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From the Director's Desk



India's food security has become a national concern now. Annual growth in the area of agricultural production has faltered to below 2% level. Grain production stagnated for almost last two decades. Government of India is well aware of the problem and chalked out a strategy to boost agricultural growth to at least 4% level during 2007-12. To achieve that target, diversification to horticultural crops will be a key component. Potato can play an important role in crop diversification. Central Potato Research Institute is targeting annual production of about 30 million tones of potato by the end of 11th plan. To achieve that target we have to critically analyze strengths and weaknesses of major potato producing states so as to come out with viable strategies for boosting potato production in specific regions of the country. Gujarat, Haryana, Punjab, Uttar Pradesh, and West Bengal are the five states where potato productivity is higher than national average (17.73 tonnes/ha). To

consolidate and further accelerate potato production in those states, we need to analyze present scenario of potato cultivation in those areas. In the present newsletter, scenario of potato production, limitations, opportunities and priorities in West Bengal has been critically evaluated. The state is presently witnessing high growth rate in potato processing sector. Processing units producing Lay brand chips (M/S PepsiCo Holding Pvt. Ltd.), Pogo chips, King brand flakes etc. have been started by private companies. Besides, a number of small units under un-organized sector are also engaged in potato processing. Therefore, the state can capitalize on this trend by growing processing grade potato varieties. CPRI has conducted extensive evaluation with several indigenous and exotic varieties and concluded that Kufri Chipsona varieties (Kufri Chipsona-1, Kufri Chipsona-2, and Kufri Chipsona-3) bred by CPRI performed best for processing under West Bengal condition. The state is totally dependent on Punjab, Uttar Pradesh and Himachal Pradesh for planting materials. The state cannot produce seed potato in hills due to wart problem. In plains also infestation of bacterial wilt seriously jeopardize seed production effort. Therefore, some innovative approach embracing modern tissue culture techniques should be worked out by the State Department of Agriculture for seed production in selected areas. The majority of potato farmers belongs to small and marginal category and is dependent on local moneylenders for seed, fertilizer and other inputs. A strong agriculture cooperative sector or contract farming can mitigate many of those problems. The article also addressed the market opportunities for the table potato produced by the state. I hope the suggestions made by the authors will help the state Government to identify appropriate strategy to make the potato crop a harbinger of prosperity in rural West Bengal.

ISSUE HIGHLIGHTS

From the Director's Desk	1
Research Highlights	2
Traning and Technology Transfer	4
Important Meetings	7
Invited Lectures & Visitors	9
Human Resource	10
Awards and Honours	10
Future Activities	10
Potato Facts	10
Article on Potato	11
हिन्दी समाचार	14

Research Highlights

CPRI develops a new chipping potato variety for hills

The potato varieties Kufri Chipsona-1 and Kufri Chipsona-2 released in 1998 and being grown in Indo-Gangetic plains have become the major source of raw material for the processing industry. But still round the year availability of raw material to the industry could not be ensured, as majority of potato crop is harvested in February/ March and stored potatoes remain in acceptable quality only up to June. Therefore, the processors fetch fresh tubers of variety Kufri Jyoti grown in northern hills during these months to run the industry. However the quality of these potatoes is poor because of low solids and inconsistent chip colour. Therefore, there was an urgent need of a variety for hills, which can yield at par or better than Kufri Jyoti along with high solids content.

Central Potato Research Institute has developed a hybrid, *viz.*, MP/97-644, which produces higher total and processing grade tuber yields with excellent white colour chips. Compared



Tubers of Kufri Himsona

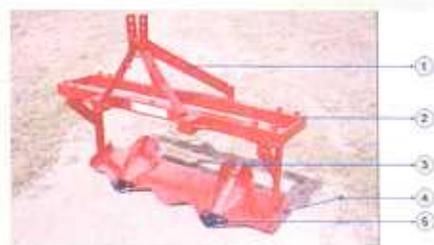


Chips made from the tubers of cv. Kufri Himsona

to Kufri Jyoti and all the Indian and exotic potato processing cultivars, when grown in hills this hybrid has the best processing quality. The hybrid has established its superiority over the existing cultivars when tested at Kufri, Shimla, Mandi, Almora, Shillong and Ooty hills. The hybrid has also been tested for its chip making quality on the commercial industrial line and has been adjudged best among all other varieties being grown or tested in the hills. The tubers of the hybrid are oval shaped, shallow eyed with creamy flesh. The hybrid has shown very high degree of resistance to late blight in all the potato growing areas in hills where the disease appears every year in the epidemic form. The hybrid was released as variety Kufri Himsona for the hills of HP by HP State Variety Release Committee. The availability of this variety will be a boon for processing industry as it will fill up the gap of providing potatoes for processing during lean period and will provide extra money to the farmers because of higher total and processing grade tuber yields in this variety. Further, the farmer will save on money also by applying lesser number of fungicide sprays against late blight. It is expected that with the cultivation of this variety and production of potatoes for processing from hills, the potato processing industry, especially situated in north-western plains, will further grow due to year round availability of quality raw material.

CPRI develops a low cost tractor operated multipurpose potato digger

Potato crop is highly labour intensive and requires lot of man power during planting, inter row cultivation, earthing up, chemical application, haulm cutting, harvesting, sorting and grading. Amongst these, digging is the most cumbersome operation where out of 28-32 kg of soil and potato mixture one kg potatoes are separated out. At present, in large potato growing areas digging is done with tractor operated diggers. With tractor, farmers use either low cost plow type diggers or elevator type diggers. Elevator type diggers have high initial cost and are more



1. Three point hitch system 2. Main frame 3. Ridge opening device
4. Side cutter 5. Replaceable high carbon steel blade

Multipurpose potato digger

expensive to maintain as compared to plow type digger. Despite this they are popular amongst progressive farmers as they give better potato exposure compared to plows thereby resulting in less wastage in the form of left over tubers in the fields.

Central Potato Research Institute has been working for developing a digger which should have performance closer to elevator digger and cost close to plow type digger and has come out with a multipurpose potato digger with several advantages. This digger can be operated with any type of tractor having 20-50 horse power. It can cover about one acre in an hour which is about three times more than elevator type digger. Tuber exposure as compared to elevator digger is about 4-5% less in normal field conditions but much better (15-17%) in dry field conditions towards the second half of harvesting season. In all the conditions, exposure of this digger is better than plow type digger.

Multipurpose digger can be used for early crop without cutting haulms and main crop after removing haulms. Digger is suitable for crop planted at row spacing from 22 to 28 inches. This can also be used for experimental harvesting where scientist need single plant or single row harvest without any inter-plant or inter-row mixing. Market price of this digger is Rs. 6,000-6,500 *vis-à-vis* Rs. 38,000-40,000 for elevator type. Multipurpose digger is made up of locally available raw material and maintenance cost per year is about Rs. 400-500 only compared to Rs. 4,000-5,000 in case of elevator digger.

-Sukhwinder Singh

Durable late blight resistance

Late blight is a major threat to potato cultivation. Potato varieties bred for resistance quickly succumb to newly evolved races of the pathogen. Incorporation of durable resistance in potato varieties would minimize the problem of resistance break down. The diploid potato species, *S. bulbocastanum* possesses high level of durable resistance to late blight. However, this source of durable resistance could not be utilized, so far, by classical breeding because of differences in ploidy and Endosperm Balance Number (EBN). Recently, the *RB* gene responsible for race non-specific, broad-spectrum resistance in *S. bulbocastanum* has been cloned by Prof. John Helgeson and his group at the University of Wisconsin, Madison, USA. The *RB* gene technology has been made available to India by the Agricultural Biotechnology Support Project II of the Cornell University, USA. Transgenic lines of the US potato cultivar Katahdin were evaluated under Indian condition and they performed very well under intense late blight pressure.



Katahdin Kufri Jyoti SP 951

Late blight response of RB-transgenic

Attempts are now being made to introgress this gene from RB-transgenic Katahdin and to directly transform the Indian potato cultivars Kufri Bahar and Kufri Jyoti with the RB gene.

-SK Chakraborty & SK Pandey

Organic potato production

In view of growing awareness for safe food, there has been a paradigm shift and interest to adopt organic potato production system, which are ecologically safe, economically viable

and socially just. The primary goal for organic potato production is to optimize the health and productivity of interdependent communities of soil, plants, animals, and people.

The experiments have shown that irrespective of sources and approaches used for organic potato production, tuber yield with organic treatment was always lower as compared with inorganic fertilizer. However, tuber yields under organic farming consistently increased in succeeding years, when crop was grown on same site without disturbing layout. In addition, tuber quality like dry matter content, specific gravity and chip colour were superior in organic produce. Regarding soil fertility, though the organic carbon content improved in treatments where nutrient requirement was met through organic manures, but the mineral nitrogen, particularly NO₃-N content was lower as compared to inorganic treatment. Thus in long run, the organic potato production, using local improved organic manures, could be one of the better options for sustainable yield with better tuber quality and maintenance of soil health.

-NC Upadhyay

Bio-B5 controls neck rot (*Pyricularia grisea*) of rice

No Indian rice variety is resistant to neck rot caused by *Pyricularia grisea* and the fungicides available provide only reduction in disease severity and not the control. Root dip of rice seedlings for 20 minutes @ 0.25 % suspension of Bio-B5 at the time of transplant followed by a spray after a month of crop age was highly



Control of neck blast by bioagent B-5

successful in bringing down the disease incidence by 85.0 to 88.0% and increase in grain yield by 14.58 to 28.0% at Pablikhas, Mawana, Dorli and CPRIC, Modipuram farms in Meerut.

-V Sunaina

Yellow trap-A tool for aphid management in potato crop

Potato crop is attacked by *Aphis gossypii* Glover, commonly known as melon aphid or cotton aphid, which is polyphagous in nature. This aphid completes its life cycle on different hosts like tomato, brinjal, cucurbits, weeds (like *bharg*, *chenopodium*, *parthenium*, etc.) and is found throughout the year on one crop or the other. This aphid is very hardy and effectively transmits potyviruses, although it is only one of dozens of species implicated in the spread of plant viruses. This fact of vectoring diseases made this aphid more important and calls for its early and effective detection and management on potato crop. It attacks both early (Mid-September planted) as



Photograph of small and big yellow trap

well as main crop (October planted) of potato. Preliminary studies on the use of yellow traps coated with grease in trapping this aphid vector revealed that these traps are very effective and can be deployed on large scale. Consequently bigger traps (45 x 45 cm²) were developed and deployed for mass trapping. It was recorded that *A. gossypii* as well as whitefly could be trapped successfully on yellow colour traps. Even leaf hoppers could be seen glued to the sticky material but their number was low (4-10 per trap). Throughout November to mid-December, *A. gossypii* was trapped in large numbers on yellow sticky traps. Later from December onwards, *Myzus persicae*

(Sulzer) became dominant aphid species. Data indicated that during the month of November and December, the range of population reduction (per 100 leaf basis) in *A. gossypii* by yellow traps was 9.0% to 36.7% with an overall reduction of 19.0 per cent. Traps were also prepared with mobile oil (fresh), mobile oil (burned) and Summer oil and all of them were effective in trapping the aphids although degree of trapping differed among various oils. The studies suggest that deployment of medium size yellow traps for mass trapping of aphids may be used successfully, leading to ecologically sound pest management.

-Kamlesh Malik & BP Singh

Low tuber rottage in Kufri Surya is associated with high antioxidants

Antioxidants like ascorbic acid, phenolic compounds, carotenoids, proline, etc. play an important role in protecting plants exposed to abiotic stresses from oxidative damage to cell membranes and cell integrity. A comparison in antioxidant content in heat tolerant cultivar Kufri Surya and heat susceptible cultivar Kufri Ashoka was made in tubers exposed to 40°C. Kufri Surya had higher ascorbate (30.9 mg/100 g fr. wt.) and there was no tuber rottage after exposure to 7 days of heat stress whereas tuber of Kufri Ashoka, which had lower ascorbate (14.5 mg/100 gm. fr. wt.) showed high incidence of rottage. The total phenols were about 65% higher in Kufri Surya (145 mg/100 g fr. wt.) as compared to Kufri Ashoka (85 mg/100 g fr. wt.). Besides, in freshly harvested

tubers, the carotenoids, another antioxidant molecule, were three times higher in Kufri Surya (293 mg/100 g fr. wt.) than in Kufri Ashoka (98 mg/100 g fr. wt.).

It was found that non-enzymatic molecules play an important role in mitigating the adverse effect of heat stress in germinating tubers of Kufri Surya, while, such antioxidant defense mechanisms poorly operated in Kufri Ashoka leading to tissue disintegration. However, it remains to be seen whether such antioxidant laden potatoes can be the source of practicable therapies for the management of free radical toxicity in humans.

-Devendra Kumar, BP Singh & JS Minhas

Potato outlook survey 2007

CPRI conducted 'Quick Survey on Potato Outlook-2007' in the states of Punjab, Uttar Pradesh, Bihar and West Bengal, during January and February 2007 covering 707 farmers. Potato area in the country was estimated to increase by 4.22% to 1.401 million hectares during 2006-07. Last year's high potato prices influenced potato farmers to go for early potato crop in U.P., Haryana and Punjab. However, the early potato crop was badly affected by high temperature in central and western plains of northern India. Moreover, weather conditions favoured early infestation of crop with the late blight during first week of November in Punjab and second week of November in Haryana and western U.P. Moderate to heavy frost also damaged potato crop during the first week of January in parts of Punjab, Haryana and western U.P. Untimely rains during February 2007 in all major potato producing states inflicted heavy losses on potato crop. Such losses were estimated to 12.17% at national level. Overall potato production in India was estimated to fall up to 22 million tonnes this year against 23.9 million tonnes last year. Hence, potato prices in India are expected to remain firm in the remaining part of this year.

Kufri Bahar was the leading variety in UP (62%) as well as in India occupying about 32% of potato area in the country. K. Jyoti (31.74% at national level) was the predominant variety in West Bengal (73.52%) and Punjab (54.37%). K. Pukhraj was the leading variety in Bihar (27%), Punjab (25%), West Bengal (5.93%) and UP (5.06%). K. Sindhuri in Bihar; K. Chandramukhi in West Bengal, K. Badshah in Punjab and K. Chipsona-1, K. Badshah and K. Anand in UP were other important varieties.

-NK Pandey, Rajesh K Rana, Arun Pandit & B Lal

Training & Technology Transfer

Training Programme at Modipuram

A three days training course on potato seed production technologies was organized from 2-4 January, 2007. This training course was sponsored by Ministry of Agriculture, Govt. of India and aimed at promoting quality seed production in the country.



Inauguration of the training programme

The training was attended by 22 officers from 9 states of the country. It was inaugurated by Dr. B P Singh, Joint Director, CPRI Campus, Modipuram. The officers were trained with the help of well designed lectures and practical demonstrations for quality seed production. Dr. MP Yadav, Vice Chancellor, SVBPUA&T was the chief guest for the valedictory function on the last day of the training programme.

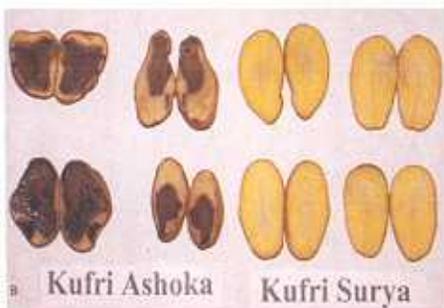


Fig 1. Effect of heat stress treatment (40 °C for 1 week, during 7 to 14 days after withdrawal from cold store) on non-dormant seed tubers of potato cultivar Kufri Ashoka and Kufri Surya.



Demonstration of seed treatment

CPRS, Shillong Participated in Farmers Fair

One day farmers' fair was organized on 20th January 2007 as a part of Meghalaya Day Celebration cum inaugural function of the Year of Farmer (January 2007 to January 2008) by Government of Meghalaya and State Department of Agriculture at Polo ground, Shillong. CPRS, Shillong participated in the fair where more than one thousand farmers from different districts of Meghalaya participated.

In the fair, one hundred exhibition cum sale counter and stalls were put up by different State Agriculture and Horticulture departments, ICAR Institutes, NGOs and Self Help Groups (SHG). There was huge gathering of farmers at the CPRS stall. Farmers showed keen interest in improved potato production, protection and storage technologies and in potato varieties released by CPRI. Free of cost leaflets and extension bulletins were distributed to all the farmers. Honourable Chief Minister, Mr. J. D. Rymbai visited CPRS stall and praised the efforts, various achievements and contribution of CPRS in the region as a whole.



Farmers visiting CPRS, Shillong stall

On-farm Farmers' Training

Three days' On-farm training on "Improved Potato Cultivation Practices" was organised at Mawnianglah, Myllem and Laitmysaw village of East Khasi Hills district of Meghalaya on 26th to 28th February 2007 under Mini Mission-I Project. All together 120 farmers participated in the training from different villages, viz., Mawnianglah, Sadew, Baniun, Myllem, Myrkhan, Mawklot, Nongpiur and Laitmysaw. Potato production practices in Meghalaya, in general, are traditional in nature. There is an alarming gap in the level of adoption of various recommended technologies. In order to upgrade the knowledge and skill of the potato growers in Meghalaya and to show them the improved planting method, the training was organised at farmers' field. Farmers showed keen interest in improved potato cultivation practices like method of planting and use of fertilizer at planting time and they desired to follow the improved cultivation practices demonstrated in the trainings. The training was conducted by Scientists and staff of CPRS, Shillong.

North East Agri. Fair

The North East Agri Fair and National Seminar on Extension Strategies for Optimizing Agricultural Production and Entrepreneurship Development in NE Region were organised at ICAR Research Complex for NEH Region, Umiam, Meghalaya on 5th - 7th March, 2007. CPRS, Shillong participated in the fair with a good response from visitors especially from



CPRS Stall during NE Agri. Fair

farmers. The fair addressed the need for eco-regional planning to remove poverty and increase production as agriculture is the main occupation of the NE people.

Around 1500 farmers from seven north-eastern states participated in the three days fair. Different research, education, financial and marketing institutes put up stalls to apprise the farming community about the technological and development options for their benefit. Simultaneously, different academicians and extension experts participated in the national seminar organised at the same venue. There was an interactive discussion with the farming community during the seminar to suggest the solutions for the problems faced by the farmers in the region.

During the three day programme a large number of farmers from different states of NE and huge number of farmers of Meghalaya visited the CPRS stall. It was observed that the farmers were very keen to learn about the improved package of practices of potato cultivation and many farmers showed interest on TPS also.

Farmers Training at CPRS, Shillong

A two days' Farmers' Training on "Improved Potato Production Techniques" was held at Central Potato Research Station, Shillong from 26th-27th March, 2007 under Mini Mission-I. All together 50 farmers participated in the training programme from different villages, viz., Sanmer, Baniun, Mawklot and Nongpiur. Potato is one of the major crop of Meghalaya. It is well integrated



Hands-on Training for the farmers

in the cropping pattern and the dietary habits of the people of Meghalaya. However, the production practices, in general, are traditional in nature.

Farmers were trained in different aspects, viz., potato varieties and seed and ware production in north-east, diseases and pests and their management, storage techniques and potato production through TPS during the training programme. There was also a practical session to demonstrate the TPS technology. It was observed that the farmers were highly interested to adopt the modern techniques of potato cultivation. The training was given by Drs. PH Singh, VK Chandra, KC Sud and Vinod Kumar from Shimla. Dr. R. Roy Burman, Head, Central Potato Research Station, Shillong facilitated the training programme along with Sh. Dipak Nath, Manoj Kumar, Manab Bikash Gogoi and Bipaul Kumar Das of the Station.

CPRI participated in Kisan Mela

CPRI Campus, Modipuram participated in 3 days Kisan Mela from 8-10 March, 2007 at SVBPUA & T by putting up a stall and displaying potato production technologies. Package of practices of potato production were displayed with the help of display boards/photographs, specimens and live potato varieties in the stall. CPRI stall bagged special prize in the Mela among ICAR stalls.

CPRI Collaborated with SAIF

CPRI, Shimla collaborated with Sophisticated Analytical Instrumenta-



Participants of the workshop

tion Facility (SAIF), Panjab University, Chandigarh in the organization of 27th Workshop on Electron Microscopy, January 8-20, 2007. Seventeen participants from various universities, research institutes, industry and colleges participated in the workshop. It was inaugurated at SAIF, Chandigarh on 08.01.2007 by Prof RC Sobti, Vice Chancellor of PU, Chandigarh. Workshop covered various aspects of electron microscopy including applications in bio-medical research. Participants visited CPRI between 15.1.2007 to 17.1.2007 and were given lectures-cum-practical demonstrations in the immuno-diagnostic applications of electron microscope for the diagnosis of plant viruses particularly potato viruses by Dr. ID Garg, Head and other staff of the Division of Plant Protection, CPRI, Shimla.

Trainers Training Organised at CPRS, Jalandhar

A "Trainers' training" was organized for the officials of National Seed Corporation (NSC), Central Integrated Pest Management Centre (CIPMC) Jalandhar and Deptt. of Horticulture,



Trainees of the training programme

Punjab, Jalandhar from 20-22 March 2007 at CPRS, Jalandhar on potato production and handling. Seventeen officials associated with potato production from New Delhi, Solan, Jalandhar, Etawah and Meerut participated in this programme. The training was organized under the Mega Seed Project. The topics covered during the training were: varietal improvement, breeder's seed production, INFOCROP model, potato diseases and their

management, nutrient management in crop production, mechanization of production, storage methods and processing. Besides, there were practical demonstration on ELISA testing, storage methods, disease management, potato processing and implements.

Farmers Training Organized at CPRS, Jalandhar

A "Farmers training" was organized on 24th March 2007 at CPRS, Jalandhar. About 300 farmers from different parts of Punjab participated in the training programme to acquire knowledge about the improved technologies of potato production. To get the feedback progressive farmers representatives were allowed to present their views. Functioning of the laser leveler was also demonstrated on this occasion.



Inauguration of the farmers training

Training to Cold Store Owners

A training programme on "Elevated temperature storage" was organized by Pepsico India Holding Ltd. for cold store owners of Agra and nearby areas on 22nd April, 2007. The training was attended by 25 cold store owners. Drs. SV Singh and RS Marwaha from CPRI attended this training programme as experts. The local franchisee of CIPC (UPL), Mr. Vijay Kumar also attended the meeting. The CPRI experts stressed upon the need to harvest potatoes at the right stage of maturity, proper skin curing in the field and in the heap for healing of bruises, etc. on the potatoes before CIPC treatment and explained the exact method of treatment of CIPC by fogging, dose of CIPC to be used and time of application of CIPC for both short and medium

dormancy varieties. The discussions were also held on the precautions to be taken at the time of storing the material, CO₂ concentration in the store, methods to measure it and the ways to remove the accumulated CO₂ from the store. The permissible levels of residues of CIPC in the tubers desired for consumption and the minimum time to be given after CIPC treatment after which the tubers should be used for table consumption or for processing were also discussed. The CIPC store owners in general had a chamber capacity of 7,000 bags to 60,000 bags (50 kg capacity). The rent of potatoes for storage in the CIPC stores was about 20 Rs./q higher than the 2-4°C store (cold store). Besides storage, there were enquiries about the methods to be followed for obtaining high proportion of large size potatoes in K. Chipsona-1 and the availability of seed of K. Chipsona-3.

On-farm Training on Potato Diseases at Shillong

An on-farm training on the management of potato diseases with special emphasis on late blight and bacterial wilt was conducted during 22nd to 25th May 2007 in East Khasi Hills district of Meghalaya. Dr. BP Singh, Joint Director, CPRI, Modipuram and Dr. PH Singh, Principal Scientist, CPRI, Shimla were the resource persons for the training. A total of 162 farmers from Sadew and Banium villages participated at Sadew on 1st day. Similarly, on 2nd day 154 farmers from four villages, viz., Mawklot, Myrkhan, Nongpim and Laitmysaw attended the training at Laitmyaw. On 24th a total of 157 farmers from Myllium village and on 25th, 163 farmers from Mawkhan and Mawnianglah villages were present in the programme. The farmers were given training with the help of well designed lectures and practical demonstrations about the role of disease free seed, sanitation, resistant varieties, high ridging and earthing up, prophylactic and need based spray schedules and other management practices for late blight,

brown rot and other important potato diseases.

Live Phone-in Programme on Doordarshan

The Shimla Doordarshan telecasts live phone-in programme of 'Krishi Darshan' in collaboration with various organizations concerned with agricultural development. In this programme burning issues related to crop, animal husbandry, fishery, etc. are discussed by the expert and the viewers (farmers) put their queries to the studio invited experts by dialing the phone number announced just before the start of the programme. Drs. SK Pandey, PS Naik, VK Chandla, MC Sood, NK Pandey, KC Thakur, VK Dua, Mukesh Jatav and Anil Kumar participated in the programme as experts from CPRI during January to June, 2007 and discussed various aspects of potato production.

CPRI Library and its Activities

CPRI Library the 1st in Asia and 2nd largest library of the world on Potato research and development is continually providing scientific and technical information supports and services towards attainment of research mission of the Institute and acts as a repository and clearinghouse of potato literature and information in the country. This library has distinction of having unique collection of potato Theses submitted throughout the Indian universities and has attained the status of most sought after library of the India for potato R&D. Presently library houses more than 50 thousand documents comprising of books, back volumes of journals, serials, annual reports, theses, standards, maps/atlas, reprints and documents. Besides, library is subscribing 259 journals comprising 162 national and 97 international ones, in addition to agricultural CD-ROM databases like CAB, AGRIS, AGRICOLA & Current Contents on agriculture, environmental and biological sciences. Library has full

text search facility for 75 international journals and 1800 plus journals up to abstract level. The library has developed its own web page which has been linked to Institute website (<http://cpri.ernet.in>) where different library resources and services like catalogue of books and journals (Online Public Access Catalogue) OPAC, foreign journals, CD net searching, Recent Articles on Potato (RAP) and Current Journals Received Last Week have been made web enabled to facilitate online desktop access for each scientists of the institute over intranet and internet. The library not only caters information needs of the institute but also provides library information services to neighbouring institutions and generates the revenue.

Important Meetings

Symposium on "A Step towards Brown Revolution with Potato"

To celebrate the Golden jubilee Year of Central Potato research Station (CPRS), Ootacamund, CPRI, Shimla in collaboration with Indian Potato Association (IPA), Shimla organized a one day symposium on "A Step Towards Brown Revolution with Potato" on 19th January, 2007 at Ootacamund. Dr. C. Ramasamy, Vice-Chancellor, Tamil Nadu Agricultural University, Coimbatore, was the Chief Guest on the occasion and Dr Sarath Illangantileke, Regional Director, International Potato centre, was the guest of honour. The inaugural address was delivered by Dr. SK Pandey,



Inauguration of the symposium

Director, CPRI and President, IPA, Shimla. The symposium was attended by about 80 delegates from different parts of the country.

This symposium was organized under technical and poster sessions. In technical session, seven invited lectures were delivered by eminent scientists working in different fields of potato research and development. The lectures covered a wide range of topics, viz., Use of remote sensing and GIS for management and planning of potato production in India by Dr. KR Manjunath from ISRO, Contract farming and Fritolay's model of contract farming for potato by Dr. Rahul Chaturvedi, Pepsico, Assured food security through sugarcane-potato intercropping in India by Dr. JT Nankar, Aurangabad, Status of potato seed systems in South West Asia by Dr. MS Kadian from CIP-SWCA, Dynamics of nematode management in enhancing the potato production by Dr. KS Krishna Prasad of IIHR, Problems and prospects in extending potato cultivation to non-traditional areas by Dr. K Vanangamudi of TNAU and Approaches for breaching yield stagnation in potato by Dr. SK Pandey of CPRI. In the poster session, the posters were screened and the best poster award was also given to the selected presentation. Several recommendations were made during the Symposium which are expected to refine the present potato cultivation and associated activities.

QRT Visits CPRI and Centres

QRT visited several stations of CPRI and AICPIP during January to June 2007 to review the five years research work. Dr VP Gupta, Ex-Vice Chancellor, RAU, Samastipur, Bihar was the chair person of the meeting. Members of the QRT included Dr R Ezekiel, Secretary, Dr SJ Singh, Dr RP Sharma, Dr Seema Wahab and

Dr ML Lodha. The members visited CPRI centres, viz., Patna, Ooty and Shillong and AICPIP centres, viz., Hassan, Kota, Deesa, Hisar, Pusa, Kalyani, Faizabad, Raipur, Chhindwada, Pantnagar and Jorhat during the period. The members were accompanied by Dr SK Pandey, Director, CPRI, Shimla, Dr BP Singh, Joint Director, CPRIC, Modipuram and Dr PS Naik, PC, AICPIP at some centres.

IMC Meeting

The IMC meeting was held at CPRI campus on 8-1-2007. Dr SK Pandey, Director, CPRI, Shimla was the chair person of the meeting. Members who attended the meeting were Dr RP Rai, Head, CPRS Patna, Dr GS Kang, Head CPRS, Jalandhar, Sh Man Singh (Hathras-UP), Sh Devender J Nikam (Pune-Maharashtra), Dr (Smt.) VG Malthi, Principal Scientist, IARI, New Delhi, Sh AK Singh, Senior Administrative Officer, CPRI, Shimla was the Member Secretary. Special invitees in the meeting were Dr BP Singh, Joint Director CPRIC, Modipuram and Smt. Kamlesh Sharma, FAO CPRI, Shimla.

Meeting of Potato Genome Sequencing

Dr SK Chakrabarti, Principal Scientist, Division of Crop Improvement participated in the Potato Genome Sequencing



Demonstration of online integrated map

Consortium (PGSC) Workshop held at the Laboratory of Plant Breeding, Wageningen University, The Netherlands from 18-20 April, 2007. PGSC is an international public-sector effort to sequence and annotate the complete 850 Mbp potato genome by 2010. India is participating in the consortium and intends to sequence 61 Mbp chromosome 2 of potato. Partners from USA, Russia, China, India, UK, Poland, Turkey, Ireland, New Zealand, Peru, Brazil, and The Netherlands participated in the workshop.

The workshop imparted training on BAC fingerprinting, construction of physical map of potato chromosome, determination of minimum tiling path, shotgun sequencing of BAC clones, sequence assembly, etc. There was a practical demonstration also on how to search the online integrated map of potato.

Mini Mission-I Meeting held at Palampur

The second annual meeting of Mini Mission-I on Integrated Development of Horticulture was organized at CSK HPKV, Palampur on 12-13th March, 2007 for implementation and monitoring of different programmes. The meeting was attended by all the PIs/Co-PIs. Dr. Jagmohan Singh, Vice Chancellor, University of Horticulture & Forestry, Solan was the chief guest of this meeting, which was presided over by Dr. DS Rathore, Vice Chancellor, CSKHPKV, Palampur. The other dignitaries who attended the meeting were Dr. SK Pandey (Nodal Officer MM-I and Director CPRI, Shimla), Dr. Sarjeet Singh (Coordinator MM-I) and Dr. Satish Chander Sharma, Director of Research, CSK HPKV, Palampur. During this meeting the progress of Phase I programmes were discussed in first two sessions and the progress of Phase II was discussed in

session III and IV. Session-I and II was chaired by Dr. Jagmohan Singh, whereas, Session-III and IV was chaired by Dr. DS Rathore. In all, 21 presentations of projects under phase-I and 28 presentations of projects under phase-II were made by the principal and co-principal investigators showing the achievements made in different horticultural crops. The projects were reviewed and suggestions were made for further improvement in the on-going research projects by the various dignitaries present on the occasion.

Invited lectures & Visitors

DDG visits CPRI, Shimla

Dr. HP Singh visited Central Potato Research Institute, Shimla on 10th & 11th February, 2007 just after taking over the onerous responsibility of Deputy Director General (Hort), ICAR. Dr. Singh inaugurated the "Seed Village Programme" launched by the Institute on February 10, 2006 at CPRS, Kufri and distributed breeders' seed to 10 potato growers in the first phase for multiplication into Foundation and Certified Seed under the supervision of the Institute scientists.

During his visit Dr. Singh went around each and every laboratory of the Institute as well as Museum, Library, ATIC, ARIS and Tissue Culture



DDG (H) Dr. HP Singh during launching of seed village programme at CPRS, Kufri



Dr. HP Singh, DDG (H) discussing with the CPRI scientists at Shimla

Laboratory and interacted with the scientists and other staff on various research and developmental issues. Dr. Singh specifically appreciated the work being done in the Institute on the INFORCROP POTATO Model and expert system 'Pest Manager' with the help of remote sensing and put forth several suggestions for expanding the different activities in the Institute. He

suggested that work on organic farming, micro-irrigation, development of farm machinery for small and marginal farmers, improvisation on traditional storage systems, etc. may be earnestly taken up in future. During his visit Dr. HP Singh also inaugurated the "National Hybridization Facility" at Kufri and in his address to the scientists of the Institute in the scientist meet held in the forenoon of 11th February, 2007 appreciated the work being done in the Institute.

Scientist meet at CPRI, Shimla

Scientist meet is the regular activity of the Institute, where on Fridays, scientists, technical workers and research associates meet to discuss & deliberate on latest & emerging R & D issues. Following lectures were delivered & discussed in the last 6 months.

Speaker	Topic	Date
Ms. Alka Grover	Genotype diversity analysis within <i>Ralstonia solanacearum</i> population by RAPD and development of ultra sensitive PCR detection protocol	12.1.07
HDFC Bank representatives	Tax saving and investment options	24.1.07
Dr. Smita Sirohi NDRI, Karnal	Issues in Agricultural negotiations under WTO- Indian perspective	8.2.07
Dr. HP Singh DDG (H)	Address to Scientists	11.2.07
Towa Optics- representatives	Confocal microscopy and its applications	23.2.07
Dr. SP Tiwari DDG (E)	IPR Issues in agriculture	7.4.07
Dr. G Korikantimath Director, ICAR Res Complex Goa	Crop diversification and farming systems approach in plantations crops	11.4.07
Dr. SS Razi, Governor, Jharkhand State	Address to scientists	14.5.07
Dr. JS Minhas	Global warming	18.5.07
Dr. R Ezekiel	Evolution-Real or myth	25.5.07

Human Resource

Promotions

Technical		
	From	To
B. Langsteih	T-2	T-3
Som Dutt	T-3	T-4
V.K. Awasthy	T-4	T-5
Harvinder Singh	T-4	T-5
Om Pal	T-4	T-5
Pradeep Thapliyal	T-4	T-5
Administrative		
Krishan Lal	LDC	Sr. Clerk
HN Sharma	PA	AAO
Supporting Staff		
Khlain Singh, Partap Singh & Hari Dass	SSG III	SSG IV
Rampal Singh M Murugushwari Mansa Ram Babu Ram & Neem Chand	SSG II	SSG III
Ram Lubhaya Jagat Kumar Sunil Kumar Pawan Kumar & Ram Balak Rai	SSG I	SSG II

Transfers

Name	From	To
Dr. P Manivel	CPRI Shimla	NRCMAP, Anand
Sh. Ashok Kumar	CITH Srinagar	CPRS, Gwalior

Retirements

Name	Post	Retired on
Dr. Bhawani Prasad	Sr. Scientist	31.01.2007
Mrs. Heera Verma	AO	31.01.2007
Sh. Bhoop Ram	T-2	31.03.2007
Sh. DP Azad	Sr. Clerk	Volunteer retirement
Sh. Chhote Lal	SS Gr. III	31.01.2007
Sh. Sheo Raj Singh	SS Gr. II	31.01.2007
Sh. R. Alagumani	SS Gr. III	01.2.2007

Joining

Dr. S Ramani, Joined as Head, CPRS Shillong on 27.06.2007.

Appointment

Dr. RP Rai, PS appointed as Head, CPRS, Patna on 28.02.2007.

Awards & Honours

Dr. SK Pandey, Director, CPRI has been awarded the prestigious **Rafi Ahmed Kidwai Award** for the biennium 2006-07 by the Indian Council of Agricultural Research, New Delhi. The award has been bestowed upon him for his outstanding achievements and contributions in strengthening and diversification of potato production, storage and utilization for improving productivity and profitability of small farm holdings. The award carries a cash prize of Rupees three lacs (Rs. 3,00,000), a citation and a certificate. This award will be presented to him by the honorable Minister of Agriculture, Shri Sharad Pawar on 16th July on the occasion of Foundation day of Indian Council of Agricultural Research, New Delhi.

Future Activities

RAC and SRC Meeting

The meetings of research advisory committee (RAC) has been fixed on 25th and 26th of July 2007. The RAC meeting will follow the staff research council (SRC) meeting w.e.f. 27th to 29th of July 2007.

Potato Facts

Are chips the new health food?

Traditional chips are still pretty bad for you. Whereas, the frozen chip is the unlikely recipient of low scores for its levels of fat, saturated fat, sugar and salt.

McCain said its rustic oven chip is the first to score four "green lights" on a new healthy eating labelling scheme,

championed by the Food Standards Agency (FSA). The innovation will come as good news to those who resolved to lose weight and eat more healthily in 2007.

Source: Internet



French fries to get Punjabi flavour

CHANDIGARH: A regular complement to the big burger, your favourite French fries will soon taste Indian, rather Punjabi.

In a first of its kind in the country, Satnam Agri Products Ltd is setting up an integrated plant in Jalandhar to make frozen French fries, currently being imported by fast food giants KFC and McDonalds. Managing director, Satnam Agri Products Ltd, Mandeep Singh told TOI: We are investing Rs 40 crore in the project in which SBI has funded Rs 23 crore. The Punjab Agro Industries Corporation Ltd has 16% share in the project. The machinery has been imported from Holland and we hope to start operations by end of January 2007. With one tonne/hour production capacity for frozen fries and 500 kg/hour for potato flakes, the company hopes to market equal share of the produce to the domestic as well as the exports market.

Source: Internet

Late blight disease affects potato production in West Bengal

It has been reported that potato export from West Bengal will suffer this year as the late blight disease has damaged the crop and pulled the production down by almost 30 per cent. The state, with the highest productivity of potato and second highest area under cultivation, had brought four lakh acre under cultivation this year. But the late blight disease had affected almost 85 per cent of the area under cultivation early in the year.

Source: Internet

Ukraine: World's oldest man puts it down to potatoes

The world's oldest man, who turned 116 on March 15, puts his longevity down to a diet of potatoes and healthy outdoor living. Hryhory Nestor from the Ukraine is presumed to be the world's oldest living man. His passport, based on Austrian documents, says he was born on March 15, 1891. The Ukrainian attributes his long life to healthy outdoor living, and recommends a diet of potatoes, milk and cheese.

Source: Internet

Golden potatoes engineered to give beta-carotene boost

A 250 gram serving of "Golden" potatoes, engineered to produce high quantities of the pro-vitamin A beta-carotene, could provide half the recommended daily intake of vitamin A, suggests new research. Writing in the Public Library of Science, researchers from Rome-based Casaccia Research Center and Germany-based Freiburg University report that using the minipathway of bacterial origin technique the beta-carotene content of potatoes could be increased 3600-fold.

Source: Internet

Bengal to brand potato varieties

West Bengal will brand its homegrown potato varieties to boost its market in India and abroad. The Potato Development Committee formed by the state has zeroed in on building a Bengal brand, including development of a web site.

Source: Internet

High-energy ionizing treatment for potato sprout control

Sprout control using low doses of ionizing irradiation from Cobalt-60 sources has been extensively evaluated worldwide since the 1960's. These low doses of irradiation are effective in controlling sprout development for long term storage providing other storage parameters are maintained. The irradiation dose can also be applied via a linear accelerator where high-energy electrons are substituted for the radioactive cobalt. The electrons easily penetrate the tuber tissue and prevent sprout growth.

Source: Internet

Article on Potato

Scenario of potato production, limitations, opportunities and priorities in West Bengal

Introduction

With per capita highest availability of potato (83 kg/annum), West Bengal

with nearly five-fold increase in potato production in last 30 years has emerged as the second largest potato producer in India, accounting for nearly 24% of the area and 30% of the production in the country. Hoogly, West Midnapur, Burdwan and Jalpaiguri are the main potato producing districts accounting for nearly 71% of total production in the State. Though Kufri Jyoti, which has now gone susceptible to late blight, occupies nearly 80% of the area in the State followed by Kufri Pukhraj and the other varieties, slowly processing varieties like Kufri Chipsona-1 and Atlantic are making inroads in potato cultivation in the State following establishment of processing industries like Pepsico Holdings Pvt Ltd, Pogochips, King Brand Flakes, etc. in the organized sector and several industries in and around big towns in unorganized sector. Several studies on suitability of remunerative cropping systems involving potato as well as varieties for table and processing have been conducted in the last four years. These studies have shown that *aman* rice-potato-*boro* rice to be more profitable (11%) than *aman* rice-potato-sesame cropping system; Kufri Jyoti being the highest yielder and suitable for table purposes, while Kufri Chipsona-2 to be the most suitable for processing.

Suitability of potato varieties grown in West Bengal for processing

In the samples analyzed from potatoes grown in Hoogly, Burdwan, Midnapur West, Bankura and Birbhum from South Bengal and Jalpaiguri and Cooch Bihar of North Bengal for various processing parameters for preparation of chips, French fries, flour, flakes and dehydrated chips showed only Kufri Chipsona-1 and Atlantic to be perfect, while varieties like Kufri Jyoti, Kufri Chandramukhi, Kufri Jawahar and *Kaccha* Bhutan (local variety) produced chips of unacceptable colour. Both Kufri Chipsona-1 and Atlantic gave recovery of over 27% of chips compared to only 20.5 to 23.5% in popular variety Kufri Jyoti. Similarly, recovery of flour was

A major problem of potato cultivation is its late planting in most of the areas after 15th November following late harvest of paddy allowing insufficient time for crop. Many a time, this results in harvesting of immature crop as hardly any time is left for haulm cutting and curing with temperatures rising with the onset of summer. This also badly affects the storage of potatoes.

Though West Bengal has capacity to cold store nearly 54% of state's potato production, however, this also often falls short-of and many a time small farmers have to suffer from non-availability of the space in stores due to fictitious booking by cold store owners in connivance with the big farmers.

Post harvest losses are high in West Bengal some time even reaching to nearly 27% of the produce. These losses occur at different stages of handling, transportation, storage, processing and distribution. In West Bengal since no haulm cutting is done, uncured and immature tubers with soil sticking on them are mostly stored resulting in high magnitude of losses. Immediate storage from high temperatures to low temperatures in the stores also causes physiological break down of the tubers. A big problem in West Bengal is that potatoes are neither sorted nor graded before their storage by the farmers and these un-graded potatoes are used for sale/purchase both by wholesalers and retailers. Use of old gunny bags and stacking of bags one above the other up to the top in cold stores leaving a very



Common mode of transport of potatoes from the field to the cold stores and nearby markets

small space for potatoes to respire also cause high storage losses.

A common practice of transportation of potatoes by rickshaw, vans and even by bicycle to the cold storage was observed in Hoogly market. This helps in bringing down the post harvest losses compared to long distance transportation by trucks to Kolkata market.

Opportunities

Although, potatoes from WB are sent to neighboring states like Bihar and Assam, but there is lot of scope to send them to other states with low per capita production like Chhattisgarh (2.46), Orissa (2.02), Maharashtra (0.71), Gujarat (0.79) and Rajasthan (0.77) in the west and Karnataka (6.4) and Tamil Nadu (1.21) in the south. West Bengal Government need to promote the village cooperatives to send potato produce to the other states to earn more revenue.

Kolkata being the port city, there are lot of opportunities to export good quality potatoes to the neighboring countries like Sri Lanka, Myanmar, Thailand and Singapore by ships and also to Nepal, Bhutan and Bangladesh by road.

Several multinational and national level potato industries are operating in the West Bengal, besides, many more are in the pipe line. Government should encourage the local industrialists to set up more processing industries manufacturing starch, flakes and granules and promote cottage level processing for preparing dehydrated products like dehydrated chips, cubes, warris, papads, etc. These industries do not have very stringent tuber quality requirements and can utilize surplus potato of the state by value addition.

All these industries would require large quantities of suitable processing potatoes as raw material. Therefore, there is an ample scope to bring more area under the cultivation of processing varieties like Kufri Chipsona-1, Kufri Chipsona-2 and Kufri Chipsona-3 which attract premium price over the table

varieties thereby benefiting the farmers.

There are very limited number of cold stores operating at 10-12°C with CIPC for storing processing and table potatoes. The demand for these stores is likely to develop in the near future in WB, because these stores besides saving energy, can provide good quality less sweet potatoes to the consumers from May to November and suitable raw material to the processing industries.

Priorities

The following priorities need immediate implementation for sustainable production and efficient marketing of potato:

- Good quality seed in sufficient quantities need to be made available to the farmers by the government agencies.
- Potato growers need to be imparted training about scientific methods of potato production
- The crop should be planted by 15th November and harvested before 25th February. In order to avoid delay in planting time of potato, early maturing rice varieties should be grown before potato.
- Whole tubers should be planted as seed. If at all the seed tubers are to be cut into pieces, these should be treated with suitable fungicides so as to protect them from infection.
- Haulm cutting 10-15 days prior to harvest followed by storage in heaps for 10 days with covered straw is advocated for proper setting of tuber skin which will reduce the post harvest losses during storage
- Potatoes should be harvested at optimum maturity and only after proper curing, wound healing, sorting out for diseased/damaged tubers and grading should be stored in the cold store
- Harvested potatoes should be pre-stored at 15°C for a short period before the transfer of material to low temperature storage chamber.

- Farmers should be encouraged for cooperative efforts to dig more tube wells.
- An improvement in rural roads is required to reduce the extent of delay in transportation
- It is necessary to create more cold storage space both for storing seed potato (2-4°C) and table and processing potatoes (10-12°C with CIPC) and make stringent enforcement of laws for smooth running of cold stores
- Government should accelerate the functioning of potato agri-export zones and make arrangement for export of potato to the neighboring countries.

- RS Marwaha, R Ezekiel,
SV Singh, Dinesh Kumar, Ashiv Mehta,
Parveen Kumar
& SK Pandey.

हिन्दी समाचार

कुफरी-फागू में किसान मेला

केन्द्रीय आलू अनुसंधान केंद्र, कुफरी-फागू द्वारा फागू फार्म पर 27 मई 2007 को किसान मेला एवं प्रशिक्षण शिविर का आयोजन किया गया। इस मेले में हिमाचल प्रदेश के शिमला, सोलन तथा सिरमौर जिलों से लगभग 400 किसानों ने भाग लिया मेले का उद्घाटन भारतीय कृषि अनुसंधान परिषद् के उपमहानिदेशक (बागवानी) डॉ. एच.पी. सिंह ने किया तथा समारोह के मुख्य अतिथि के रूप में मेले को सुशोभित किया। अपने उद्घाटन



किसान मेले का उद्घाटन

भाषण में डॉ. एच.पी. सिंह ने किसानों को सम्बोधित करते हुए कहा कि कृषि क्षेत्र में तेजी से हो रहे बदलाव के मद्देनजर कृषि के व्यवसायीकरण की आवश्यकता है। बदली हुई परिस्थिति में उपलब्ध अवसरों का लाभ उठाने हेतु उन्होंने किसानों को एकजुट होकर कार्य करने की सलाह दी। उन्होंने कहा कि किसानों की आर्थिक दशा सुधारने के लिए वैज्ञानिकों एवं अधिकारियों को मिशन के रूप में कार्य करना चाहिए। इस संदर्भ में उन्होंने भारत सरकार के 'बागवानी मिशन' कार्यक्रम की भी चर्चा की तथा जैविक कृषि को अपनाने की सलाह दी। उन्होंने केन्द्रीय आलू अनुसंधान संस्थान द्वारा नव-विकसित किस्मों को किसानों द्वारा अपनाने का आह्वान किया ताकि आलू की उत्पादकता को और अधिक बढ़ाया जा सके। इस अवसर पर मुख्य अतिथि महोदय ने संस्थान द्वारा प्रकाशित दो प्रसार पुस्तिकाओं का भी विमोचन किया।

समारोह की अध्यक्षता करते हुए कृषि निदेशालय, हिमाचल प्रदेश के निदेशक डॉ. जे.सी. राणा ने कहा कि हिमाचल प्रदेश का आलू आज भी सर्वोत्तम है जिससे किसानों को अच्छी आय प्राप्त होती है। उन्होंने विविध प्रयोग हेतु आलू के उत्पादन पर जोर दिया तथा फसलों के विविधिकरण के महत्व को भी उजागर किया। इस अवसर पर बागवानी निदेशालय, हिमाचल प्रदेश के निदेशक डॉ. गुरदेव सिंह ने प्रदेश में चलाए जा रहे विभिन्न बागवानी कार्यक्रमों की जानकारी दी। इससे पहले अपने शुरुआती संबोधन में केन्द्रीय आलू अनुसंधान संस्थान के निदेशक डॉ. सुमन कुमार पाण्डेय ने संस्थान की उपलब्धियों के बारे में लोगों को जानकारी दी। उन्होंने संस्थान द्वारा विकसित आलू की नई किस्मों तथा तकनीकों के बारे में बताया तथा किसानों द्वारा स्वस्थ बीज के प्रयोग पर जोर दिया। उन्होंने कम अवधि में तैयार होने वाली प्रसंस्करण हेतु

आलू किस्मों को अपनाने का भी आह्वान किया।

इस अवसर पर एक कृषि प्रदर्शनी का भी आयोजन किया गया जिसमें कृषि एवं बागवानी से संबंधित विभिन्न विभागों, बैंकों तथा निजी कम्पनियों द्वारा प्रदर्शनी लगाई गई। इनमें मुख्यतः आलू प्रदर्शनी तथा बागवानी विभाग की प्रदर्शनी थी। इनके अलावा कई किसानों ने भी अपने खेत के उत्पादों की प्रदर्शनी लगाई। विभागों एवं किसानों की तीन उत्तम प्रदर्शनियों को पुरस्कार दिए गए। मेले में किसान गोष्ठी की भी आयोजन किया गया जिसमें किसानों ने अपनी समस्याएँ विषय विशेषज्ञों के सामने रखीं तथा उनके समाधान के लिए विचार-विमर्श किया। अंत में कुफरी केंद्र के अध्यक्ष डॉ. के.आर. धीमन ने मेले में आये सभी विशिष्ट अतिथियों, अधिकारियों तथा किसानों का धन्यवाद किया।

झारखण्ड के राज्यपाल का संस्थान भ्रमण

झारखण्ड राज्य के राज्यपाल सैयद सिल्ले रज़ी ने केन्द्रीय आलू अनुसंधान संस्थान, शिमला में 14 मई 2007 को संस्थान की गतिविधियों के बारे में जानने हेतु दौरा किया। उनके साथ बिरसा कृषि विश्वविद्यालय, रांची के कुलपति डॉ. एन.एन. सिंह भी थे। ये विशिष्ट अतिथिगण हिमाचल प्रदेश के विभिन्न संस्थानों के दौरे के सिलसिले में यहां आए थे। इस दौरे का मकसद हिमाचल प्रदेश में चल रहे विकास कार्यों तथा उनकी उपलब्धियों के बारे में जानकारी प्राप्त करना था जिन्हें झारखण्ड राज्य में भी प्रयोग के तौर पर अपनाया जा सके। इस अवसर पर संस्थान के कर्मचारियों को संबोधित करते हुए राज्यपाल ने कहा कि आलू का हमारे भोजन एवं कृषि अर्थव्यवस्था में महत्वपूर्ण स्थान है। आलू को सब्जियों का राजा कहा जाता है क्योंकि यह अनेक गुणों से सम्पन्न है। उन्होंने झारखण्ड राज्य के आलू उत्पादकों को स्वस्थ आलू बीज उपलब्ध कराने



राज्यपाल का संस्थान भ्रमण

हेतु केन्द्रीय आलू अनुसंधान संस्थान से सहायता मांगी। उन्होंने यह भी कहा कि झारखण्ड राज्य में आलू एवं इसकी खेती को लोकप्रिय बनाने के लिए हर संभव प्रयास किए जायेंगे तथा राज्य के प्रशासनिक एवं तकनीकी अधिकारियों को इस दिशा में प्रेरणा दी जाएगी। संस्थान के निदेशक डॉ. सुमन कुमार पाण्डेय ने संस्थान के विभिन्न प्रयोगशालाओं एवं खेत के कार्यक्रमों की राज्यपाल महोदय को जानकारी दी। उन्होंने संस्थान की विभिन्न गतिविधियों एवं उपलब्धियों के बारे में भी अवगत कराया तथा राज्यपाल महोदय को पूरा सहयोग देने का आश्वासन दिया।

बीज आलू उत्पादन तकनीक पर किसान प्रशिक्षण कार्यक्रम

केन्द्रीय आलू अनुसंधान केन्द्र, ग्वालियर में 14 मार्च, 2007 को आलू बीज उत्पादन तकनीक पर राष्ट्रीय बीज परियोजना के अंतर्गत एक दिवसीय कृषक प्रशिक्षण कार्यक्रम आयोजित किया गया। इस कार्यक्रम की अध्यक्षता श्री सी.बी.एस. यादव, आंचलिक प्रबंधक (कृषि), ग्वालियर संभाग ने की जबकि मुख्य अतिथि



पावर टिलर का प्रशिक्षण

के तौर पर डा. एच.एस. कुशवाह, अधिष्ठाता, कृषि महाविद्यालय, ग्वालियर एवं विशिष्ट अतिथि के रूप में श्री महावीर सिंह तोमर, उप संचालक (उद्यान), ग्वालियर उपस्थित थे।

प्रशिक्षण कार्यक्रम में 215 किसानों को बीज उत्पादन तकनीक पर केन्द्र के वैज्ञानिकों द्वारा प्रशिक्षण दिया गया जिसमें किसानों को आलू बीज उत्पादन में प्रयुक्त नवीनतम तकनीक, विभिन्न किस्मों, क्षेत्र में आलू की प्रमुख बीमारियों, कीट व्याधि भी प्रदर्शनी में दिखाए गए तथा उन्हें प्रक्षेत्र भ्रमण भी कराया गया। प्रश्न-उत्तर कार्यक्रम में किसानों की आलू से संबंधित समस्याओं का निवारण भी किया गया। इस अवसर पर बीज आलू उत्पादन की एक पुस्तिका का प्रकाशन भी करवाया गया।

संसदीय राजभाषा समिति शिमला में

संसदीय राजभाषा समिति की आलेख एवं साक्ष्य उपसमिति ने शिमला की नगर राजभाषा कार्यान्वयन समिति के 30 सदस्य कार्यालयों के विभागाध्यक्षों के साथ शिमला के पीटर हॉफ में आयोजित सभा में विचार-विमर्श किया। इस आयोजन में केन्द्रीय आलू अनुसंधान संस्थान भी शामिल था।

समिति के तीन माननीय सांसद सर्वश्री अनिल बसु, संयोजक, तीसरी उपसमिति, संतोष गंगवार, सदस्य व श्री उदय प्रताप सिंह, सदस्य ने 30 मई, 2007 को संस्थान का दौरा किया। संस्थान के निदेशक डा. सुमन कुमार पाण्डेय ने उन्हें संस्थान में हो रहे अनुसंधान कार्यों की



संसदीय राजभाषा समिति का संस्थान दौरा

जानकारी दी। समिति ने संस्थान में हो रहे कार्यों की सराहना करते हुए हिन्दी पत्राचार को बढ़ाने का सुझाव दिया।

गहन हिन्दी कार्यशालाओं में भागीदारी

परिषद् के निर्देश पर इस वर्ष केन्द्रीय हिन्दी प्रशिक्षण संस्थान, नई दिल्ली द्वारा 5 पूर्ण कार्य दिवसीय हिन्दी कार्यशालाओं में भाग लेने के लिए ग्वालियर केन्द्र के श्री संजय कुमार शर्मा, श्री राकेश सिंह व पटना केन्द्र के श्री हरेकृष्ण सेन तथा जालन्धर केन्द्र की श्रीमती संध्या कपिला को नामित किया गया।

हिन्दी में कम्प्यूटर प्रशिक्षण

राजभाषा विभाग द्वारा राष्ट्रीय सूचना केन्द्र, एन.पी.टी.आई. और सी-डेक के माध्यम से संस्थान के ऊटी केन्द्र की श्रीमती एम. लतिका, निजी सहायक, श्रीमती आई. सी. धर्मपाल, सहायक व श्रीमती एम. राणी, वरिष्ठ लिपिक ने क्रमशः तिरुवनंतपुरम, चेन्नई व बंगलूर में आयोजित 5 पूर्ण दिवसीय कम्प्यूटर प्रशिक्षण कार्यक्रम में भाग लिया। इस प्रशिक्षण में भाग लेने के उपरान्त निश्चित तौर पर ग क्षेत्र में स्थित होने पर भी ऊटी केन्द्र द्वारा हिन्दी में पत्राचार करने का जो प्रयास किया जा रहा है वह सराहनीय है।

एक छत के नीचे प्रशासन

संस्थान के मुख्यालय के नवनिर्मित प्रशासनिक ब्लॉक में संस्थान के सभी अनुभागों ने कार्य करना प्रारम्भ कर दिया है। इस ब्लॉक में कर्मचारियों/अधिकारियों के बैठने व स्वतन्त्र रूप से स्वच्छ वातावरण में काम करने की आधुनिक व्यवस्था है। इस ब्लॉक में धरातल पर स्कूटर पार्किंग के अतिरिक्त डायरी व डिस्पैच व कैशियर के कमरे हैं, वहीं पहली मंजिल पर वरिष्ठ प्रशासनिक अधिकारी, समिति कक्ष व भण्डार अनुभाग के बैठने की व्यवस्था है। दूसरी मंजिल पर स्थापना, निर्माण एवं सम्पदा व राजभाषा तथा तीसरी मंजिल

पर लेखा परीक्षा व बिल एण्ड कैश अनुभाग है।

एक छत के नीचे सम्पूर्ण प्रशासन के आने से एक नए माहौल में प्रशासनिक कार्यों के निपटाने को एक नई गति मिली है।

साम्प्रदायिक सद्भाव अभियान

हर वर्ष की भान्ति इस वर्ष भी संस्थान व उसके क्षेत्रीय केन्द्रों में साम्प्रदायिक सद्भाव अभियान सप्ताह व झण्डा दिवस के दौरान कर्मचारियों ने राष्ट्रीय सद्भावना व कौमी एकता की शपथ ग्रहण की तथा सामाजिक दंगों के शिकार बच्चों के शारीरिक एवं मानसिक पुनर्वास के लिए चन्दा एकत्रित किया। राष्ट्रीय साम्प्रदायिक सद्भाव प्रतिष्ठान ने संस्थान के सक्रिय एवं सुदृढ़ योगदान की प्रशंसा की।

शिमला में खेत दिवस आयोजित

केन्द्रीय आलू अनुसंधान संस्थान, शिमला द्वारा शिमला जिले के खड़ापत्थर गांव में दिनांक 12.6.2007 को एक खेत दिवस का आयोजन किया गया। इस कार्यक्रम में डा. के.आर. धीमन, अध्यक्ष, केन्द्रीय आलू अनुसंधान केन्द्र, गुफरी, डा. वी.के. चांदला, प्रधान वैज्ञानिक,

पौध संरक्षण संभाग, डा. एम.सी. सूद, प्रधान वैज्ञानिक, फसल उत्पादन संभाग, डा. एन. के. पाण्डेय, अध्यक्ष, सामाजिक विज्ञान संभाग एवं डा. अनिल कुमार, वरिष्ठ वैज्ञानिक, कृषि प्रसार द्वारा आलू के विभिन्न विषयों पर व्याख्यान दिए गए। इस अवसर पर किसानों को वर्मी कम्पोस्ट एवं बोर्डो मिश्रण बनाने की विधि का भी प्रदर्शन किया गया। डा. के.आर. धीमन ने आलू के बीज की खेती के बारे में किसानों को अवगत करवाया। डा. एम.सी. सूद ने जैविक खाद की महत्ता को बताते हुए इनसे होने वाले आय एवं मिट्टी की उर्वरक शक्ति में सुधार के बारे में अवगत कराया। डा. चांदला ने आलू में लगने वाले रोगों एवं कीटों व उनके नियंत्रण के बारे में किसानों को बताया। डा. एन. के. पाण्डेय ने अपने व्याख्यान में आलू में होने वाले खर्चों एवं विपणन की संभावनाओं के बारे में तथा सामाजिक विज्ञान संभाग द्वारा चलाए जा रहे किसान हेतु कार्यक्रमों एवं प्रशिक्षण की जानकारी दी। डा. अनिल कुमार ने आलू उत्पादन में सामान्य पद्धतियों के बारे में जानकारी दी। इस अवसर पर स्थानीय किसानों द्वारा भी विचार प्रकट किए गए। इनमें से श्री यशवंत सिंह ब्राम्टा, श्री

विजय आजाद, श्री दिलीप पिरटा और श्री लक्ष्मी सिंह गुन्टा इत्यादि मुख्य थे। इन्होंने हिमाचल प्रदेश राज्य आलू फार्म से अच्छी गुणवत्ता वाले आलू उपलब्ध नहीं होने की समस्या जाहिर की एवं अच्छे गुणवत्ता के बीज की मांग की। इस सिलसिले में संस्थान द्वारा किसानों को थोड़ा-बहुत बीज देने का भी आश्वासन दिया गया। इस अवसर पर संस्थान द्वारा आलू उत्पादन तकनीक की फोटो प्रदर्शनी भी लगाई गई।

यह खेत दिवस संस्थान द्वारा खड़ापत्थर क्षेत्र के 12 किसानों को वर्ष 2007 के दौरान अपनाये जाने के उपलक्ष्य में आयोजित किया गया था। इस खेत दिवस में खड़ापत्थर एवं अन्य क्षेत्रों से लगभग 150 किसानों ने भाग लिया।



खेत दिवस का आयोजन

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