of UDC w.e.f.23.10.2017
10. Sh. Ashok Kumar, ICAR-CPRI, Regional Station, Modipuram promoted to the post of UDC w.e.f. 24.10.2017
11. Sh. Raghubir Singh, ICAR-CPRI, Shimla promoted to the post of UDC w.e.f. 28.11.2017

Granted financial up gradation under MACP

1. Sh. Ramesh Kumar Gupta, UDC, ICAR-CPRI, Regional Station, Patna granted 2nd MACP w.e.f. 12.03.2017 in the Level 5 of 7th CPC Pay Matrix (pre-revised pay in PB-5200-20200+GP 2800)
2. Sh. Sukhpal Sharma, Asstt., ICAR-CPRI, Regional Station, Jalandhar granted 3rd MACP w.e.f. 31.10.2017 in the Level 7 of 7th CPC Pay Matrix (pre-revised pay in PB-9300-34800+GP 4600)
3. Sh. Jagdish Chand, Asstt., ICAR-CPRI, Shimla granted 3rd MACP w.e.f. 28.10.2017 in the Level 7 of 7th CPC Pay Matrix (pre-revised pay in PB-9300-34800+GP 4600)
4. Sh. Tej Singh, UDC, ICAR-CPRI, Shimla Granted 2nd MACP w.e.f. 16.09.2017 in the Level 5 of 7th CPC Pay Matrix (pre-revised pay in PB-5200-20200+GP 2800)

Skilled Supporting Staff

Retirement

1. Sh. Piar Chand, Skilled Support Staff, ICAR-CPRI, Shimla retied on 31.10.2017(AN)
2. Sh. Ram Ekbal Rai, Skilled Support Staff, ICAR-CPRI, Regional Station, Shillong retired on 31.12.2017 (AN).

Death

1. Sh. Munna Singh, Ex. Skilled Support Staff, ICAR-CPRI, Regional Station, Gwalior expired on 18.9.2017.

From the Director's Desk

Public procurement forms a very important part of Government activity and reform in Public Procurement is one of the top priorities of the present Government. Government's E Procurement initiative is being taken up as one of the 31 Mission mode projects (MMPs) under National e Governance plan with the aim to make government procurement simplified, transparent, and result-oriented. E Procurement initiative is being implemented through the Directorate General of Supplies & Disposals (DGS&D), a central purchasing organisation under the Ministry of Commerce and Industry, which has core competency in procurement of goods and services.

The e-Procurement MMP (implemented for central government departments like ICAR through CPPP i.e. Central public procurement portal) covers all aspects of procurement from indent of tender to tender preparation, bidding, bid evaluation and award of contract & seeks to completely replace paper tendering process. Another bold step by the government towards ensuring transparent, efficient, safe & secure procurement is launch & operationalisation of Government e market place, GeM. DGS&D with technical support of MeitY has developed GeM portal (taken up as a Special purpose vehicle) for making purchases of both Products & Services in a way very much similar to that done one commercial sites like Amazon, Flipkart etc. Government is the single largest buyer in the country. If pursued to its logical conclusion, GeM would eventually emerge as the National Public Procurement Portal, keeping in tune with the Global best practices. Most of the OECD countries, like USA, South Korea, UK, Singapore etc, have a single NPPP and as a result annual savings of billions of dollars are made in public procurement, besides giving a fillip to the domestic industry.

The implementation of these initiatives have been adequately supported by incorporating required changes in rules framework in form of new GFR, Purchase manuals, CVC Guidelines etc.

Expected outcomes of these initiatives are as

- Cost saving procurements for Government and thereby controlling pilferages and corruption.
- Enhanced transparency in government procurement.
- Enhanced efficiency of procurement thereby resulting in faster procurement cycles & reduced costs per transaction.
- Better compliance of rules & procedures & standardisation of processes.
- Better audit trail of purchase process.
- Improved change management with inbuilt robust documentations in the systems that can be used for management decisions.
- Support to Make in India Initiative thereby aiding GDP growth.

I feel proud to bring the fact to forefront that ICAR-CPRI has emerged leader in fully implementing these initiatives apart from hand holding more than 50 other Institutes through formal & informal trainings and guiding them through successful implementation of these. The E-Governance in India has steadily evolved from computerization of Government Departments to initiatives that encapsulate the finer points of Governance, such as citizen centricity, service orientation and transparency. The increasing use of the Central Public Procurement Portal & GeM truly captures this evolution in its essence.

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Published by : Director, ICAR-Central Potato Research Institute, Shimla-171 001, H.P. (India)
Secretarial Assistance : Sachin Kanwar
Phone : 0177-2625073, Fax : 0177-2624460, E-mail : director.cpri@icar.gov.in, website: https ://cpri.icar.gov.in
Printed at : Azad Offset Printers, Press site, Industrial Area, Phase-I, Chandigarh
Ph. : 0172-4611489, 2656144, 2657144, 9814011543