



# IAUA NEWS

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## SPOT NEWS

### Dr Panjab Singh takes over as Secretary DARE and D.G. ICAR

Dr Panjab Singh, Vice-President, IAUA, and Director, IARI, an eminent agronomist of international repute, has taken over as Secretary (DARE) and Director General of the Indian Council of Agricultural Research, New Delhi on 4 October 2001.

He has been elected as the President of the Indian Society of Agronomy for 2 years from April 2001 and was the President of the Society during 1997-99 also. He was the architect of the International Agronomy Congress, and organized the first International Agronomy Symposium in November 1998 in Delhi. He is also the President, Indian Society of Agricultural Sciences and has been the President of the Range Management Society of India.

Dr Panjab Singh worked in various capacities, as former Director, IARI (2000-2001); Vice Chancellor of Jawaharlal Nehru Krishi Vishwa Vidyalyaya, Jabalpur (1997-2000); Joint Director (Research), IARI (1994-1997); Director, Indian Grassland and Fodder Research Institute, Jhansi (1986-1994); and Assistant Director-General, ICAR (1979-1985), and has contributed significantly to the country's agricultural research, extension and human resource development.

He had also worked as the FAO's Regional Plant Production and Protection Officer at Bangkok and as the FAO's Regional Co-ordinator, Temperate Asia Pasture and Fodder Network. He has authored 300 publications, including books.

The Association wishes him a very bright future.



*Dr Panjab Singh*

## NEW VICE CHANCELLORS

### Dr Tej Pratap



*Dr Tej Pratap*

Dr Tej Pratap, an authority on hill agriculture system took over as Vice Chancellor of Chaudhary Sarvan Kumar Krishi Vishvavidyalaya, Palampur, on 18 April 2001. Prior to this, he served as Head of the Mountain Farming Systems Programme of the International Centre for Integrated Mountain Development (ICIMOD), Nepal, for 7 years, out of the 13 years that he served the Centre. He supervised the implementation of programme activities in 8 countries of the Hindu Kush Himalayan region. He showed his leadership in formulating and managing several International Projects and fund-raising for Sustainable Agricultural Research, education and extension system for hilly areas, concerning small farms. He enriched his experience while working in Andean, African and Alps mountains.

In recognition of his contributions to agriculture in Tibet, he was accorded honorary Professorship in Mountain Agriculture by the Tibet Academy of Agriculture and Animal Sciences, China, in 1995 and also honorary Professorship of Mountain Agriculture at the Institute of Geographical Sciences and Natural Resources, China. Dr Pratap is presently Asia-Pacific representative in Mountain Forum Board of Directors for promoting inter-regional co-operation among mountain regions of the world.

Dr Tej Pratap has published over 50 research papers, written/edited 15 books/Monographs, produced 5 video-films on mountain agriculture. He has travelled over 25 countries as an expert.

### Dr K.S. Aulakh

Dr K.S. Aulakh, a renowned plant pathologist, has taken over as Vice-Chancellor of the Punjab Agricultural University, Ludhiana, from 1 April 2001. Prior to this he served in this University and rose to the position of Director Research and pro Vice-Chancellor.

He has visited 21 countries for his professional enrichment. He is a fellow of many Indian Societies and President of Indian Society of Plant Pathologists (1987). He participated in 15 International and 17 National Conferences.



*Dr K.S. Aulakh*

### Dr A.M. Krishnappa



*Dr A.M. Krishnappa*

Dr A.M. Krishnappa, a soil scientist, has taken over as Vice Chancellor of the University of Agricultural Sciences, Bangalore, on 20 April 2001. He served in several important positions in the State and in the University, and rose to the position of Director Research. He has many State and University awards and over 70 research articles to his credit on soil fertility and watershed management.





## DEEMED UNIVERSITIES (NATIONAL INSTITUTES)

### Indian Agricultural Research Institute, New Delhi

#### *Pusa Sadabahar – a High Yielding Tomato Variety*

The Institute released a new high-yielding tomato variety Pusa Sadabahar suitable for growing under a wide range of 8°C-30°C of night temperature. The plants are determinate dwarf and can thus accommodate more plants per unit area. This variety is a very prolific yielder with smooth, oval to round attractive fruits and can grow throughout the year, except in rainy season, in Northern Indian plains.



*Pusa Sadabahar, a tomato variety recently released by IARI*

#### *Animal-Feed-Block Making Machine*



*Animal feed block formation machine developed at IARI*

An animal-feed-block-making machine, consisting of hydraulic cylinders, power-pack, electric-control panel and frames has been developed. This can compact animal feeds as well as make bales of straws and grasses.

The machine operates by a 10-hp electric motor. Complete feed-blocks of 20 cm x 20 cm and of desired length and weight can be prepared using different compositions depending upon the requirements of different animals. The machine output is 15-30 feed blocks per hour. The density of the feed block/bale prepared by this machine, without using binders and concentrates, varies from 400 to 550 g/m<sup>3</sup>.

#### *IARI-Industry Collaboration*

An Industry-Institute interface on Pesticides was held on 12 June 2001 at IARI. Dr Panjab Singh, Director, while initiating the dialogue on the Industry-IARI interface meet on Pesticides desired that investment in R&D related issues needs to be increased for flourishing pesticide industry in India.



*IARI-Industry Interface on Pesticides inaugurated by Dr Panjab Singh with Dr Raghunathan, Plant Protection Advisor, GOI (right)*

This is to develop safer IPM strategies for management of major insect pests of agri-horticultural crops. Spurious pesticides sold to farmers created resurgence of pests and development of resistance in a number of insect pests. This can be stopped by monitoring the quality of pesticides.

Dr V. Raghunathan, Plant Protection Advisor to Govt. of India, indicated positive approach of the Government for the development of a healthier pesticide industry in India. He also informed that at present 19 IPM modules, developed in collaboration with IARI, ICAR and state agricultural universities, are being tested in different ecozones by the Directorate of Plant Protection through their Central IPM Centres all over the country.

#### *Eighth Dr B.P. Pal Memorial Lecture*



*Dr D.N. Tewari, Member Planning Commission giving Dr B.P. Pal Memorial Lecture. Dr Panjab Singh, Director, IARI seated on his left*

The eighth Dr B.P. Pal Memorial Lecture was organized on 26 May, 2001 at the IARI, Pusa. On this occasion, Dr D.N. Tewari, Member, Planning Commission, addressed on "Greening India for Sustainable Agriculture". He informed that a 'Green India Authority' is being setup in the Planning Commission to carry out the gigantic task of greening India in 10 years framework i.e. by 2011.

IARI Director Dr Panjab Singh while giving the presidential address said that agriculture needs to be intensified to meet future demands. Cost-effective crop diversification and small farmers would be the focus in future. It was a matter of great satisfaction that an area of 3868 sq. kms. has been added to the total greenery scenario of the country, and it is likely to be doubled this year.

### National Dairy Research Institute, Karnal

#### *Reduced Vitamin E Supplementation of Subclinical Mastitis in Dairy Cows*

Three groups of cows were either supplemented with no vitamins (group 1), 1000 IU vitamin E/d (group 2) and 1000 IU Vit+300 mg  $\beta$ -carotene/d (group 3) from 45 days dry period to subsequent lactation period of 4 months. Supplementation in groups 2 and 3 resulted in increased plasma levels of retinol,  $\alpha$ -tocopherol and  $\beta$ -carotene around parturition and reduced clinical and subclinical mastitis. Plasma concentration of these vitamins was inversely associated with the number of somatic cell counts in the milk. Concentration of Vit.A, Vit.E and  $\beta$ -carotene in the plasma of cows producing normal milk ( $<0.5 \times 10^6$  SCC/ml milk) was 1.16, 5.81 and 4.21  $\mu$ g/ml, which decreased to 1.01, 4.53 and 3.99  $\mu$ g/ml and 0.81, 3.83 and 2.19  $\mu$ g/ml in the SCC range of  $0.5-1.5 \times 10^6$  CCd/s/ml milk, respectively.

#### *National Training Programme on "Livestock and Embryo Transfer Technology"*

A National Training Programme on "Livestock and Embryo Transfer Technology" was organized on 22-29 Jan. 2001 by Dairy Extension Division, NDRI, Karnal, in collaboration with Directorate of Extension, Ministry of Agriculture, New Delhi. In this, thirteen persons from Tamil Nadu, Andhra Pradesh and Punjab participated.



*Dr B.N. Mathur, Director, NDRI, Karnal releasing the lecture compendium of National Training Programme on "Livestock and Embryo Transfer Technology"*

#### *National Science Day*

NDRI celebrated National Science Day on 28 February, 2001. Dr B.N. Mathur, Director, NDRI inaugurated the celebrations.

An exhibition depicting activities and achievements of various divisions of NDRI was a major attraction. The demonstration on improved method for the detection of milk adulteration, viz., urea, glucose, sugar, carbonate and bicarbonate and pond water (Nitrate), etc. by the milk testing kit developed by the NDRI, Karnal was very educative.



# A Profile

## G.B. Pant University of Agriculture and Technology, Pantnagar

The G.B. Pant University of Agriculture and Technology, Pantnagar, is the first Agricultural University of India with largest campus, covering 6,500 hectares, which was inaugurated and dedicated to the farmers of this nation on 17 November 1960 by Pt. Jawahar Lal Nehru, the first Prime Minister of India. The University was established to achieve three-fold objectives i.e., making provisions for education of the rural people, furthering research and undertaking extension programmes in agriculture and allied fields.

It being a residential university, has 8 out of its 9 colleges in the main campus. This is the only agricultural university having Civil, Mechanical, Electrical, Electronics, Computer and Production Engineering along with four Agricultural Engineering branches, viz., Farm Machinery and Power, Irrigation and Drainage, Soil and Water Conservation, and Post-Harvest Technology.

The University has semester system and the examinations are based on internal-cum-external evaluation for undergraduate and post-graduate programmes. The admissions are held on merit basis through entrance examination for each degree programme of the University.

The library of Pantvarsity is well-equipped and has over 3 lakh books and 1,500 periodicals. University has 15% reserved seats for rural girls to strengthen women in development programmes.

### Practical-Biased Education



Students working in Practical Crop Production Programme

The emphasis on practical aspect of the education can well be perceived through its pioneer Practical Crop Production programme at undergraduate level. Started first by the Pantvarsity with the aim of building confidence among the students, the programme has now been

enlarged to a full semester. Rural Work Experience Programme (RWEP) has also been a trendsetter.

### Research Highlights

Total 157 varieties of various crops, fruits, vegetables, etc. have been developed in the University; some of which are among the best ones in India. These include five hybrid varieties of paddy, bottlegourd, brinjal and cucumber. The technique of high-density mango orcharding developed gives ten times more fruit yield of Dushehri. Hydroponics i.e. the soil less culture of plants, development of protocol for producing tissue-cultured plants of some crops, development of first transgenic of wheat resistant to Basta herbicide, cultivation of off-season vegetables and flowers



Pant Sankar Dhan 1 variety of rice

in polyhouses and large-scale mushroom production in controlled environments are some of the technologies which will transform agriculture into a business venture.



Administrative block of the university



Dr. J.B. Chowdhury, Vice-Chancellor and Shri Sahib Singh Verma, Chairman of JPC on Protection of Plant Varieties and Farmers Rights Bill of 1999, looking at the hydroponic technology of Pantvarsity

Ecology and sustainability have received more attention in the research programmes. Development of biopesticides and biocontrol agents will reduce use of chemicals. Formulations of two antagonists *Trichoderma harzianum* and *Gliocladium virens* have been found successful in controlling dreaded diseases of crops. Use of

herbs for controlling animal diseases and of acupuncture for local anaesthesia in animals are the other innovations worth mentioning. Use of biotechnology in animal research has resulted in the development of embryo-transfer technology and of kits for testing pregnancy and adulteration of urea in milk. The techniques of fish breeding and fish culture in running water and cage have also been developed. A large fish hatchery with a capacity of producing 40 million fingerlings has recently been inaugurated.

The Pant zero-till ferti-seed drill is now becoming very popular with farmers of Haryana, Punjab, UP and plains of Uttaranchal as it enables timely sowing of wheat besides saving considerable amount of money usually spent on field preparation. Many other implements developed at the University like paddy planter, sugarcane planter, spiked clod crusher, rotary puddler, potato digger, multi-crop seed drill, etc. make the farming operation easier, cheaper and quicker with the use of less energy.



Pant Zero-Till Ferti-Seed Drill developed by Pantvarsity has become very popular in rice-wheat system of north India

Technologies to develop several nutritious food products from the indigenous food crops to keep the rural women and children healthy have been developed. Production of natural dyes and techniques of blending natural fibres may provide opportunity to rural women to start their own entrepreneurship.

The Hill Campus of the University has developed improved varieties of various crops, viz., foxtail millet, grain amaranth, buckwheat, ricebean, peach, apple, plum, pear, apricot and gladiolus. Production technologies for different hill crops have also been standardized. Technology of rearing angora rabbit has also been developed.



## Transfer of Technology and Information Dissemination

Realizing the importance of proper dissemination of new technologies to farmers, the University is utilizing radio, TV and print media to reach farmers.

Interpersonal communication is arranged through about 70



A view of Kisan Mela



Dr. J.B. Chowdhury, Vice-Chancellor giving away 'Overall Best Stall' trophy at the closing ceremony of Farmers' Fair

trainings annually for farmers, unemployed youth and officers of government and public sector undertakings. All-India Farmers' Fair and Agro-Industrial Exhibition is being organized twice a year at the main campus and Kisan Diwas are organized at all the Regional Research Stations.

Consultancy is provided to industries and entrepreneurs in food science, tissue culture, plant pathology, entomology, mushroom production, micro-propagation of plants, electrical, civil, mechanical and irrigation and drainage engineering, through inter-sectorial collaboration and custom-built services.

## Quality Seed Production and Supply

The University undertakes large-scale seed production programme at its farm to produce good-quality seeds of high-yielding varieties of various *rabi* and *kharif* crops and supplies it to seed corporations of different states besides meeting the entire foundation seed demand for rice and wheat of UP Seed and Tarai Development Corporation.



Farmers with the minikits of quality seeds produced by Pantvarsity

## International Collaborations

As a result of International collaboration, the enrolment of foreign students has increased significantly specially from Ethiopia, Nigeria, Syria, Iran, Vietnam, China, Nepal, Bangladesh, Sri Lanka, etc.

Recently, a memorandum of agreement was signed between the University and the IRRI, Los Baños, Philippines, to collaborate in Ph.D. thesis research related to rice and rice-based farming systems. According to this the Ph.D. students who have completed their course work at Pantnagar will be nominated to conduct thesis research at the IRRI or both at the IRRI and GBPUAT to build up their capabilities in rice and rice-based farming systems' research. The IRRI will select from among the nominees those to be granted IRRI's 'thesis only' scholarships. An IRRI scientist will be appointed as co-chairman of students.

Pantvarsity also entered into a strategic cooperation agreement with Rabo Bank and IDFC to capitalize the growth

of agri-biotechnology and to focus on development of academic intellectual property in food and agriculture and biosciences. An MoU was signed on 2 March 2001.



Signing of MoU with Rabo Bank and IDFC in presence of the Chief Minister of Uttaranchal, Shri Nityanand Swami. Dr J.B. Chowdhury, Vice-Chancellor of Pantvarsity is sitting on extreme right

## New Initiatives

The University started an exercise to modify its various programmes in the wake of commercialization and globalization of agriculture. A new college of Agribusiness Management was started in 1998 which has been a great success. Its first batch which passed out last year was picked up readily by various national and multinational firms on lucrative salaries. The curricula of all its undergraduate and post-graduate programmes have been revised to meet the challenges of the new millennium.

After the formation of the new state of Uttaranchal, the University has reprioritized its research programmes. More emphasis has now been laid on diversification of agriculture like vegetables, fruits, flowers and medicinal and aromatic plants cultivation. The farm-based occupations like beekeeping, mushroom production, angora rabbit production, sheep, goat and other dairy animal keeping are also being propagated by the University. The fisheries scientists of the University are now concentrating towards developing cold water fisheries. Processing of agricultural products, is also a priority area of the University's research programme now. Developing quality food products meeting international standards is getting more attention with an eye on export opportunities. Uttaranchal has a vast resource of medicinal plants besides other important plants. A Pantnagar Centre of Plant Genetic Resources (PCPGR) at the University will be collecting and conserving germplasm of the vast Himalayan flora for future use. The foundation of new College of Commercial Horticulture has been laid by Hon'ble Chief Minister on 14 June, 2001 to promote horticulture and allied activities in hill region.

Above par performance and better infrastructure availability in communication has resulted in getting it the Centre of Excellence in Agricultural Communication from the ICAR. An Agricultural Technology Information Centre (ATIC) is also being established at the University with the assistance of the World Bank for consultancy, diagnostic service and supply of agro-inputs to the farmers. Recently, a telephonic 'Helpline' service has also been started by the University for providing guidance to the farmers on telephone.

## Perspective Planning till 2020

The emphasis will be given on vocational courses and specialized human resource development programmes to meet specific demands of diversification. The academic programme will also be focused to meet the requirement of entrepreneur, manager, marketing specialist and consultant for food processing and agro-based industries. The technology development for rainfed areas will be another focal area of the University with specific reference to hill region.



The eco-conservation and environmental protection from faulty application of agrochemicals conservation of bio-diversity in the Himalayan region of Uttaranchal and safeguards against pollution of rivers through agricultural activities will continue to receive greater attention. Considering limited area of operation for crop cultivation in the hill region, the University would like to make all out efforts towards maintaining identity of hill region of Uttaranchal as organic farming belt of the newly created state.

The newly created state has plenty of scope for cultivation of flowers, production of mushroom, vegetable seed production, rabbit farming and many other vocations. All these areas will demand for new technologies for which the scientists will undertake research programmes. The research centres established at different agroclimatic conditions will be strengthened with more programmes and facilities. The soil and water conservation through efficient irrigation and drainage technologies will be another potential area of



Dr S.B. Singh, the then Vice-Chancellor of Pantvarsity, with the Best Institution Award 1997 presented by the then Union Minister of State for Agriculture, Shri Som Pal, for outstanding performance of Pantvarsity

development in the hill region. The efficient communication through internet and website is another priority area which will be taken care through KVKs/ research centres.

The above are few limited areas for concentration of research and academic activities of the University. However, by maintaining scope of flexibility to suit the time place and market demand, the periodical assessment and modification will form an integral part of the strategic planning and research during next two decades.

### The University Honoured with ICAR Best Institution Award

Recognizing its outstanding performance the Indian Council of Agricultural Research honoured this university with the 'Best Institution Award '97 on 16 July 1998. Pantvarsity, as in the past, is once again bracing itself to meet the new challenge of revolutionizing agriculture of Uttaranchal besides making its contribution to the agriculture of the rest of India.



## Assam Agricultural University, Jorhat

### Fifth All India Agricultural Science Congress

The Assam Agricultural University in collaboration with the Government of Assam and under the auspices of the National Academy of Agricultural Sciences (NAAS) organized the 5<sup>th</sup> All India Agricultural Science Congress on 4-7 April,



Dr M.S. Swaminathan, Chairman MSSRF addressing the Congress

2001 at Guwahati. The theme was "Sustainable Development of Mountain Agriculture". While inaugurating the Congress, Lt. Gen. (Retd.) S.K. Sinha, the Governor of Assam, recorded his deep appreciation for the untiring efforts of scientists in increasing food production. His address included reference to revolutionary success in the agricultural scenario.

Dr M.S. Swaminathan, while addressing the Congress, elaborated the potentiality of the north-eastern region, specially hill areas and emphasized the key-role that the National Academy of Agricultural Sciences can play in bringing about a transition in agricultural system of the north east. Dr V.L. Chopra, President of NAAS, also highlighted existence of multifarious resources like enumerable germplasm, of very large number of crop varieties, medicinal and other valuable species of the eco-zone plants.

Dr G.L. Kaul, Vice-Chancellor, AAU, and Chairman, Organizing Committee pointed out that mountain agriculture is the most relevant subject for north-eastern states.

A book on "Agriculture in Assam" was released during the Congress. Major issues deliberated upon were "Bio-diversity and

Eco-system Management", "Sustainable farming system including land and water management", "Plant based niche agriculture for hills", "Animal based niche agriculture for hills" and "Post harvest management", besides, a special lecture on "A Bio-vision for Indian Agriculture" by Dr M.S. Swaminathan. The recommendations of the Congress have been drawn in the form of "Guwahati Declaration". Congress was attended by 300 agricultural scientists from far corners of the country.

## C.S. Azad University of Agriculture and Technology, Kanpur

### FAO Joins Hands with C.S.A. University, Kanpur

The FAO has agreed to collaborate with C.S. Azad University of Agri. & Tech., Kanpur and for financially supporting the project on review of the peri-urban, non-monetary input based, low-cost farming systems, developed by the University for peri-urban Kanpur and other areas. To finalize project pre-launch proposals, resource person Mr Felix Moukoku-Ndombé from FAO Headquarters arrived in Kanpur for the round table talks with the agricultural scientists.



Round table talk of Dr S.B. Singh, Vice-Chancellor and Mr Felix Moukoko-Ndombé, FAO representative with the scientists of the University

### Annual Maize Research Workshop

The 44<sup>th</sup> Annual Maize Research Workshop was organized in the C.S.A. University of Agri. & Tech. from 8 to 11 April 2001. Dr Mangala Rai, DDG (CS) inaugurated the workshop. The inaugural session was chaired by Dr S.B. Singh, Vice Chancellor, CSA University of Agri. & Tech., Kanpur. The outcome of the deliberation is given as:



### Recommendations

- Demonstrations should not be only on hybrids but on seed technology as well.
- Demonstrations should also be carried out from parental lines seed production.
- Linkages must be established for demonstrations with KVKs/ ICAR/ SAUs, farmers and other agencies by farm visits/ demonstrations in the farmers fields.
- Govt. of India should give incentive for single cross hybrids, QPM hybrids, which have shown promise for increasing production.
- For seed demand forecast, DMR and NCAP in consultation with State Government should prepare bulletin for seed demand. Proforma for demand be developed, passed on to P.D. (Maize) for discussion with N.S.C. and others.
- Awareness for keeping a maximum impact would be a better approach. Preference should be given to tribal and backward classes.

### CM Impressed by Researches on Organics and Soil Testing Services



Dr K.B. Singh, Officer-in-Charge Agri., Information Bureau, apprising Hon'ble Chief Minister, Shri Raj Nath Singh with different modes of technology transfer including Krishak Help Line service initiated by the University



Dr R.K. Pathak, Prof. and Head Deptt. of Soil Science & Agri. Chemistry, showing activities of the Department to Hon'ble Chief Minister, Shri Raj Nath Singh, Shri Shyam Bihari Mishra, MP, is also present

The State Chief Minister Sri Raj Nath Singh arrived here on a visit to Kanpur Goshala Society Bhaunti Pratappur, Kanpur, on 27 May, 2001. He was impressed by the popular use of novel organic manures like Bhumishakti, being produced by Balrampur Chini Mills, phosphocompost, NADEP compost, and biofertilizers. The CM lauded the soil-testing services being rendered by the Department directly at the farm gate in consonance with single-line control of technology dissemination.

### 'BASANTI' – a New Variety of Yellow Seeded juncea Released

A new variety of yellow seeded juncea named "Basanti" has been released by the U.P. State Variety Release Committee for irrigated areas of Uttar Pradesh. This variety is a high yielder as compared to Varuna and Rohini by a margin of 14-16 %. The plants are medium tall, moderately branched, yellowish in colour. Seeds are bold, yellow in colour, its oil content is 40.5%. This variety is moderately resistant to Alternaria blight and is highly resistant to white blister.



BASANTI – New variety of yellow seeded juncea released

### A New Urd Bean KU-300 (Shekhar) Variety Developed

Dr A.S. Rathi with his ingenious efforts has developed a new variety KU-300 (Shekhar). It is an early maturing variety (75-85 days), with bold green coloured seeds suitable to be grown in spring (Zaid) and kharif seasons for entire state and has been identified for entire north west zone of the country including, U.P., Delhi, Haryana, Punjab, Jammu and Kashmir, Himachal Pradesh, Rajasthan and Madhya Pradesh. The variety has an average yield potential of 17-18 q/ha. The grains contain 23-24% protein. The most important attribute of the variety is its resistance to yellow mosaic, the most devastating disease of urd bean.



A new variety of Urd Bean KU-300 (Shekhar)

### Economical Soil Testing Method

Organic matter maintenance and sequestration in sub-tropical soils of our country is very puzzling. It was routinely estimated by Walkley-Black rapid titration method using diphenyl amine indicator. This method requires ortho-phosphoric acid, which is a costly chemical, accounting for nearly 56% of the cost of chemicals.

A procedure using 'ferroin' as indicator has been standardized, which dispenses with the essential requirement of phosphoric acid. Its wide scale adoption will result in a saving of nearly Rs 4 per soil sample.

### CSK Himachal Pradesh Krishi Vishvavidyalaya – Palampur

#### Regional Elocution Contest

A regional-level elocution contest for the hilly states of Himachal Pradesh, Uttarachal and Jammu and Kashmir on "Strategies for Sustainable Development of Hill Agriculture" was held at the CSK HPKV, Palampur, on 12 March 2001 under the auspices of the National Academy of Agricultural Sciences, and it was co-ordinated by Prof. G.S. Sethi, Dean, College of Agriculture. Mr Aditya Pratap, of the CSK HPKV, Palampur, bagged the 1<sup>st</sup> position and Mr Sabyasachi Dasgupta from H.N.B. Garhwal University, Srinagar (Uttaranchal) was 2<sup>nd</sup>. Thereafter, the winners participated in the National Elocution Contest at Guwahati on 2 April during the 5<sup>th</sup> Agricultural Science Congress. Mr Aditya Pratap won the 1<sup>st</sup> position in this contest also.

#### Patent Awareness Workshop

The State Council for Science, Technology and Environment, Himachal Pradesh, organized a one day Patent Awareness Workshop at the CSK HPKV on 16 May 2001 in collaboration with the Technology Information and Forecasting Council (TIFC), Department of Science and Technology, Government of India, New Delhi.



A view of Patent Awareness workshop

About 60 scientists from the university, Institute of Himalayan Bioresource Technology and IVRI Regional Station, Palampur, attended the Workshop.



## Rural Agricultural Work Experience (RAWE) for UG Students

The University has introduced Rural Agricultural Work Experience (RAWE) programme for the final year of B.Sc. (Agri.) students. The first batch of 26 students has proceeded to the Regional Research Station, Bajaura, for training. The programme is to be executed for a period of 6 months w.e.f. 22 June to 21 December 2001.

## G.B. Pant University of Agriculture & Technology, Pantnagar

### Rice Researchers Plan Strategy to Increase Rice Production

"Produce speciality products like 'organic rice' to overcome the international competition in the wake of the implementation of the WTO agreement", said the Union Minister of State for Science and Technology, Shri Bachi Singh Rawat, in his inaugural address during the 36<sup>th</sup> All-India Rice Research Group Meeting held at Pantvarsity on 10-12 April, 2001.



Shri Bachi Singh Rawat, Union Minister of State for Science and Technology, released the souvenir during All-India Rice Research Group Meeting

Shri Rawat said that India is producing 88.6 million tonnes of rice every year from 44.1 million hectares which though, is more than its present requirement but needs to be increased continuously to meet future demand of 134 million tonnes by 2020 AD. He added that the rainfed ecosystem, occupying about 57 % of the total area under rice, holds high promise for enhancing rice production if appropriate technologies for nominal increase of half a tonne per hectare are developed.

Vice-Chancellor, Dr J.B. Chowdhury, while delivering Presidential Address said that India produces about one-fourth of the total rice of the world, ranking second after China. But productivity is low, ranging from less than 2.0 tonnes/ha in rainfed ecosystem to 4.0 tonnes/ha in irrigated ecosystem against more than 6.0 tonnes/ha in China and Korea. He also mentioned about the development of 'Golden Rice' by IRRI for higher production.

### Floret Specificity of Karnal Bunt of Wheat Resolved



Emerged wheat spike in S2 stage of inflorescence (left) and mycelial growth of Karnal bunt pathogen in absence (centre) and in presence (right) of extract of wheat inflorescence

Karnal bunt (*Tilletia indica*) is an important disease in UP, HP, J&K and Punjab. The extracts of plants were prepared from different parts of susceptible host plants (stem, leaves and S1, S2 and S3 stage of inflorescences). The effect of these extracts on radial growth was studied by growing a fungal disc of equal size on liquid and solid PDA medium. Maximum growth was seen in fungus (*Tilletia indica*) grown in extract prepared from S2 stage of inflorescence. Host extracts of S1 and S3 stages were found growth promotory. The results suggested that flowers possess certain nutrients or hormones like fungal growth promotory substances that lead to enhanced mycelination of fungus.

## Cold-tolerant Growth-promotory Fluorescent Pseudomonads Developed

More than 15 cold-resistant growth-promotory mutants have been developed. Besides retaining their P.G.P. potential, these mutants are able to grow both at 25° and 10° C, unlike their wild types. When these mutants were grown at 10° C an array of new proteins were synthesized. Out of these, few proteins in the range of 14, 21, 30 and 35 kDa were purified to homogeneity. Polyclonal antibodies were also raised against these proteins for their dot-blot diagnostic assay. Besides, ARDRA-based PCR protocol is also being used.

Once these gene(s) proteins are characterized, a novel strain with improved growth and better brightness is a possibility in near future. Besides gene(s), protein(s) may be used in development of some potent and beneficial cold-tolerant varieties. Also, purified antifreeze proteins could be of immense help to industry, and these strains can be used for bio-transformation in cold region.

### Dr J.B. Chowdhury Nominated as Member of ICAR Standing Policy Planning Committee

Vice Chancellor of Pantvarsity, Dr J.B. Chowdhury has been nominated as a member of the Standing Policy Planning Committee of the Governing Body of the ICAR. This is an apex committee of the ICAR comprising 26 members which provides policy guidance to the Council related to its mandate for agricultural research and education. The committee will also study the matters related to research prioritization, research collaboration and inter-institutional linkages.



Dr J.B. Chowdhury

Besides, the committee has advisory role on matters related to infrastructure and human resource development for possible reorganization for modernization and improved efficiency, suggesting ways and means for resource generation and advice on policies concerning incentives and rewards to the institutions, scientists, farmers etc. The committee will also suggest means and methods for strengthening of partnership between the ICAR and the State Agricultural Universities as well as various public/private sector institutes/organizations to build a strong National Agricultural Research System.

## Indira Gandhi Krishi Vishwavidyalaya, Raipur

### Dry Seeded Rice Scores over Biasi in Chhattisgarh

Productivity of rainfed areas of Chhattisgarh state is low even though they are endowed with abundant rainfall (1200-1600mm) well conserved soil and favourable climate that can otherwise support not only a good rainy season crop, but also a crop in the post rainy season. Majority of the rice-farmers follow a crop-management system traditionally called as biasi. Thus, distribution of rainfall is erratic and there is inefficient utilization of rainfall in the field.

Dry seeded rice was found superior to traditional biasi in (i) opportunities for crop intensification, (ii) drought-risk avoidance, (iii) rainwater use efficiency, (iv) resource-use efficiency and farmers income.

Various aspects of the technology like ploughing and seeding in dry soil, weed control, suitability to different types of soils deserve in-depth studies for its successful adoption.



## Maharana Pratap University of Agriculture and Technology, Udaipur

### International Training on "Biogas-cum-Manure Production Systems"

The II<sup>nd</sup> International Training Course on "Biogas-cum-manure Production System" was held at the Department of Renewable Energy Sources, College of Technology and Engineering, Udaipur



Participants of International Training Programme on Biogas with the Hon'ble VC

(Maharana Pratap University of Agriculture & Technology) from 21 April to 8 May, 2001. The participants were from Sri Lanka (4), Thailand(2), Nepal(1), Sudan(2) and India(1).

## Sher-e-Kashmir University of Agricultural Sciences & Technology, Jammu

### Wheat Variety RSP 303

This *Triticum aestivum* variety was developed from an intergeneric cross between Triticale cv. DT 35 and Wheat cv. HD 2428. It was released by the Varietal Release Committee of the Jammu and Kashmir Government in March, 2001. The variety was tested in whole of North Western Plain Zone under timely sown and irrigated conditions. The variety is similar in maturity and height to that of PBW 343. It is moderately resistant to brown rust but completely resistant to yellow rust. It has narrow erect leaves which allow deep penetration of light to the lower leaf canopy. The variety has strong root system and stiff straw beneficial for drought resistance. It is at par in yield with the other leading commercial cultivars like PBW 343 and HD 2687. Threshability of the variety is quite easy and it has white coloured glumes with profuse awns. The variety has attractive amber coloured medium-sized grains with thousand grain weight averaging 36g.

## Tamil Nadu Agricultural University, Coimbatore

### Integrated Village Development Programme

Under this programme, all constituent colleges and research stations of TNAU have adopted two backward villages in their locality and as on date more than 105 such villages have been benefited.

The TNAU - IVDP includes following activities:

1. Transfer of latest agricultural technologies that are suitable for the location through village meetings, trainings, demonstrations, mass media etc.
2. Facilitating conduct of village development programmes such as adult literacy, animal health-care, wasteland development, women empowerment, skill building for entrepreneurial development with the help of the concerned development departments.
3. Guiding farmers for capacity building and providing institutional support from banks for agricultural purposes.

The TNAU-IVDP activities are actively supported by the All India Radio, Lions Club, Rural Development banks and other such organizations in a participatory mode.

## AWARDS AND HONOURS

### Central Institute of Fisheries Education, Mumbai

#### Dr Harilal Chaudhuri Awards 2000-2001

The Best Fish Farmer award for the year was given to Shri Haricharan Das, a fisherman from Agartala, Tripura who started M/s Rangamayee Fish Breeding in 1978. Within 20 years he developed 30 broodstock ponds from where he earns Rs 3 to 4 lakh per year by selling weed-fish. He has 3 units of Chinese hatchery producing 35 crore spawn giving Rs 15 lakh per year. To feed broodstock, he developed 3 units of feed plants through the sister project M/s Rangamayee Livestock Feed Enterprise of 2 tonnes/hr capacity. He has 32 cows, 8 biogas plants (40 m<sup>3</sup> gas production per day) the slurry of which is used in ponds. He has 30,000 broiler poultry birds, 6,000 parent birds in 2 hatcheries with a capacity of 9 lakh eggs per year. He has 20 pigs. He has 250 coconut and 50,000 other trees like neem and teak. Considering his achievements, Department of Science and Technology, Government of Tripura, entrusted him to conduct 15 days training programmes for unemployed youth of fish farmers between 1993 to 95; 50-60 technical workers were employed to conduct technical work and 500 persons are given business as co-traders to sell fish seed/products all over Tripura. About 20,000 persons were indirectly benefitted through business from the organization.

### National Dairy Research Institute, Karnal

#### Bioved Fellowship Award

Dr R.S. Gandhi, Sr. Scientist, Dairy Cattle Breeding Division has been bestowed with **Bioved Fellowship Award - 2001** by Bioved Research and Communication Centre, Allahabad on the occasion of the 3<sup>rd</sup> Indian Agricultural Scientists and Farmers Congress held on 3-5 February 2001 at Allahabad University, Allahabad.

## Maharana Pratap University of Agriculture and Technology, Udaipur

#### Award of Ford Foundation Fellowship

Mrs Jayashree K. Kumkar, Ph.D. (IWME), working under the supervision of Dr Virendra Kumar, Prof. & Head, SWCE, has been awarded Ford Foundation Fellowship of US\$10,000 for support to South Asian Women researching for Doctoral Studies by the International Water Management Institute, Sri Lanka.

## Punjab Agricultural University, Ludhiana

#### Rafi Ahmed Kidwai Award

Two Senior Scientists of the Punjab Agricultural University, Dr Govinder Singh Nanda, Head, Deptt. of Plant Breeding (now Director of Research) and Dr P.P. Gupta, Additional Director of Research (Vety.) (now retired), have been honoured with the coveted Rafi Ahmed Kidwai Award. These Awards were presented to them by the Union Agriculture Minister Shri Nitish Kumar, at a ceremony in the Vigyan Bhawan, New Delhi. Each of these scientists were presented a medal, a citation and a cash award of Rs 3 lakh.

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