



IAUA



NEWS

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SPOT NEWS

Prof. Panjab Singh, takes over as VC, BHU on 3 May 2005

Prof. Panjab Singh, former Secretary, DARE & DG, ICAR, and Vice-President of NAAS, is the first Agricultural Educationist to be appointed Vice - Chancellor of BHU, Varanasi-the most prestigious and the largest residential university of Asia-on 3 May 2005.

Born on 10 December 1942, Prof. Singh obtained M.Sc. (Agric.) Agronomy from Agra University in 1964 and Ph.D. from IIT, Kharagpur in 1969. He has a rare combination of extraordinary academic record and rich experience, holding very responsible and high positions, i.e. Assistant Director-General (ICAR) of the World Bank-aided National Agricultural Research Project (1979-86); Director, IGRI, Jhansi (1986-94); Joint Director (Research), IARI, New Delhi (1994-97); Vice-Chancellor, JNKVV, Jabalpur (1997-2000); Director, IARI, New Delhi (2000-01); DG (ICAR) and Secretary, DARE, Government of India (2001-02); and Director, Centre for Extension Education, School of Agriculture, IGNOU, New Delhi (2003-05). He had also worked as the FAO's Regional Plant Production and Protection Officer at Bangkok and Regional Co-ordinator, Temperate Asia Pasture and Fodder Network.

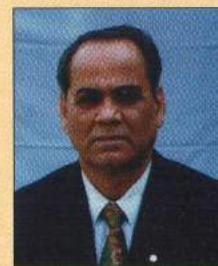
Prof. Singh was President of Indian Society of Agronomy for four terms (1995-96, 1997-98, 2001-2002 and 2003-04), when he successfully organized the first and second International Agronomy Congresses.

During his each assignment, Prof. Singh made noteworthy contributions. As ADG (NARP), he strengthened the regional research capabilities of the State Agricultural Universities, and as Vice-Chancellor, JNKVV, Jabalpur, he saved the university from financial crunch and gave new flavour to its research and educational programme.

A fellow of many reputed academies or societies including NAAS and Indian Society of Agronomy, Prof. Singh received Krishi Bharati Barani Kheti Award, National Productivity Council Award, ISA Gold Medal, Rishabhshree Award, Ram Nath Singh Award etc.

An excellent teacher, Prof. Singh has guided several students for M.Sc. and Ph.D. degrees. A Straight forward and able administrator, Prof. Singh is a strict disciplinarian and well known for his critical and scientific approach to agricultural research.

The Association wishes him great success in his endeavour and a great future.



Prof. Panjab Singh

A Historic 2-day Round-table Conference of Vcs/ Directors of Agricultural And Technical Universities

For the first time an event was jointly organized by the IAUA and AIU under the ICAR sponsorship on 19 and 20 July 2005 at IAUA, New Delhi, especially during the centenary celebrations of the IARI. In this conference agricultural and technical universities participated. The meet was presided over by Prof. Vachaspati Upadhyaya, President, AIU, and the Union Minister for Agriculture, Shri Sharad Pawar, was the Chief Guest.

A Research Coordination Committee was formed, consisting of Chairman (President, AIU), Co-Chairman (President, IAUA), 2 VCs from SAUs, 2 Directors (1 each from IIT and 1 from NIIT), 1 VC from State technical universities, 2 VCs from general universities, 1 VC from deemed technical universities, 1 VC from deemed agricultural universities, 1 member each from the ICAR, UGC and AICTE, and the Convenor, (Secretary-General, AIU).

The Committee would meet half yearly with the same type of round-table, and its next meeting would be held at the UAS, Dharwad, on 20-21 January 2006.



On the dias; Agriculture Minister Shri Sharad Pawar, Dr Mangla Rai, Prof. Vachaspati, Dr S.N. Puri, Dr Dayanand and Dr J.C. Katyal

PROMISING TECHNOLOGY

Maharana Pratap University of Agriculture and Technology, Udaipur

Rainfed trench planting

Trench planting of *ber* has proved better than traditional basin planting under rainfed conditions. Under this method, a continuous trench of 0.5 m width and 1.0 m depth is dug across the natural slope at 5 m horizontal interval to harvest the rain water. It is an integrated practice of nutrients, between two plants in a trench, for raising high-value crops. The *ber*



Trench planting

plants raised by this method have shown a remarkable difference in growth and productivity compared with those grown by the traditional basin planting.

Punjab Agricultural University, Ludhiana

PAU gets an IRM project worth Rs 31.5 lakh

The Ministry of Agriculture has provided a massive support worth Rs 31.5 lakh to the Department of Entomology, PAU for dissemination of Insecticide Resistance Management Strategy (IRM Project), starting 2002. The 3-year study indicated that adoption of IRM strategy reduced the number of insecticide sprays by 37.7%, with overall net profit of Rs 8,973/ha.

This project will help reduce the dependence on insecticides and also in managing the insecticide resistance to cotton pests.

NEW VCs

Dr Aulakh gets another 4-year term

Dr K.S. Aulakh formally took over as VC of PAU, Ludhiana for the second term beginning 1 April 2005. Dr Aulakh said that this second term as VC is really a challenge for him, and with the co-operation of his colleagues he would be able to take the university to distinctive heights. He added that Post-Harvest Technology cell installed with the financial aid worth \$ 3 lacs by Ohio State University of America will be strengthened. PAU scientists will be able to serve the farming community better by using the latest research technologies.



Dr K.S. Aulakh

Dr R.B. Deshmukh takes over as VC, MPKV, Rahuri

Dr Deshmukh took over as VC, MPKV, Rahuri on 10 February 2005.

Dr Rajaram Bapusaheb Deshmukh was born on 1 August 1945. He worked as Assistant Professor of Agricultural Botany at College of Agriculture, Kolhapur during 1969-73 and Associate Professor at Post-graduate Institute, Rahuri during 1974-75. He worked on pulses research during 1975-94. He was selected Professor of Agricultural Botany in 1991 and Head in 1994; and then as Director of Research in December 1995. He had an opportunity to work as visiting scientist at Queensland University, Brisbane (Australia) for 10 months in 1992.



Dr R.B. Deshmukh

Dr Deshmukh guided 31 M.Sc. (Agric.) and 7 Ph.D. students, developed 15 improved varieties of pulses and published or presented 157 scientific and 149 technical papers. Some of his varieties of gram, viz. 'Vishwas' (Phule G-5), 'Vijay', 'Vishal' and 'Virat', were popular among the farmers not only in Maharashtra but also in Madhya Pradesh, Gujarat, Uttar Pradesh, Bihar, West Bengal and Orissa.

Dr Deshmukh strengthened pulses research at MPKV through several research collaborations with national and international institutions such as NCL, Pune; University of Queensland, Brisbane (Australia); CSIRO, Canberra (Australia); Washington State University, Pullman (USA) etc.

He visited Australia, the USA, Mexico, the Netherlands, Switzerland and Germany for attending scientific seminars or meetings.

Dr D.S. Rathore takes over as VC, CSKVV, Palampur

A well-known agricultural scientist, Dr D.S. Rathore, joined as VC of CSKVV on 2 May 2005. He is the eighth regular VC of the university since its establishment in November 1978.

Before this new assignment, Dr Rathore was holding the post of Dean, College of Horticulture and Forestry, Central Agricultural University,

Arunachal Pradesh. Dr Rathore brings with him a rich and varied experience of teaching, research and extension activities spanning over 38 years in various parts of the country. He is known for popularizing Kiwi fruit in India and is a pioneer in horticultural research.

After joining the Indian Agricultural Research Institute in 1965, Dr Rathore held various positions, including Head, Regional Station, National Bureau of Plant Genetic Resources, Shimla, from 1973 to 1979. He became Principal Scientist and served the same station from 1986 to 1991. As Director, Department of Horticulture and Food Processing, Uttar Pradesh (Hills) from 1992 to 1995, he gave impetus to the spread of new technology in far-flung areas, which fall under the present Uttaranchal. Dr Rathore rejoined the ICAR as Project Co-ordinator, All-India Co-ordinated Research Project on Subtropical Fruits in 1995 and served till 1999, when he was selected Assistant Director-General (Horticulture), the position he held till 2002.

Dr Rathore was born on 5 July 1942 at Etah (Uttar Pradesh). He did B.Sc. (Agriculture), M.Sc. (Horticulture) and Ph.D. (Horticulture) from Agra University. He has 102 research publications to his credit and has visited over a dozen foreign countries, including the USA, the UK and the former USSR.

Dr N.N. Singh takes over as VC, BAU, Ranchi

Dr N.N. Singh took over as VC, BAU, Ranchi (Jharkhand) on 10 June 2005.

Dr Singh is a renowned maize specialist, having spent 23 years of his 40-year academic career in maize breeding and more than 17 years as leader of the co-ordinated maize research programme in India. The varieties developed by him are cultivated in large areas at present.

He worked for improving the tropical germplasm, building tolerance to abiotic and biotic stresses in it, and development of quality protein maize for the poor and the germplasm for industrial uses. He released hybrids for difficult as well as favourable agro-ecosystems. Success of the winter and quality protein maize and of baby corn hybrids, sweet corn and popcorn varieties is attributed to his strenuous efforts.

Dr Singh served as Director, Irrigated Agro-ecosystem in the World Bank-aided National Agricultural Technology Project. He developed effective linkages with other institutions in India and abroad, to provide support to maize programme. His contributions through TAMNET (Tropical Asian Maize Network) and Ambionet (Asian Maize Biotechnology Network) are significant both in information exchange and human-resource development. Under his leadership the maize production has almost tripled and productivity doubled.

As a teacher, he guided a number of post-graduate students. His particular affinity for the course on "Breeding for stress resistance" remains undiminished, which also helped him in improving the efficiency traits in maize.



Dr D.S. Rathore



Dr N.N. Singh

DEEMED UNIVERSITY

A Profile

INDIAN AGRICULTURAL RESEARCH INSTITUTE, NEW DELHI

The IARI was established in April 1905 at Pusa (Bihar) at the initiative of Lord Curzon and with the generous help of an American philanthropist, Mr Henry Phipps, who contributed 30,000 pounds (equivalent to Rs 9 lakhs). The institute started with five major sections, viz.



IARI library building

Agricultural and Cattle Breeding, Chemistry, Economic Botany, Entomology and Mycology, and a new section of Bacteriology was added a couple of years later. In January 1934, Pusa (Bihar) suffered a devastating earthquake, causing severe damage to the institute building. Based on the recommendations of a commission appointed by the Government, the institute was shifted from Pusa (Bihar) to Delhi in 1936 and the new complex was built in a record time. The then Viceroy of India, Marquis of Linlithgow, declared the institute open at the new site on 7 November 1936.

Purpose of setting up of the P.G. School

The aim to establish the Post-graduate School at the IARI was to build a centre of excellence that would impart specialized training for M.Sc. and Ph.D. degree programmes. Thus IARI is a well-recognized international centre of training in agricultural sciences in the country, offering an array of courses for formal and informal training programmes in the basic, strategic and applied areas, particularly on plant science subjects.



Dr M.S. Swaminathan, inaugurating IARI Centenary Celebration

Main objectives

The following are the institute's perceived objectives under which most of the educational activities of the P.G. School are based:

1. Promote excellence, foster high standard and orient the educational programme towards future needs and opportunities.
2. Strengthen physical, biological and social sciences in the curricula and add frontier areas such as biotechnology, computer application and information technology, environmental science, management science, post-harvest technology and agricultural bio-diversity as well as genetic resources.
3. Provide opportunities for post-doctoral research, continuing education and faculty upgradation, and for the development of human resources in the new and cutting-edge technology areas, especially through international collaboration.

4. Strengthen non-formal training to promote entrepreneurial skill and commercialization of agriculture.

Main achievements

The institute developed a comprehensive infrastructure for research before Independence. The research work was confined to introduction of crops, selection of suitable genotypes from the landraces and development of their agro-techniques.

In the early 1950s, the work was essentially concentrated on collection, introduction and exchange of germplasm, and within a decade nearly 10,000 accessions of cereals, legumes, oilseeds and vegetables were collected and conserved. These collections had rich genetic diversity and were screened for identifying promising varieties. During this period the agronomic research highlighted the water requirements of different crops. Research work was initiated on scheduling of irrigation, irrigation methods and role of fertilizers for higher productivity of crops.

During 1960s to meet the food-security challenge, the IARI excelled in several research fronts, which culminated in Green Revolution. During this period the institute developed several high-yielding varieties of wheat, rice and other major crops and their management practices for different agro-ecological settings.

During 1970s the IARI was again the first to draw the nation's attention towards judicious management of natural resources as well as of purchased inputs for sustainable agricultural production. It was the first in the world to develop the concept of integrated pest management. In early 1970s, it established a Water Technology Centre, first of its kind in developing world, for research and education on integrated management of water, soil and crop, including engineering and on-farm water management in a multi-disciplinary manner. Not to miss the opportunities of harnessing front-line technologies and to train the desired manpower, in 1971 the institute established the national centre of excellence in several disciplines.

In the 1980s, when biotechnology was emerging as one of the most important areas in agro-biological research and development, the institute developed the first national plant biotechnology centre in the country. Further, diversifying its work on bio-diversity conservation and also to mutually enrich the nation's work on biotechnology and bio-diversity, the institute established a national centre for conservation and utilization of algae and microbes. To achieve productivity, sustainability and environmental health, it again proved to be a path-finder by establishing the Division of Education Sciences and the units on bio-energy, remote sensing and geographical information system (GIS), agro-forestry and watershed-based area management and transfer of technology system, primarily emphasizing participatory and farming system approaches.



Shri Sharad Pawar, Union Minister of Agriculture lights lamp on the occasion of Centenary Scientific Convention



Dr S.Nagarajan, Director IARI, speaking at IARI centenary inauguration

In the 1990s, the IARI took a major initiative in system and programme mode-based planning in place of commodity-centred approach. It addressed the issue of sustainability, environmental and climate impact on production systems. The integrated soil-water-plant nutrient-management system in production attracted major research efforts, as a part of the integrated natural resource management and sustained production strategy.

The institute's perceived thrust areas during the 2000s and subsequent period have been the enhancement of genetic potential of open and the self-pollinated crops, new varieties of wheat, scented rice, coarse grains, oilseeds and pulses; to accelerate plant-breeding efforts through marker-aided selection; crop diversification, integrated management of pests; watershed management; encouragement of agri-business etc.

A few significant achievements over the years are presented below.

1. Developed the internationally acclaimed varieties of different crops, viz. Pusa wheats such as 'NP 4', early Coimbatore sugarcane varieties, potato germplasm and Sahiwal breed of milch cattle.
2. Developed the 'NP 700' and 'NP 800' series of wheat varieties, combining high degree of resistance to rusts, good grain quality and response to medium doses of chemical fertilizers.
3. Developed several high-yielding, dwarf, good-grain-quality wheat varieties responding to fertilizer and irrigation, heralding 'Green Revolution'. The landmark varieties such as 'Kalyan Sona', 'Sonalika' and 'HD 2329' occupied several million hectares and substantially increased the total wheat production in the country. Through the wheat revolution, India produced more than 1,000 million tonnes of additional wheat during 1967-2004 that is valued at trillion rupees.
4. Developed the first high-yielding aromatic (basmati), fine-quality rice variety, 'Pusa Basmati 1' in 1980s that more than doubled India's rice exports of basmati-quality rice. The release of the first aromatic rice hybrid, 'Pusa RH 10' in 2002 is another contribution of IARI that has enhanced the international agri-business potential.
5. Released superior varieties of vegetables like 'Pusa Kesar' carrot, 'Pusa Sawani' okra, 'Pusa Ruby' tomato, 'Pusa Purple Long' brinjal, Pusa Snowball cauliflower etc., which facilitated the growth of vegetable seed industry.
6. Developed the mustard varieties 'Pusa Bold' and 'Pusa Jaikisan' (the first biotechnology-generated variety, a somaclonal variant) and several multi-cut varieties of forage sorghum.
7. Developed a feed block-making machine to solve the production, transportation and management of fodder to augment the growth of dairy industry.



Wheat 'HD 2329'



A high-yielding variety of rice 'Basmati'



A High-yielding vegetable varieties

8. Developed several improved varieties and hybrids of fruit crops such as mango (hybrids 'Amrapali' and 'Mallika'), papaya ('Pusa Nanha'), strawberry and grape, besides a large number of rose, gladiolus and marigold varieties suitable for cut flower and ornamental purposes and aroma.
9. Pioneered research on mutation, polyploidy, chromosome kinetics and genome analysis in crop plants to harness the potential of cytogenetics and mutation breeding, involving wild species and mutagens.
10. Established in 1960s the Division of Plan Introduction, which has eventually grown into National Bureau of Plant Genetic Resources (NBPGR), having a state-of-the-art facility of Gene Bank.
11. Introduced biotechnology for crop improvement in India and played a lead role in the utilization of frontier science through its research on genetic mapping, molecular markers, genome sequencing and transgenics for crop improvement.
12. Provided national leadership in the input-management activities like the long-term implications of chemical fertilizers, cropping systems research, water-resources mapping, pesticide-residue analysis and implications of global weather change.
13. Developed the concept of integrated pest management relevant to India, backed by biological control of insect pests; design, discovery and development of botanical pesticides; and mitigation of losses due to cereal rusts through gene deployment along the Puccinia Path.
14. Pioneered the use of neem, an internationally well-known bio-pesticide, as a means of protection against insect pests and also as a regulator of fertilizer-nitrogen utilization by plants.
15. Introduced in collaboration with ISRO the use of aerial imagery for monitoring disease spread. Satellite-aided remote sensing and simulation technologies are now being applied for natural resource management.
16. Prepared the first set of comprehensive soil-type and soil-fertility maps of India. The institute has also specialized in geographic information systems.
17. Developed adaptable technologies for effective water management, watershed development and ground-water utilization as relevant to Indian agriculture.
18. Initiated research on plant viruses and established a Centre of Excellence in Plant Virology, which is a referral and capacity-building centre.
19. Developed several technology packages for integrated nutrient management, including bio-fertilizers and phosphorus-solubilizers, which provided the input for practising organic agriculture in India.
20. Developed several low-cost technologies such as Pusa cool chamber (zero-energy chamber), Pusa seed-bin, biogas plant, solar energy-based driers and desiccators for post-harvest management of vegetables and fruits for adoption in rural India.
21. Designed and developed agricultural implements like aqua-ferti-seed drill, potato planter, okra planter etc.
22. Played an important role in providing the base for economic analyses related to demand projections of agricultural commodities and impact analysis of agricultural research.
23. Developed and disseminated technologies for protected cultivation and hi-tech horticulture by establishing a commercial-scale training and demonstration unit.
24. Developed the concepts of technology transfer and refinement, including Seed Village, Operational Research

Project, Krishi Vigyan Mela, Minikit Demonstrations, Integrated Area Development Programme etc., promoting direct interaction of farmers and scientists through single-window system for direct sale of seed and seed materials.

25. Demonstrated the latest farm technologies through Krishi Vigyan Kendra, and undertook outreach programme in different regions to demonstrate the viability of new technologies and contingent measures to maximize farm income.

Technologies developed relevant till date

The technologies developed by the institute have been widely adopted in the country, viz. cultivation of oyster mushroom; shuttle breeding approach for development of wheat varieties; gene-deployment technology along the Puccinia Path for management of wheat rusts; satellite-aided remote sensing and simulation technologies; adaptable technologies for effective water management; technologies for nutrient management; low-cost technologies for post-harvest management such as Pusa cool-chamber, Pusa seed-bin, biogas plant, solar energy driers, greenhouse technology for protected cultivation of vegetables and flowers etc.

Five-yearly students' graphical output

Since its early days of Pusa, IARI played an important role in training the senior officers of the then Provincial Departments of Agriculture. High demand for such trainings led to formal training courses and then 2 years Diploma of Associateship of IARI in 1923. Up to 1959, a total of 903 students were awarded Associateship of IARI in various fields of agriculture. The Associateship of IARI was recognized as equivalent to the M.Sc. degree of Indian universities by the Ministry of Education in 1949. The Government of India took a bold decision to establish Post-graduate School at IARI to develop skilled human resource in agriculture to propel agricultural transformation by initiating a programme leading to award of M.Sc. and Ph.D. degrees. The University Grants Commission accorded the status of a Deemed to be University to IARI in 1958. This heralded the growth of State agricultural universities in India.

The teaching programme at the P.G. School was modelled on the pattern of course credit system of Land Grant Colleges of the USA. Under this system, not only research, teaching and extension are fully integrated but also the students are provided opportunity to develop expert knowledge both in major and minor subjects. Starting with six disciplines in 1958, the institute today awards M.Sc. degrees in 23 disciplines and Ph.D. in 22 disciplines. To keep pace with the developments in science, the institute took the initiative in starting formal post-graduate education in emerging areas like Molecular Biology and Biotechnology, Environmental Science, Plant Genetic Resources, Water Science and Technology, Computer Application and Post-harvest Technology. Accordingly, its P.G. School has been continuously upgrading the courses and curricula and imparting



Shri Sharad Pawar addressing the farmers at Kisan GOSHTHI



Shri Sharad Pawar at the 43rd Convocation of IARI

training at an advanced level, based on the latest scientific developments to provide specialists in various fields of agricultural sciences. These include Biotechnology, Bio-informatics, Crop modelling and GIS, Agri-business management and International agriculture including management of IPR, other regulatory measures etc. So far the institute has awarded M.Sc. degrees to 2,775 and Ph.D. degrees to 3,673 students.

International collaboration

In the post-Independence era, the early international linkages of the institute were with Rockefeller Foundation, Commonwealth Secretariat, Food and Agriculture Organization (FAO) and Swedish International Development Agency (SIDA) programme. During 1960s, 1970s and 1980s it established and fostered linkages with most of the crop-related Consultative Groups of International Agricultural Research (CGIAR) centres, especially International Maize and Wheat Improvement Centre (CIMMYT), International Rice Research Institute (IRRI), International Crops Research Institute for Semi-Arid Tropics (ICRISAT), International Centre for Agricultural Research in Dry Areas (ICARDA), International Potato Centre (CIP), International Institute of Tropical Agriculture (IITA), International Centre for Tropical Agriculture (CIAT) and International Plant Genetic Resource Institute (IPGRI) with excellent mutually benefiting outcomes. The institute took the leadership in starting several new UN-supported programmes, particularly through FAO and International Atomic Energy Agency (IAEA). Several bilateral programmes were first established at IARI, including those involving United States Department of Agriculture (USDA), Overseas Development Agency (ODA), Japan International Cooperation Agency (JAICA) and International Development Research Centre (IDRC). Recently, in partnership with Israel, the institute established a modern protected horticultural research and technology development facility. For the first time in India, JAICA has collaborated with IARI in establishing a modern seed-testing and storage facility.



Nobel Laureate Dr Norman E. Borlaug interacting with Dr S. Nagarajan and Dr M.V. Rao

During the last two decades, a large number of scientists from other countries have received training at IARI in advanced areas like molecular biology, biotechnology, heterosis breeding, IPM, medium-range weather forecasting, modelling for land use, detection of plant pathogens, biological control of pests and diseases, seed certification, irrigation water management, research evaluation and impact assessment, post-harvest management and processing of horticultural produce, energy management, entrepreneurship development, microbial diversity, insect bio-diversity, plant genetic resource conservation, water management, bio-fertilizers etc. Each year the institute organizes three to four such programmes.

The institute also plays an important role in developing human resource for other countries.

New initiatives

To serve as a centre for academic excellence in post-graduate education and human-resource development in agricultural sciences, short-term courses have been initiated to attract undergraduate students. Various bilateral agreements provide opportunity for faculty upgradation. Computer-based library services and abstracting system have received special attention.

The IARI Library has become the national agricultural library, fully equipped with electronic and other modern tools to connect it with libraries in SAUs, ICAR institutes and other relevant centres.

Future perspective planning

The IARI keeps pace with advancements made in agricultural sciences by dynamically revising its priorities. In years to come, the institute will play a major role in developing new technologies that would lead to higher productivity with less inputs, and maintaining sustainability of agriculture. The institute's current focus is:

1. To enhance nation's overall capability in cutting-edge science and technologies, such as molecular biology, biotechnology and genomics and proteomics, resource conservation, characterization and inventorisation, informatics, crop and



A foreign Student working in an IARI laboratory

resource modelling, post-harvest technology and value addition, management of the impact of climate change and alleviation of environmental degradation.

2. To catalyze public-private sector interface to facilitate commercialization of agriculture.
3. To assume greater role in providing national services facilities in frontier areas of agricultural science and international trade-related issues.
4. To strengthen policy research on agro-biodiversity, plant varietal protection, plant breeders' rights, farmers' rights, intellectual property rights, agricultural biotechnology, bio-safety etc.
5. To foster social synergies and gender equity in agriculture, reduce drudgery, popularize preservation technologies for food and agricultural produce and empower rural women by enabling them to acquire new knowledge and skills.
6. Adopt new paradigms of international co-operation by sharing material and expertise with other developing countries.



INDIAN VETERINARY RESEARCH INSTITUTE, IZATNAGAR

ISO 9001:2000 certificate to CADRAD

The ISO 9001:2000 certificate by International Certificate Services (P) Ltd, for quality management system has been awarded to IVRI, Izatnagar on 11 March 2005. The certificate was given by Shri R.N. Singh, Regional Manager of ICS to Dr M.P. Yadav, Director, IVRI and Dr R.S. Chauhan, Joint Director (CADRAD) at a programme held here today.



Award to CADRAD

NATIONAL DAIRY RESEARCH INSTITUTE, KARNAL

Antioxidant and anti-carcinogenic dairy ghee

Dietary fat is often implicated in colon and breast cancer; however, this overlooks the fact that milk fat contains a number of potential anti-carcinogenic and anti-oxidative components. A study was designed to investigate the effects of dietary intervention of cow ghee, buffalo ghee and soybean oil on gastro-intestinal carcinogenesis. Post-

weanling male rats were fed different fats at 10% level in the diet. Tumours were induced through injection (IP) of dimethylhydrazine dihydrochloride (10 mg/kg body weight per week) for 20 weeks, starting at the age of 7 weeks. Animals were continued on their respective dietary regimen until the termination of the experiment at 11 weeks after last injection. Animals fed soybean oil diet had higher tumour incidence, tumour multiplicity and tumour volume compared with those fed on cow ghee and buffalo ghee. Lipid peroxidation, measured as thiobarbituric acid-reactive substances, in liver and colorectum on ghee diets were significantly less than on soybean oil diet. Also, the levels of conjugated linoleic acid in liver and colorectal tissue were several-fold higher in cow ghee and buffalo ghee groups against soybean oil group. In another study involving 3 months feeding trial, the effect of these three dietary fats on antioxidant status of rats was investigated. Superoxide dismutase activity in blood, liver and colorectal tissue was significantly higher in the animals fed on cow or buffalo ghee in comparison with animals fed on soybean oil. The activity of catalase in colorectal tissue was also higher in animals fed on buffalo ghee diet compared with those fed on other two diets. The study showed that mild fat protects against gastro-intestinal carcinogenesis, perhaps due to stimulation of antioxidant status, inhibition of lipid peroxidation and accumulation of conjugated linoleic acid in the tissue.

UNIVERSITIES

ASSAM AGRICULTURAL UNIVERSITY, JORHAT

National Fellow, ICAR

Dr Dilip Kumar Sarma, Virologist, Department of Microbiology, College of Veterinary Science, AAU, Khanapara has been awarded National Fellow by the ICAR, New Delhi for his research project 'Development of ELISA-based immuno-diagnostics for classical swine fever'. Dr Sarma, a gold medallist of AAU, had earlier received ICAR Senior Fellowship and Commonwealth Government Scholarship for his Ph.D. and post-doctoral research.

CHANDRA SHEKHAR AZAD UNIVERSITY OF AGRICULTURE AND TECHNOLOGY, KANPUR

Honorary rank of Colonel in NCC to Dr P.K. Singh

DR P.K. Singh, VC, was bestowed with honorary rank of Colonel, NCC by Director-General, National Cadet Corps, Ministry of Defence, Government of India, New Delhi. The rank was



Dr P.K. Singh Honoured as NCC Colonel

conferred upon him by Shri Dileep Bakshi, Group Commander, NCC, Kanpur in the Investiture Ceremony held at the University Campus on 12 April 2005.

DR BALASAHEB SAWANT KONKAN KRISHI VIDYAPEETH, DAPOLI

New varieties released

Rice

'Karjat 5': 'Karjat 5' rice is developed through selection. It is mid-tall in stature (110-120 cm) and mid-late in duration (125-130 days), having long, bold grains with translucent kernel and average rice yield of 40-50 q/ha. This is recommended for cultivation in Konkan region.

'Karjat 6': This variety is developed from the cross 'Heera' x 'Karjat 184' following pedigree method. The plant height is 95-100 cm and it requires 130-135 days during *kharif* and 140-145 days during *rabi* for maturity. It has short, slender, translucent kernels (superfine grain), high milling recovery (68.1%) and good head-rice recovery (65%). The average yield is 3.5 to 4.0 tonnes/ha. It is recommended for cultivation in Konkan region.

'Sahyadri 3': The rice hybrid 'Sahyadri 3' is developed through 3-line system, i.e. CMS system ('IR-58025A' x 'KJTR 3'). It is mid-tall in

stature (115-120 cm) and mid-late in duration (125-130 days maturity during *kharif*). It has high milling recovery (74.5%), head-rice recovery (60.2%) and long slender translucent kernel type, indicating superior grain quality. The average grain yield of rice is 6.5 to 7.0 tonnes/ha. This is recommended for cultivation.

'Shreemanti' (MFD 2): The variety is a seedling selection. This is a high-yielding female tree of 25 years age, producing 900 fruits/tree. Nut is bold, having 10.20 g dry weight and mace 2.10 g on dry basis. The nut-oil content is 39.85% and mace-oil content 26.50%. The tree bears 31% fruits and requires 252 days for fruit maturity. This variety is recommended for planting in the Konkan region of Maharashtra for higher nut yield and better quality.

DR Y.S. PARMAR UNIVERSITY OF HORTICULTURE AND FORESTRY, NAUNI

Bumble bee

The Department of Entomology and Apiculture has successfully reared bumble bee, (*Bombus* sp.) in captivity. Bumble bee is an important pollinator of tomato, brinjal, pepper and various temperate fruit crops. Rearing of wild pollinator like bumble bee is the pioneer work of the department, which will revolutionize the pollination scenario in the country. Led by Dr Raj Kumar Thakur, the department is aiming for the year-round production of bumble bees under this research project to provide colonies to the orchardists for pollination.



Bumble bee

ANAND AGRICULTURAL UNIVERSITY, ANAND

Seminar on Parjanya

A seminar Monsoon-2005 (Parjanya-2005) was organized by Department of Agricultural Meteorology at Anand in collaboration with Srimad Adya Jagadguru Shankaracharya Vedic Shodh Sansthan (SAJSVSS), Varanasi during 20-21 June 2005 at Mahatma Gandhi Labour Institute, Ahmedabad.

The seminar was inaugurated by the Chief Minister of Gujarat, Shri Narendra Modi. Swami Gyananandji Saraswati, Chairman, SAJSVSS, Varanasi presided over the function. Shri Bhupendrasinhji Chudasma, Minister of Agriculture, Gujarat State was the Chief Guest and Shri Ashokbhai Bhatt, Minister of Law, Gujarat State, was the Guest of Honour. About 200 delegates from across the country participated in the seminar.



Seminar on Parjanya

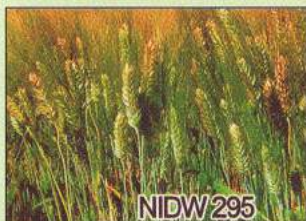
The major observations made at the seminar are:

1. There is significant correlation between rainfall and various *nakshatras* according to their onset and planetary position.
2. Parjanya-2005 soft ware was developed by Shri A.K. Bansal to predict rainfall at certain locations of Gujarat.
3. Preparation of Krishi calendar for Gujarat State is to be taken up.
4. Bio-indicators have indicated good monsoon during 2005.
5. Somyagna was performed for rainfall in Gujarat.
6. Scientific prediction of rainfall and associated pest-disease complex need weather and pest-observational network of stations for long-term period.

MAHATMA PHULE KRISHI VIDYAPEETH, RAHURI

Varieties released

Wheat: 'Godavari' (NIDW 295): The variety has given 15.64% more yield (41.48 q/ha) than 'HD 2189' (3.87 q/ha) and 19.60% more than 'MACS 2846' (34.68 q/ha). The rust (brown and black) reaction was within tolerable limits (ACI<15.0). It has more hectolitre weight, sedimentation value and carotene, and less yellow-



'Godavari'

berry prevalence than 'MACS 2846'. It is suitable for timely sown conditions of Maharashtra.

Sorghum: 'RSSGV 3': The variety 'RSSGV 3' gave *hurda* yield of 2,998 kg/ha, which was 61.8 and 37.6% higher than of 'SGS 8-4' and 'Gulbhendi' respectively. The sweetness in grain and threshability at dough stage were comparable to those of 'Gulbhendi'. The dead-heart (%) due to shootfly and charcoal-rot incidence were lower than of 'Gulbhendi' and 'SGS8-4'. It is suitable for *rabi* sorghum-growing areas of Maharashtra for *hurda* purpose.



Sorghum

Maize: 'MPQ 13': The composite 'MRQ 13' with orange, flint grains has average productivity of 54.12 q/ha in *kharif* and 67.03 q/ha in *rabi*, which is higher than of the check 'Manjri' composite (*kharif* 41.90, *rabi* 48.0 q/ha). It has high protein content (11.7%). It is recommended for cultivation in *kharif* and *rabi* seasons in maize-growing areas of Maharashtra.



'MPQ 13'

Gram: 'Digvijay' (PG 9425-5): The variety with medium maturity (100-105 days) and bold and yellow seeds has average yield of 1,896 kg/ha which is 18.80 and 14.19% more than of 'Vijay' (1,596 kg/ha) and 'Vishal' (1,656 kg/ha), respectively. It is resistant to Fusarium wilt and is suitable for optimum and late-sown irrigated areas of Maharashtra.



'Digvijay'

Pigeonpea: 'Phule Tur 9230': This variety 'Phule Tur 9230' with indeterminate, semi-spreading habit, has high-yielding ability (1,628 kg/ha), resistance to wilt and moderate resistance to sterility mosaic, as well as less susceptibility to pod borer and pod fly. It is suitable for cultivation in *kharif* in Maharashtra.



'Phule Tur'

Mustard: 'TPM 1': 'TPM 1' is a direct mutant of 'Rai 5', having yellow seed coat. It has recorded high seed yield (1,396 kg/ha), which is 20, 21 and 23% higher than the checks 'Pusa Bold', 'Sita' and 'Varuna' respectively. It has high oil yield (631 kg/ha) and tolerance to powdery mildew, and low erucic acid content. It is suitable for cultivation during *rabi* in western Maharashtra.



Mustard

MAHARANA PRATAP UNIVERSITY OF AGRICULTURE AND TECHNOLOGY, UDAIPUR

MoU between MPUAT and Jain Irrigation System

The MPUAT, Udaipur, has signed an MoU with M/s Jain Irrigation System Ltd, Jalgaon (Maharashtra) on 1 June 2005 for 5 years. The major issues covered in the MoU include: (i) Collaboration in PG research in the soil and water engineering, post-harvest and process engineering and horticulture; (ii) Exchange of relevant scientific publications, literature, information etc; (iii) Assistance by JISL free of cost in training of participating farmers and KVK scientists or technicians or such other personnel as may be mutually agreed upon at their premises at Jalgaon; (iv) Setting up by JISL free of cost complete micro-irrigation and fertigation facility at College of Technology and Engineering farm as demonstration unit for students' learning and training; (v) Establishment of demonstration unit for micro-irrigation for orchard one each at 10 KVKs of MPUAT, NGO KVK, Udaipur and one Herbal Park on 1 ha area at Udaipur for which

entire cost will be shared equally between MPUAT and JISL; (vi) Establishment of at least one demonstration unit of micro-irrigation - cum-fertigation in the model village selected in a cluster of 10 villages where work is undertaken by KVKs, for which the cost will be shared equally between JISL and the farmers selected or MPUAT; (vii) Deputation of necessary technical staff by JISL for successful implementation and monitoring of demonstration units; and (viii) Taking part by JISL in Rural Technology Centre, Jhalawar, in technical support, training and extension.

PUNJAB AGRICULTURAL UNIVERSITY, LUDHIANA

Dr Sidhu honoured in Australian Parliament House

Dr Harminder Singh Sidhu, Research Engineer, Department of Farm Power and Machinery, was awarded John Dillon Memorial Fellowship for 2004-05. The award was presented to him by Mr Alexander Downer, the Australian Minister for Foreign Affairs in the Australian Parliament House on 10 March 2005 at Canberra. The fellowship additionally provided 1 week advanced training in Agricultural Research Management in the best practices in 5 Australian institutions like Commonwealth Scientific and Industrial Research Organization (Eco-system), Canberra; Charles Sturt University of Wagga Wagga; Department of Primary Industries Wagga Wagga and ACIAR House, Canberra. He also received a special training at the Melbourne School of Business under New Managers Development Programme.

Dr Aulakh Nominated as Member of State-Level Agricultural Mass Media Committee

Dr K.S. Aulakh, VC, PAU, has been nominated as Member of the state Agricultural Mass Media Committee. The Ministry of Agriculture has taken up a scheme on mass media support for agricultural extension to inform and educate the farming community. Prasara Bharati has introduced telecast of area-specific agricultural programmes under this central-sector scheme, from 36 Doordarshan Kendras across the country, which will ultimately telecast programmes from 180 transmitters in 36 clusters from all over India. In addition, the telecast of thematic agricultural programmes has also been introduced.

Through this scheme the farming community will be able to have timely and scientific information on new agricultural technologies and operations.

AWARDS AND RECOGNITION

INDIAN VETERINARY RESEARCH INSTITUTE, IZATNAGAR

NRDC Meritorious Invention Award

The Meritorious Invention Award of National Research Development Corporation, New Delhi for 2005 was given to IVRI as a part of National Technology Innovation Awards of the Department of Science and Technology, Government of India on 11 May 2005 at New Delhi on the National Technology Day. This award was given to Dr M.C. Sharma and his team for developing area-specific mineral mixture.



Dr M.C. Sharma receiving award

NATIONAL DAIRY RESEARCH INSTITUTE, KARNAL

Dr V.K. Kansal and Ekta Bhatia were conferred Best Paper Award by the Society of Biological Chemists for their paper 'Milk fat improves antioxidant status and protects against gastro-intestinal carcinogenesis induced by dimethylhydrazine dihydrochloride in rats'.

Dr (Mrs) Jancy Gupta, Senior Scientist, Dairy Extension Division, NDRI, Karnal was conferred the Fellowship Award, 2005 for her contribution in the field of Dairy Extension at 7th Conference of Indian Agricultural Scientists' and Farmers' Congress, jointly organized by Sardar Vallabh Bhai Patel University of Agriculture and Technology,

Meerut and Bioved Research and Communication Centre, Allahabad at SVBP University, Meerut on 19 February 2005.

KERALA AGRICULTURAL UNIVERSITY, THRISSUR

Best Teacher Award

Dr M.R. Saseendranath, Associate Professor and Head, Department of Veterinary Epidemiology and Preventive Medicine, College of Veterinary and Animal Sciences, Mannuthy has bagged the P.G. Nair Endowment Award for the "Best Teacher" in the Faculty of Veterinary and Animal Sciences of the University for 2003. This award is given as recognition for his contributions in teaching, research and extension activities in the concerned field.



Dr M.R. Saseendranath

MARATHWADA AGRICULTURAL UNIVERSITY, PARBHANI

AICRP Home Science receives CDO AICRP Award, 2003

The ICAR, New Delhi bestowed Choudhari Devail Outstanding All India Coordinated Research Project Award, 2003 to AICRP on Home Science, MAU, Parbhani for the outstanding contribution in the field of Home Science. The award was conferred for the remarkable work done by the five components of AICRP on Home Science, MAU, Parbhani in their respective areas of research. The nine centres of AICRP on Home Science were presented certificates at the XV Annual Workshop of AICRP Home Science organized at College of Home Science, MPUAT, Udaipur (Rajasthan) on 24 January 2005. Mrs Sunita Kale, Unit Coordinator, AICRP on Home Science, MAU, Parbhani received this prestigious award from Dr J.C. Katyal, Deputy Director-General (Edn), ICAR, New Delhi.

PUNJAB AGRICULTURAL UNIVERSITY, LUDHIANA

NRDC Award to Dr I. K. Garg

Dr I.K. Garg, former Head and Senior Research Engineer, Department of Farm Power and Machinery and Shri Sarabjit Singh, M/s Dashmesh Mech. and Works, Amargarh have been jointly selected for NRDC cash award of Rs 60,000 for their invention for the design and development of tractor-operated paddy straw chopper-cum-spreader.



Dr I.K. Garg

The chopped paddy straw could be easily incorporated in the soil to improve soil health. Soil health is fast depleting due to burning of paddy straw after combine harvesting. Burning causes environmental pollution due to smoke and the addition of paddy straw-ash causes degradation of soil health. This machine in a single operation harvests the left-over paddy stubbles and then simultaneously chops these into small pieces of 7 to 10 cm and spreads them on to the ground. The chopped and spread paddy straw can then be buried into the soil by disc harrow, and allowed to decay after irrigation. The machine has a cutting width of 154 cm and can cover 8-10 acres/day.

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