

IAUA



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NEW VCs

Second term for Dr Anwar Alam, VC, SKUAST (K), Srinagar

Dr Anwar Alam, Vice-Chancellor, Sher-e-Kashmir University of Agricultural Sciences and Technology of Kashmir, has been granted second term. It is recognition of his meritorious services rendered as VC towards agricultural, veterinary and allied branches of the science for development of research, teaching and extension education under the aegis of SKUAST-K. Dr Alam has tremendous experience and exposure at national and international levels.

During his previous tenure three more faculties, viz. Faculty of Fisheries, Faculty of Forestry and Faculty of Horticulture, were added. Faculty of Agricultural Engineering and Faculty of Sericulture are in the offing. The university is now offering UG programmes in 7 subjects, Master degree programmes in 19 specializations, and Ph.D in 11 subjects.

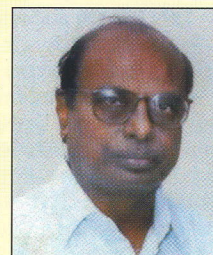
He catalysed the introduction of Japanese quails, and Van Raja strain for backyard poultry. Existing laboratories were equipped with modern scientific equipments and several new laboratories and infrastructural facilities were added. He succeeded in getting new KVKs, and two in partial funding were converted into the fully funded units by the ICAR.



Dr Anwar Alam

Dr P. Raghava Reddy, VC, ANGRAU, Hyderabad

Dr P. Raghava Reddy joined as VC, ANGRAU, Hyderabad on 8 February 2008. Born on 23 March 1948, he did Ph.D. in Genetics and Plant Breeding from IARI, New Delhi. He has 33 years of (teaching, research and administrative) experience. Before joining the university, he was Head of the ARS, Ragolu, Nellore and Maruteru for 28 years, and Director of Research from 1.7.2005 to 7.2.2008. Involved in the development and release of 16 rice varieties and associated with release of 26 new varieties in different crops, he has been instrumental in getting APNL Biotechnology Research Project for the development of drought-tolerant rice varieties through marker-assisted selection. He handled NATP Project on Hybrid Rice as Principal Investigator and as Crop Expert for Rice, and was actively involved in the development and effective transfer of technology to improve productivity through effective implementation of technological interventions. Dr Reddy received Best Research Worker award of ANGRAU (1991) and Meritorious Services Award from District Collectors of Nellore (1994) and West Godavari (1998) in recognition of significant contribution to Rice Research and services rendered to the rice farmers.



Dr P. Raghava Reddy

Focus on Universities : Achievements and Events

DEEMED UNIVERSITIES

INDIAN AGRICULTURAL RESEARCH INSTITUTE, NEW DELHI

Golden Jubilee Year Convocation - 2008

The Golden Jubilee Year Convocation-2008 of the Post Graduate School of IARI was held on 8 February 2008. Dr S. Banerjee, Director, Bhabha Atomic Research Centre, Mumbai was the chief guest, who delivered the Convocation address. He emphasized that education can transform our youth into a huge human capital and make India one of the most powerful nations of the world. Dr Banerjee mentioned that we have a unique opportunity of empowering nearly half of Indian population that would be young, of capable age to have tremendous potential to move ahead in this knowledge economy-driven competitive world. The challenge before our education system is to produce empowered youth who can pull the country up the ladder and not be a baggage causing a drag to upward movement.

Dr S.A. Patil, Director, IARI, highlighted the significant research achievements of the institute during the year 2007. Dr H.S. Gaur, Dean and Joint Director (Edn), IARI, highlighted the important role being played by the institute in human-resource development in terms of post-graduate teaching, short-term training courses and modernization of PG laboratories, lecture halls, hostels, dispensary etc. The chief guest released eight IARI publications including *Agricultural Transformations in India*, vol. 2 (compilation of Lal Bahadur Shastri memorial lectures held during 1995-2008), *Pusa Agri Science*, 2007, *Empowering Rural Youth*, *Disha - PGSSU* magazine and four laboratory manuals. Four IARI seed varieties, viz. HD 2932 (Pusa

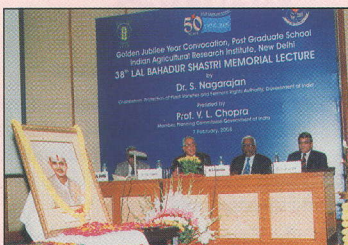


Golden Jubilee Year Convocation

Wheat 111), improved Pusa Basmati 1, Mustard 21(LES I-27) and cotton PSS 2 Pusa (Arvind) were also released. At this onvocation, 75 M.Sc and 84 Ph.D. students were awarded degrees. Doctor of Science (*Honoris Causa*) degrees were awarded to three distinguished scientists in the area of Agricultural Sciences, viz. Dr M.V. Rao, former Special DG, ICAR; Dr R.S. Paroda, former DG, ICAR; and Dr Mangala Rai, present DG, ICAR.

The 15th Sukumar Basu Memorial Award for the biennium 2005-06, consisting of a cash prize of Rs 10,000 and commendation certificate, was awarded to Dr (Mrs) P.R. Sinha of National Dairy Research Institute, Karnal, for her outstanding research contributions towards Development and study of properties of probiotic dahi.

The 12th Dr B.P. Pal Memorial Award for the year 2007, consisting of a cash prize of Rs 10,000, a gold medal and a commendation certificate, was awarded to Dr A.K. Singh, IARI, New Delhi, for his outstanding research contribution on Development of basmati rice through marker-aided selection.



Lal Bahadur Shastri memorial lecture

The 7th Hari Krishna Shastri Memorial Award for the year 2007, consisting of a cash prize of Rs 25,000 and a commendation certificate, was conferred on Dr Mathura Rai, Director, Institute of Vegetable Research, Varanasi (U.P.), for his outstanding research in Vegetable breeding.

Lal Bahadur Shastri memorial lecture

The 38th Lal Bahadur Shastri memorial lecture was delivered on 7 February 2008 by Dr S. Nagarajan, Chairperson, Protection of Plant Varieties and Farmers' Rights Authority, Government of India, on the topic "Intellectual property rights as an option to promote excellence in agriculture". Dr Nagarajan mentioned about pressure building on research establishments to be more accountable and able to provide an edge to the enterprise to succeed in the global market. He emphasized that the agricultural science policy, apart from recognizing the role of new innovations and knowledge, should promote procedures to get maximum benefit out of the IP holdings to ensure that India gets benefited in global business. The function was presided over by Dr V.L. Chopra, Member, Planning Commission, Government of India.

Dr A.V. Moharir, former Professor and Head, Division of Agricultural Physics, IARI, gave a presentation on 7 February 2008 on the life and achievements of Dr A.B. Joshi, the first Dean of Post-Graduate School, IARI.

INDIAN VETERINARY RESEARCH INSTITUTE, IZATNAGAR

North Carolina State University scientists Visit

Dr Premarasu, Assistant Dean and Director, International Programmes, College of Veterinary Medicine, North Carolina State University, visited IVRI along with a group of 10 students during 19-20 December, 2007. She discussed with Dr Dharmeswar Das, Joint Director (Academic)-cum-Dean, the possible areas for collaboration on: (a) research and programmatic collaboration, and (b) training of graduate students and clinical experience of veterinary students.

International training

An international training course on Molecular biology and biotechnology in animal research was held in Biochemistry Division. Three participants from Nigeria attended this course. Another international training course on Isolation and characterization of *Mycoplasma* infections in livestock and poultry was held in Bacteriology and Mycology Division. One trainee from the U.S.A. attended this course. The T.C.S. Colombo Plan-sponsored course on Molecular biology and biotechnology in animal research was held in Biotechnology Division. Eleven participants attended this course, in which two candidates were from Myanmar, four from Indonesia, three from Thailand and two from Sri Lanka. Besides, a short training course was also held on production and testing, in which four participants from Afghanistan were trained.



International training

Animal farm school on air

Two Farm School on Air programmes of 21 and 36 episodes are being simultaneously broadcast from AIR to provide latest technological information pertaining to animal husbandry and veterinary practices to the end-users. These pathshalas are being broadcast from Rampur (21 January 2008) and Bareilly (5 March 2008) Akashwani Kendras respectively.

UNIVERSITIES

A Profile

INDIRA GANDHI KRISHI VISHWAVIDYALAYA, RAIPUR

Setting up of the university

The IGKV was established on 20 January 1987 at Raipur as 26th agricultural university of the country, by State Legislature (Act No. 4 of 1987) to provide a new dimension to agricultural development of Chhattisgarh. The university was dedicated to perpetuate the memory of Smt. Indira Gandhi, the late Prime Minister of India.



Administrative Building

Jurisdiction

The jurisdiction of the university extends to 16 revenue districts of Raipur, Bilaspur, Ambikapur and Bastar divisions. It has 3 constituent colleges, 3 Zonal Agricultural Research Stations, 3 Regional Agricultural Research Stations, 2 Substations and 9 Krishi Vigyan Kendras. Student enrolment during 2004-05 was 1,524 (UG courses 1,363 and PG courses 161).

Purpose of setting up the university

The main objectives of the university are to provide for education in agriculture and allied sciences, furthering of research particularly in agriculture and allied sciences, undertaking field extension programmes for proper transfer of technology, and such

other purposes related to the aforesaid objectives of improving the socio-economic level of rural people. After the formation of Chhattisgarh State, greater emphasis is being laid on horticultural development, as horticultural crops ranging from temperate to arid climates can be grown in the state.

Mandate

Undertaking basic, applied and adaptive research to evolve appropriate solutions and technologies; diversifying crops and farming systems; collaborating with the state, national and international research institutions; and imparting knowledge and education to the people engaged in agriculture and allied fields.

Main achievements

Varieties released during 1987-97

Five rice varieties were released, viz. Abhaya, Ruchi, Ahamaya, Shyamala and Poomima. The linseed varieties released were R 552 and Kiran. Kiran is popular in other states like Maharashtra and Orissa too.



Linseed Kiran

Varieties released during 1998 - 2005

Rice varieties released were Bamleshwari, Danteshwari and Indira Sugandhit Dhan 1; soybean Indira Soya; *Lathyrus* Prateek; greengram Pragya; field pea Ambika, Subhra and Paras; and chickpea Vaibhav.

The rice varieties: these were developed for addressing the problems of different groups of rice farmers. Shyamala has long slender grains and purple leaf colour, is suitable for wild rice (*karga*) eradication, which is a major problem of direct-seeded

crop. Mahamaya is a medium-duration, high-yielding variety, recommended for Madhya Pradesh, Tripura and Sambalpur area of Orissa. It possesses resistance to gallmidge biotype 1 (Gm 1) and is tolerant to bacterial blight, sheath rot, drought and white-back planthopper. It is capable of yielding up to 6 t paddy/ha and is especially suitable for *poha*-making. Poomima is an early variety of 105 days duration. It has long, slender, fine-grain and has yield potential of 4 t/ha. These varieties are recommended for entire Madhya Pradesh, especially in light soil areas and uplands. The other varieties recommended for the state along with their yield potentials are: Madhuri S-11 (35.8 q/ha), R 407-1 (39.2 q), Madhuri A-9 (43.3 q), R 288-361 (39.6 q), R 288-650-2 (34.9 q), Kalimuchh (local) (28.7 q), Pusa Basmati (27.7 q), and Tarori Basmati (19.7 q).

Germplasm collection

The local germplasm of rice was collected by Dr R. H. Richharia during 1971-76 by from different rice-growing regions of Madhya Pradesh. A total of 19,095 accessions were collected. Currently, the university is maintaining 23,070 accessions, which is one of the largest collections of local land races.

So far, the entire germplasm is being grown each year for maintenance, due to unavailability of suitable cold-storage facilities. Recently, the ICAR has provided a module for germplasm storage, in which seeds can be stored safely for 8-10 years without losing vigour. Germplasms maintained are: linseed 510, chickpea 208, soybean 190, *Lathyrus* 1,980 and tuber crops 128.

Genetic studies for identification of new gallmidge-resistant genes

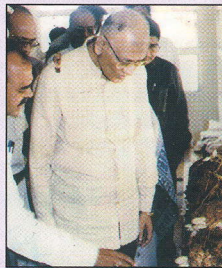
Genetic studies carried out through screening of F_1 , F_2 and F_3 segregations of different crosses, led to the identification of three new gallmidge-resistant genes: Gm 3, a recessive gene, was found in Velluthacheera derivative RP 2068-18-3-5; Gm 4, a dominant resistant gene, was found in PTB 10 derivative; and Abhaya and Gm 5, dominant resistant genes were found in ARC 5984. In collaboration with International Centre for Genetic Engineering Biotechnology, New Delhi, Gm 4 gene present in Abhaya was mapped for its location on no. 8 between markers R 1813 and S 1633 B. Also molecular marker was developed; and this marker-assisted selection for gallmidge can considerably reduce the time for developing gallmidge-resistant varieties.

Disease management

Bacterial leaf blight and blast are the important diseases of rice. Most of the varieties evolved at IGUA possess resistance to these diseases.

Pathogenic variability

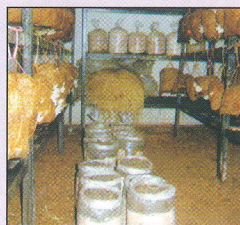
Based on a large sample collected from different parts of Chhattisgarh, seven isolates of *Xanthomonas oryzae* pv *oryzae* (causal organism of bacterial leaf blight in rice) were identified and designated 6, 6R, 6-4R, 6-5R, 6-6R, 6-7R and 6-8R. With the help of pathogenic variability tests, the virulence or virulence reactions of different genotypes against isolates were prepared. Among these isolates, 6-5R and 6-4R were found virulent.



HE Shri Dinesh Nandan Sahay, Ex-Governor of Chhattisgarh, visiting Mushroom Res. Lab

Mushroom

From different districts of Chhattisgarh 84 mushroom floras were collected, and attempts are being made to isolate and characterize them. Production technology of oyster paddy-straw mushroom, milky mushroom and white-button mushroom was standardized under the prevailing climatic conditions of Chhattisgarh. A new spiral paddy-straw mushroom was developed along with a mushroom crop calendar.



Mushroom laboratory

Rain-water harvesting and recycling

The technology for harvesting rain water was developed, under which in a field of ha in a farm pond (0.09) is dug in such a way that 2/3 area falls above the pond and 1/3 area falls below the pond. The upland area is used for growing upland crops like soybean and pigeonpea, and lower area for growing rice. About 28 to 37% of the total rain is collected as run-off in vertisols, which is harvested in the tank. The productivity of upland crops improved significantly due to better drainage and the rice yields were higher, since supplemental irrigation could be given from water stored in the tank. The collected water after meeting the requirement of rice could be used for establishing the second crop after rice. This technology has a potential to convert monocropped rice into assured double-cropped area. The result of 5 years of experiment showed that even in a drought year like 1992-93, it was possible to have double crop in the entire field with the help of stored water.



Shri Ajit Jogi, former, C.M., and other dignitaries at inaugural function of International Chickpea Conference- 2003

Cultivation on bunds

About 5-10% area of rice fields is under bunds in Chhattisgarh. Pigeonpea (*arhar*) comes up well on both new as well as old bunds. Other suitable crops are greengram, blackgram, rice bean, sesame, niger, tomato, forages etc.

Double-cropping technology

In rainfed rice fields double cropping can be adopted through rice with improved *utera*, but better by taking a normal *rabi* crop on residual moisture after harvesting short-duration rice. It is still better with rain-water harvesting come-up for protective irrigation for the *rabi* crop. In *bharris* (unbunded vertisols) soybean, chickpea or soybean with *arhar* intercrop enables double cropping. With one irrigation very good crop of chickpea, linseed and *Lathyrus* can be taken. There are good prospects with two irrigations for growing safflower or rapeseed-mustard and with three irrigations for wheat and sunflower.

True potato seed

The technology for production of potato was extended with the use of true potato seed (TPS). The use of tuberlets proved better than that of transplanted seedlings of TPS for production of potato. Hence, different TPS populations were evaluated for tuberlet production.

Floriculture

Budded plants of 45 varieties of roses are being supplied to rose lovers. Besides, 110 varieties of cacti collected from Bhubaneswar are being multiplied on local rootstocks since 1994-95. Tuberose is also being multiplied for distribution since 1996-97. IGUA actively associates with Chhattisgarh Horticultural Society in flower shows, plantations, seminars and symposia.

Spices

Onion, garlic, ginger, turmeric, chilli, coriander etc. are grown on commercial scale. Varieties were evaluated, and suitable ones were identified and recommended for the region. Cultivation of onion during *kharif* under well-drained conditions was found promising.

Medicinal and aromatic plants



HE Retd Lt Gen. Shri K.M. Seth, Governor of Chhattisgarh, inaugurating National Seminar on Medicinal & Aromatic Plants



Garden of Medicinal And Aromatic plants

Chhattisgarh has rich bio-diversity and many medicinal herbs grow under natural condition, which are collected and marked. A national conference organised by the university in 1997 showed very good response. In view of the significance of these plants in Chhattisgarh, a new Department of Medicinal and Aromatic Plants was established at IGUA, Raipur since 2005 to undertake research work on these aspects.

Agro-forestry

Mahua (*Madhuca latifolia*), *sal* (*Shorea robusta*), *neem* (*Azadirachta indica*), *babool* (*Accacia* sp.) tamarind, *jamun* (*Syzygium cuminum*) and *pipal* (*Ficus religiosa*) are common species in cultivated areas. Multipurpose fast-growing tree species such as *khamhar* (*Gmelina arborea*), *shisham* (*Dalbergia sissoo*), *poplar* (*Populus deltoides*), *bakain* and *siris* (*Albizia* sp.) have been tried. Fencing with suitable species and agro-forestry of *bhata* lands reduced soil erosion effectively, added biomass, reduced soil acidity, and improved fertility.



Tissue culture lab.

Livestock improvement

The university has Sahiwal herd at Anjora. Cattle improvement is being tried using drought-resistant Illawara cattle from Australia. On an average, four transferable embryos are obtained per flush in Sahiwal donors, whose conception rate is 75%. Patent application has been filed for a stimulator developed by the College of Veterinary Science and Animal Husbandry.

Animal nutrition

Paddy straw is the main livestock feed in the region, which is low in N and mineral contents but high in anti-nutritional components such as silica, oxalates and lignin.

Crop residues and vegetation of feed value were evaluated, and low-cost methods are being evolved to upgrade them.

Animal Husbandry

Embryo-transfer technology

The College of Veterinary Science and Animal Husbandry, Anjora (Durg), is the only centre in the country where ETT programme on pure Sahiwal cow is in progress. The first pure Sahiwal (indigenous breed) calf named *Gokul* was produced on 16.11.94. Since then, seven live ETT calves have been produced from elite donors of pure Sahiwal breed and several recipient cows are pregnant through embryo transfer.

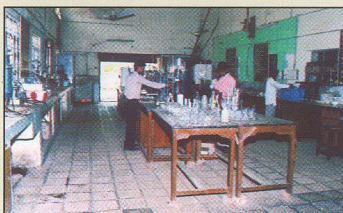
Under the ICAR network programme on ETT, protocol and methodology were developed to economize the ETT superovulation through IVSM route, which was done for the first time in the world. The first Ilawara crossbred calf produced in the country through artificial insemination; was developed for the first time in India through superovulatory protocol for Sahiwal, and repeated superovulation response and embryo recovery was done for the first time in Sahiwal cow in a year, yielding 13-15 transferable embryos in 4-5 flushings in a year in each cow.



Dr Raman Singh, C.M., felicitating scientists

Fishery

Based on research technologies for early availability of fish seed, low-cost nursery management, fish nutrition and integrated fish culture were developed, demonstrated and recommended for large-scale adoption. The main constraint in fish productivity is shortage of quality seed, for which research is being carried out on breeding major carps (catla, labeo, cirrhinus and cyprinus) on breeding catfish (*Clarias* and *Heteropneustas*); nursery-management practices; scarcity of appropriate size of choice planktonic feed; hazard of insects and their larvae; infestation of ferry shrimps and copepods; response of major carp fries to various types of feeds; and integrated farming, especially paddy-cum-fish culture and pond-dyke farming (fish with horticultural crops).



Fishery Research Lab.

Control of erosion in hilly areas

Under Agro-forestry system, loss of soil due to splash erosion was studied. The species *khamhar* at 4 x 3 m spacing intercropped with soybean recorded the lowest soil loss of 0.5 t/ha with 80 % canopy development against 3.2 t/ha soil loss due to splash erosion under open-field conditions.

Introduction of litchi in Surguja

In hilly region of Chhattisgarh, especially in Surguja, a new horticultural tree crop, litchi, has been introduced. Its germplasm was collected from different parts of the country and evaluated at Ambikapur. Litchi varieties Ambika Sel.1, Ambika Sel.2, Rose Scented and Shahi are preferred by the farmers for their good yield and quality.

Apiculture

It is a potential allied business for this region. A new Italian honey bee species, *Apis mellifera*, was identified for bee-keeping. It produces 40-50% more honey than the local bee *Apis cerana indica*. *Apis mellifera* is docile in nature and has less biting habit compared with other species. About 200 farmers were trained in bee-rearing at Ambikapur.

Frontline demonstration of rice

Front-line demonstrations are conducted on farmers' fields by the scientists to apprise the farmers about the characteristics and production potential of the new rice varieties and to educate them regarding the latest production technologies, i.e. line-sowing package of rice, improved *biasi*, seed treatment, fertilizer blending and placement etc. During the rainy season *Kharif*. 1998 frontline demonstrations on Mahamaya, Kranti, Kasturi, PNR 381 and Poornima were conducted at different villages, by different departments and research stations of IGAU.



Shri Nanki Ram Kanwar, Agriculture Minister, and Dr C.R. Harzra, monitoring NATP Research Project at Uppewala, Raipur

Extension education

Though the Directorate of Extension Services is yet to be strengthened like other agricultural universities in India, it has successfully carried out the assigned multi-faced activities and has been instrumental in transfer of technology to

the grass-root level by establishing a direct linkage between the scientists and the farmers. The multipurpose task of the Directorate of Extension has been divided and shared by three following units:

Farm -Advisory Services Unit

The main function of Farm Advisory Services Unit is to carry out various demonstration programmes and to train the extension personnel and farmers. It organizes and conducts various local and national-level training programmes.

Training Unit

In-service training: Training Unit at Raipur and all KVKs at Badgaon, Bilaspur, Ambikapur and Durg are organizing in-service training programmes for field extension officers under the administrative control of this directorate.

Institutional training for farmers and farm women: Need-based institutional training in various fields is arranged for farmers and farm women as well as for rural youth.

Off-campus trainings: The Directorate at Raipur is imparting off- campus training to cater to the needs of the farming community through its various units, viz. training unit, Raipur (H.Q.), and KVKs, Badgaon, Bilaspur, Ambikapur and Anjora Durg.

Firstline demonstrations: The Directorate is also conducting first-line demonstrations on paddy, oilseed and pulses crops as well as edible mushroom through its various units, for demonstrating the latest improved technologies on the farmers' fields.

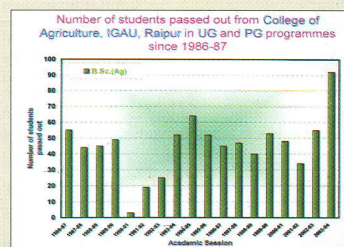
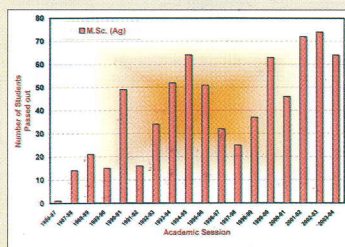
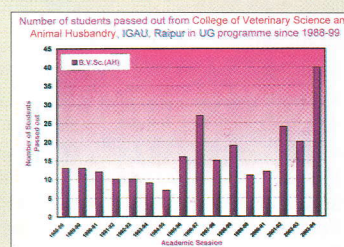
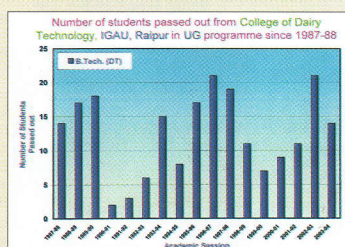
Crop management and cropping system

The following were the specific results obtained through research at IGKV:

(i) Rice-berseem and rice-tomato were the most suitable cropping systems; (ii) green-manure (40/kg/v/ha) of 50% gave same yield as 100% N applied through inorganic fertilizer and deep application of 80 kg N was found better than 120 kg N drilled into intercrop, and green-manure (*Sesbania rustrata*) could save 40 kg N, The residual N was available for second crop; (iii) the highest green and fodder yields were recorded from maize + cowpea intercrop in 5:2 row ratio; (iv) improved *biasi* method helped in controlling weeds; (v) triflial *biasi* and Indira seed-cum-fertilizer drill was developed for better yield and seeding of paddy; (vi) crop-beneficial bacteria under stress condition were identified, viz. *Rhizobium*, *Azospirillum*, *Azotobacter* and phosphate-solubilizing bacteria. Raipur soil testing kit was developed, which could classify soil with fairly low, medium or high categories for phosphorus with regard to fertilization recommendations; (vii) VAM isolates, viz. *Glomus agogocarpum*, *G. etanicatum* and *G. deserticola* were found to protect the host against water stress; (viii) edible mushrooms viz. *Pleurotus* spp, *Volvariella volvacea* and *Calocybe indica*, were identified suitable for commercial cultivation; (ix) new crops, viz. rajmash and cotton, were introduced in Chhattisgarh; (x) Farm pathogen, viz. *Cercospora* spp. *Alternaria zinnea*, *Fusarium equiseti*, *Sclerotium rolfsii*, were found associated with leaves and stem of *Parthenium hysterophorus*.

Student output

Graphical output of students of B.Sc. (Agric), M.Sc. (Agric), B.Tech. (DT) and B.V.Sc.(AH) is given below.



Collaboration with other organizations

The IGAU has strong research linkages with various national and international organizations like BARC, SAC, ICRISAT, ICGER etc. Also, there is a strong linkage with International Rice Research Institute, Los Banos, Philippines, where a number of scientists have been given advanced training in various thrust areas of rice research. It has another collaborative project with European Community on *Lathyrus* development, through which *Lathyrus* varieties of low ODAP (toxic substance) content

were developed and are in pipeline. In Veterinary Science and Animal Husbandry, the university has linkage with University of Connecticut, the USA, for collaborative study on the muzzle prints of cloned cattle.

New initiatives

The new initiatives taken up by the university during the period are: (i) upliftment of the socio-economic conditions of below-poverty line families of Chhattisgarh; (ii) opening of four new departments, viz. Microbiology, Medicinal and Aromatic Plants, Plant Physiology and Biochemistry, Department of Extension and Home Science; (iii) initiation of work on medicinal mushrooms and preparation of a model set up for the first time and its approval by the State Government; (iv) establishment of six new Krishi Vigyan Kendras at Dhamtari, Mahsamund, Raigarh, Bhatapara, Janjgir-chapa and Dantewada; (v) adoption of Parada village for transfer of overall generated technology of the university and increasing the productivity of all crops in a sustained manner; (vi) development of infrastructure and creation of advanced laboratories and library facility; (vii) creation of bio-park and medicinal garden and modernization of auditorium and seminar halls; and (viii) creation of mist-chamber facility, computer-application centre and regional library.



Mist Chamber Facility



Grant of honorary rank of NCC Colonel to Dr C.R. Hazra, V.C., IGAU, on 3 March 2005

Perspective planning till 2020

The university prepared the future plan of work on: (i) effective utilization of wasteland; (ii) establishment of wide network of agro-based industries even in remote areas like Bastar, (iii) improvement in livestock production through efficient breeding, health care etc; (iv) improvement in the training methodologies especially in strategic fields like wasteland development, agro forestry, rain-water harvesting etc; (v) insect-weather forecasting, increasing the use of organic and bio-fertilizers, utilization of renewable natural resources, biotechnology for crop improvement, integrated pest management (IPM), integrated nutrient management (INM) and promotion of export of agricultural products; (vi) improvement in farm implements; (vii) establishment of good linkage between the university and industries; and (viii) resource mobilization and income generation, and development of science and technology parks.

* * * * *

BANARAS HINDU UNIVERSITY, VARANASI

Platinum jubilee celebration

On completion of 75 years (1931 - 2006) of fruitful service to the nation, the institute celebrated its Platinum Jubilee during the current academic session (2007-08). In order to commemorate this anniversary in a befitting manner, it was decided to organize series of programmes up to March 2008 to depict our past, present and future. The programmes included National Essay Competition, Alumni Meet, Inter-Agricultural University Cultural Fest, Jhanki (tableau) on river Ganges, Mega Farmers' Fair, 36th Dairy Industry Conference, and finally the Annual Day.

The 36th Dairy Industry Conference was organized during 19-21 February 2008 at Swatantrata Bhawan of BHU. The Organizing Secretary was Prof. Alok Jha, Department of Animal Husbandry and Dairying. The conference was inaugurated by Shri Subodh Kant Sahai, Union Minister, Food Processing Industries, Gol, New Delhi, on 19 February 2008. The guest of honour was Dr Pradeep Kumar, Secretary, Department of Animal Husbandry and Dairying, GOI, New Delhi, and the keynote address was delivered by Dr (Ms) Amrita Patel, Chairperson, NDDB, Anand, Gujarat. The inaugural function was presided over by Prof. Panjab Singh, VC, BHU, Varanasi. Other important dignitaries present were Dr N.R. Bhasin, President, IDA, Dr Y.K. Alagh, former Union Minister, Planning, GOI, presently President, IRMA; and Prof. Nagendra Sharma, VC, Sher-e-Kashmir University of Agriculture and Veterinary Sciences, Jammu. The conference was attended by 1,000 participants from all the corners of India besides 20 foreign delegates from the USA, Australia and other countries.

CCS HARYANA AGRICULTURAL UNIVERSITY, HISAR

Waiving the tuition fee of female students

The university administration took a number of initiatives for the promotion of academics and professional betterment of its students. Its Board of Management at its meeting held at Chandigarh waived off 100% tuition fee for its under-graduate female students as well as all the handicapped undergraduate students.

The Board has approved the proposal of the university to send two students of B.Sc.

(Hons.) (Agric.) 4-year degree Programme after completion of course work at Michigan State University, the USA for 2 weeks internship under bilateral students exchange programme. The travel expenses of these students will be borne by the university.

Training on diagnosis of rabies

The Veterinary Public Health Department, College of Veterinary: Sciences, conducted 3-day training on Diagnosis of rabies for the serving veterinary surgeons of the region. Nearly 25 veterinary surgeons from Haryana and Delhi attended this training. Dr S.K. Nagpal, Dean, College of Veterinary Sciences, while inaugurating the training, disclosed that Veterinary Council of India has identified this college as the centre to impart training on diagnosis of rabies under its continuing Veterinary Education Programme.

DR BALASAHEB SAWANT KONKAN KRISHI VIDYAPEETH, DAPOLI

Award to Dr V. B. Mehta

Dr V.B. Mehta, Vice-Chancellor, was honoured with Shri Swami Samarath Gaurav Award-2008 by Shri Swami Samarath Trust, Dapoli at the hands of Shri Janmejay Rajee Bhosale, Chairman, on 25.2.2008 for outstanding contribution in the field of Agriculture.

International award to Dr A.G. Powar

Dr A.G. Powar, Director of Extension Education, was honoured with Pillars of Hindustani Society Award 2008 on 24.2.2008 by the Hindustani Chapter of Trans Asian Chamber of Commerce and Industries for outstanding contribution in the field of education and research in Agricultural Engineering at the hands of Shri Jamel Hameed Gidrani, Consulate General of Sultanate of Oman.



Pillars of Hindustani Society Award to Dr A.G. Powar

Foreign fruits, vegetables and flowers Exhibition

The university organized a grand flower-arrangement exhibition and competition on 29.1.2008. Similarly, the exhibition of foreign fruits with their attractive packing was also organized at this time. The programme was inaugurated by Dr C.D. Mayee, Chairman, ASRB, New Delhi in the presence of Dr V.B. Mehta, VC, and Admiral Vijayrao Kolte, Vice-Chairman, MCAER, Pune. Samples of 27 Indian and 17 foreign fruits, and 71 Indian and 50 foreign vegetables were exhibited, besides 57 entries of flower arrangements, from the Konkan region and outside.



Foreign fruits and vegetables

DR PANJABRAO DESHMUKH KRISHI VIDYAPEETH, AKOLA

22nd Convocation

The 22nd Convocation of DBSKKV, Akola was held on 5 February 2008. Dr V.M. Mayande, VC, presided over the convocation and Dr S.P. Tiwari, Deputy Director-General (Education), ICAR, New Delhi, was the chief guest. Dr Y.L. Nene, President, Agro-History Foundation and retired Deputy Director, ICRISAT, Hyderabad, was the guest of honour along with Shri Vijayrao Kolte, Vice-Chairman, Maharashtra Council of Agricultural Research, Pune.



22nd Convocation

Dr V.M. Mayande, in his introductory speech, highlighted the education, research and extension activities successfully undertaken by the university. Till today the university has evolved 1,006 technologies on crop production, pest management etc. He informed that the HOPR generation programme initiated by the university created a ray of hope amongst the distressed farmers. Agricultural Technology Week and State-level fare were also organized from 15 to 20 October 2007. Dr Y.L. Nene urged the students to follow age-old teaching of the Vedic seers to respect the farmers, who raise food to feed the humanity. Dr Tiwari in his convocation address pointed out that the challenges beset in the present agricultural scenario require immediate attention. Education has to be contextual and should remain aligned with contemporary and dynamic economy, he said. The Council has been supportive to the development of excellence in strategic areas of education and research, and he specified 28 niche areas of excellence to boost concrete research. The IV Deans' Committee has laid stress on experimental learning and inclusion of professionalism at the undergraduate level.

At this Convocation, degrees were conferred upon 900 graduates, viz. B.Sc. Agriculture 588, B.Sc. (Horticulture), 43; B.Sc. (Forestry), 23; B.Tech. (Agricultural Engineering), 50; M.Sc. (Agriculture), 174; M. Tech. (Agricultural Engineering), 90; and

Ph.D., 13. Total medals and prizes awarded during the convocation were 55 in all faculties, among which 21 were gold medals, 13 silver medals, 18 cash prizes and 3 prizes in the form of books.

Livelihood security through rainwater management

A seminar was inaugurated on 22 January 2008 by Dr Ramakrishna, Director, Central Research Institute for Dryland Agriculture, Hyderabad. Dr V.M. Mayande, VC, DBSKKV, Akola presided over the function. Over 100 delegates across the country from various organizations participated in the seminar.

The theme areas, viz. rainfall pattern and agro-advisory; rainwater conservation, harvesting and management; crop and soil-health management; bio-technology of rainfed crops; use of information and communication technology in rainfed areas; and livelihood opportunity in rainfed areas, were covered and deliberations were held in three concurrent sessions. Lead papers on major theme, at the seminar were delivered by eminent scientists from different institutes of the country, viz. Dr Y.S. Ramkrishna, CRIDA, Hyderabad; Dr Rajendra Singh, Professor, IIT, Kharagpur; Dr K. Yellareddy, OSD, APMIP, Hyderabad; Dr Gaikwad, Training Organizer, KVK, Solapur; and Dr Balsubramani, Senior CICR, Nagpur.

For two best papers Vasant Rao, Naik Smruti Pratishthan Gold Medals were awarded to Dr V.N. Barai, Assistant Professor, MPKV, Rahuri, for his research work on Comparison of different soil covers on run-off and soil infiltration under simulated rainfall; and Dr U.M. Khodke, Associate MAU, Parbhani, for his research work on Crop planning based on rainfall evapotranspiration analysis in a semi-arid region.

MAHARANA PRATAP UNIVERSITY OF AGRICULTURE AND TECHNOLOGY, UDAIPUR

Agricultural museum

Smt. Vasundhara Raje, Chief Minister of Rajasthan, inaugurated the University Agricultural Technology Museum on 24 September 2007 in the presence of Shri Gulab Chand ji Kataria, Home Minister; Shri Vasudev ji Devnani, State Minister of Education; Smt. Kiran Maheshwari, M.P., Udaipur, and Dr S.L.Mehta, VC, besides deans, directors, faculty members, staff and students of the university.

The exhibition hall of Directorate of Extension Education was developed into most modern and beautiful Agricultural Technology Museum at the cost of Rs 19 lakhs, provided by the ICAR under development grant. This museum depicts teaching, research and transfer of technology activities of the university at one place.

The museum hall is divided into four sections covering 21 panels and models, depicting historical background of the university, infrastructural facilities, State agricultural scenario, crop production, dryland-farming technologies, integrated pest and disease management, mushroom production technology, hi-tech, horticultural technologies, bio-diversity in the region, floriculture, aromatic and medicinal plants, seed-production technology, ornamental fish farming, important livestock breeds of Rajasthan, milk and food processing technology, remote sensing, soils of Rajasthan, women empowerment, child development through models, textile and clothing, agricultural engineering technology, farm machinery implements (farm mechanization), *Jatropha* and bio-diesel processing, post-harvest and value addition, indigenous animal power, visit of dignitaries to the university, convocation, renewable-energy and solar-energy technologies, transfer of technology programme, kisan mela, trainings, frontline demonstrations, production of quality planting material, integrated village-development activities and publications.

This agricultural museum is unique, where farmers, scientists, students, researchers and all others interested persons will have an exposure of all the latest agricultural technologies developed in the university.

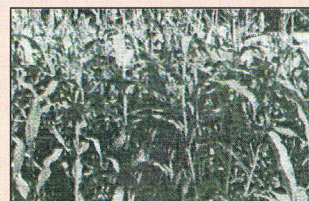
Varieties identified

Sorghum dual-purpose cultivar CSV 23, maturing in 110-115 days and having plant height 215-225 cm, grain yield 25-30 q/ha and dry-fodder yield 150-160 q/ha, was identified in the workshop during 2007 for release.

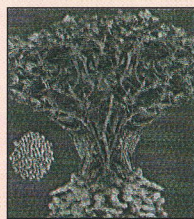
Groundnut Spanish bunch early cultivar UG 5 was developed, maturing in 95-99 days with dry-pod yield and kernel yield 22-25 and 15-17 q/ha respectively. It contains 49% oil and 69% shelling efficiency. The variety is moderately resistant to early and late leaf spots and jassids. This cultivar is suitable for rainy (*khari*) season.



Dr V.M. Mayande, VC, offering Ph.D. degree to a student.



Sorghum CSV 23



Groundnut 4G 5

Foreign visits

Dr A.K. Shukla, Associate Professor of Horticulture, RCA, Udaipur, visited Israel to attend an international training programme on crop production and water management from 11 to 29 October 2007, organized by International Agricultural Training Centre, Galilee College, Israel. It provided opportunity to him to learn the advanced technologies of protected cultivation, and water and nutrient management through drip irrigation. He also attended WATEC-2007 on 30 October 2007 in Israel.



Dr A.K. Shukla

Dr R.B. Dubey, Associate Professor (Medicinal and Aromatic Plants), Department of Plant Breeding and Genetics, RCA, Udaipur visited Thailand to attend Third global summit on medicinal and aromatic plants during 21-24 November 2007, organized by Chiang Mai University, Chiang Mai, Thailand. He presented a paper entitled Biodiversity conservation on medicinal and aromatic plants in south-east Rajasthan of India.

Dr (Mrs) Rekha Vyas, Assistant Professor (FRM), Directorate of Extension Education, Udaipur, attended Agriculture Ergonomics Development Conference-2007 during 26-29 November 2007 at Kuala Lumpur, Malaysia, organized by Damai Sciences Sdn Bhd and University Putra, Malaysia, on behalf of International Ergonomics Association. Participants from 32 countries attended this conference. She also attended the special tutorial on Occupational chronic risk assessment used for assessing and managing upper limb work-related musculo-skeletal disorders and risks in agriculture.



Dr (Mrs) Rekha Vyas

MARATHWADA AGRICULTURAL UNIVERSITY, PARBHANI

Vist of UNO scientists

Scientists from FAO, Rome; CFC, Italy and ICRISAT, Hyderabad visited MAU on 17 January 2008 to review the progress of the joint collaborative research project Utilization of sorghum and milles in poultry feed to increase the economic status of marginal farmers in Marathwada, undertaken in seven villages of Marathwada. The project had completed 2 years. The work was assessed by Shri Nicholas Crome from Netherlands, Miss Alexandra from Rome, Dr Jau from China and Dr Vanlopa from Thailand. Dr Ashok Alur, Dr Parthasarathi Rao, Dr Arvind Reddy and Project Counsellor Dr S.T. Borikar accompanied the team. Dr Sayed Ismail, Co-investigator, presented the project report. Due to implementation of this project the area under increased from 900 to 1,500 acres and production from 7 to 15.9 q/ acre.

NAVSARI AGRICULTURAL UNIVERSITY, NAVSARI

National Symposium on Recent Advances in Floriculture

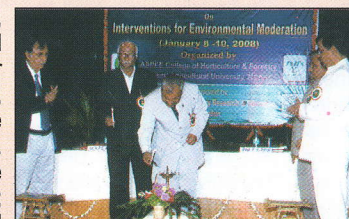
Dr K.L. Chadha, former DDG (Hort.), the chief guest, released a souvenir at the inauguration of National symposium on 'Recent advances in floriculture', held at NAU, Navsari during 4-6 March 2008. The function was presided over by Dr R.P.S. Ahlawat, VC. The other dignitaries included Dr N.K. Dadlani, Secretary, ISOH; Dr H.C. Pathak, Director of Research, NAU, Navsari; Dr A.P.S. Gill (Guest of Honour), President, ISOH; Dr R.L. Mishra (Guest of Honour), Project Co-ordinator (Floriculture), ICAR, New Delhi; and Dr N.L. Patel, Dean, ASPEE College of Horticulture and Forestry, NAU, Navsari.



National Symposium on Recent Advances in Floriculture

National Seminar on environmental moderation

Shri A.K. Wahal, IFS, DDG (Edn), ICFRE, Dehra Dun, (Chief Guest), inaugurated National seminar on interventions for environmental moderation, held at NAU, Navsari during 8-10 January 2008. The function was presided over by Dr R.P.S. Ahlawat, VC. The other dignitaries were Dr K.V. Peter, former VC, KAU, Thrissur; Dr H.C. Pathak, Director of Research, and Dr N.L. Patel, Dean, ASPEE College of Horticulture and Forestry.



National Seminar on Interventions for Environmental Moderation

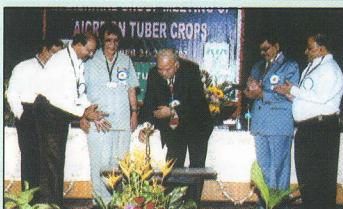
Meeting on tuber crops

Dr H.P. Singh, DDG (Hort.), ICAR, New Delhi (Chief Guest), inaugurated the biennial group meeting of AICRP on Tuber Crops held at NAU, Navsari during 21-23 December 2007. The function was presided by Dr R.P.S. Ahlawat, VC. The other dignitaries were Dr Umesh Srivastava, ADG (Hort) (Guest of Honour); Dr M.S. Palaniswami,

Project Co-ordinator, AICRP on Tuber Crops; Dr N.L. Patel, Dean, ASPEE College of Horticulture and Forestry, and Dr H.C. Pathak, Director of Research.

3rd Annual convocation

The Third annual convocation of the university was held on 25 February 2008 at Navsari. Dr C.D. Mayee, Chairman, Agricultural Scientists Recruitment Board, New Delhi, delivered the Convocation address as the chief guest. Dr Kanubhai Mavani, Mayor of Surat Municipal Corporation, was the guest of honour. Dr R.P.S. Ahlawat, VC, presided over the ceremony and awarded the degrees and administered oath to 133 graduates, post-graduates and doctorates. Congratulating the recipients of honours or medals, Dr Mayee advised the graduates to remain a student throughout their life. He requested them to turn their humble but sincere efforts to create big things in life. Dr Mavani stated that the university has established excellent experiential learning facility for the students and they should take its full advantage to gain expertise. Dr S.P.S. Ahlawat, during his presidential address advised the students to act and think critically, since they have a role independently of determining what is good and what is beautiful, what is moral and logical, as their judgments, would be influenced by the education they received. He reiterated that they should depend upon integrity, honesty and academic freedom, sustained by respect and tolerance. He stated that this task is very simple to meet ones own highest aspirations and best efforts, which would make one stronger, richer and more valuable. On this occasion, booklets on research recommendations both in English and Gujarati and a book on ornamental floriculture edited by Dr (Mrs) Alka Singh and Dr B.K. Dhadu were release by the chief guest.



IX Biennial group meeting of AICRP on tuber crops



3rd Annual Convocation

PUNJAB AGRICULTURAL UNIVERSITY, LUDHIANA

Research on wheat-genome sequencing

The Department of Biotechnology of Ministry of Science and Technology, sanctioned a mega project in March 2008 on wheat genome-sequencing research at PAU with a budgetary provision of Rs 10 crores for a period of 3 years. School of Agricultural Biotechnology will generate a physical map for long arm of chromosome 2A, which will be used to generate the DNA sequences of 524 million bases. The project will be based at this school.

The wheat-genome sequencing will be done under an international project, comprising the countries like the USA, France, European Union, Australia, China, Czech Republic and Egypt. Prof. (Dr) Bikram Gill, Distinguished Professor and Director of Wheat Genetics Resource Center at Kansas State University, the USA, Co-ordinator, of the project, stated that International Wheat Genome Sequencing Consortium was established in 2005. It is committed to ensure that the sequence of the wheat genome and the resulting DNA-based tools are available for all users without restriction. Expressing his views about the project, the VC, Dr Manjit Singh Kang, said that by gaining increased understanding of the biology of agronomically important traits and deploying state-of-the-art molecular tools, breeders will be able to pick up the pace of wheat improvement to meet the emerging challenges. The sequence of the wheat genome will ultimately result in healthier and more nutritious food that could take care of the food and nutritional security in the humans and animals.

A world food laureate and an internationally renowned agricultural scientist, Dr Gurdev Singh Khush, former Head, Department of Plant Breeding, Genetics and Biotechnology, IRRI, the Philippines, said that this project will improve the image of PAU and India amongst the wheat genetics community, and will provide gainful opportunity for students to work on advanced genomics techniques. Dr Bikram S. Gill also expressed that it will certainly put PAU on the wheat genomics map and its students will be doing exciting and world-class science.

Honour to VC

The VC, Dr Manjit Singh Kang, was elected Fellow of Punjab Academy of Sciences, for his outstanding research contributions in agricultural sciences, at the inaugural session of 11th Punjab Science Congress at Thapar University, Patiala. The award consists of a commemorative inscription and a citation.

Agricultural education policy for job opportunities

A 2-day Brain-storming session (8-9 March 2008) on Agricultural Education Policy was held in the PAMETI Conference Hall, wherein VCs from different agricultural universities deliberated on various issues concerning agricultural education in the country.

Inaugurating the event, Dr Jai Rup Singh, VC, Guru Nanak Dev University, Amritsar,

said that agricultural education policy in the country is important as it will have a bearing on the overall food security of our burgeoning population and for addressing the constraints of agriculture. The farm sector GDP is diminishing every year and the globalization of economy has placed added responsibility on agricultural scientists and policy planners. The students from rural areas in agricultural programme are decreasing and are getting replaced by urban students, who look for white-collar jobs for better living standards. He stressed that the cutting-edge technology areas such as biotechnology, computer sciences and engineering are engulfing huge monetary investments but real output from these areas is still awaited. Agriculture subject should be included in schools and colleges, and the standard of education in these colleges has to be maintained, as only about 50% of the available agricultural colleges are so far accredited. Rather than opening new universities, sustainability aspects of the existing institutes should be looked into. For the proper functioning of agricultural institutes, enough funding by the government should be ensured. Emphasis is needed on the regular revision of course curriculum and steps should be taken to strengthen research in the need-based areas. No organization can progress in isolation and attention is needed on basic sciences as well as integration of multi-disciplines for useful output for the society. The SAUs should revamp their curricular programmes to generate job-creators rather than job-seekers.



VCs participating in brain-storming session

Dr S.A. Patil, President, IAUA and Director, Indian Agricultural Research Institute, New Delhi, said that food is going to be a big business in medical fields. The medicated food production will have a new dimension in agriculture. To address the upcoming problems in agriculture, a viable interaction between SAUs and other technology-generating institutes should be fostered through favourable government policies. He said that IAUA is a sensitizing and catalyzing agency without any governance power. The university scientists need training in the areas of IPR and technology-management issues.

Visit of CLAAS delegation

A high-level management delegation comprising Shri Gerd Hartwig, Group Executive Director, Human Resources, CLAAS, Germany; Shri P.K. Malik, President and Managing Director, along with Shri Prashant Sharma, Head (HR) from CLAAS India, visited College of Agricultural Engineering, on 4 March 2008 to have close industry-institution interface for exploring possibilities in areas of mutual benefit.

Dr Manjit Singh Kang, VC, welcoming the delegates suggested development of collaborative programmes for students and faculty in the upcoming areas of R&D and technology generation. Dr P.K. Gupta, Dean, College of Agricultural Engineering, elaborated the mandate and programmes operating in different departments in the college and presented the profiles of farm engineers relevant to today's job markets. The CLAAS India has already selected nine agricultural engineers during the last 3 years. Dr S.S. Ahuja, Head, Department of Farm Power and Machinery, took them around Research Hall and apprised them with different farm equipments developed by the university.

Release of crop varieties

The university released nine improved varieties of six crops, viz. PUSA 1121 and Punjab Basmati 2 (rice); LH 2076, RCH 308 Bt and RCH 314 Bt (cotton); Punjab Sweet Corn 1 (maize), CoH 119 (sugarcane), PSH 569 (sunflower) and Mash 114 (blackgram). These varieties were cleared by State Variety Approval Committee in its meeting held on 1 March under the chairmanship of Dr B.S. Sidhu, Director of Agriculture, Punjab. With the release of these varieties the total number of varieties released by PAU since its inception has become 554, said Dr N.S. Malhi, Director of Extension Education.

Bio-fortification of rice dimension for nutritional security

Iron deficiency is the most common micronutrient deficiency in the world and nearly two billion people are anaemic, said Dr Parminder Singh Virk, Senior Scientist, International Rice Research Institute, during his talk to the faculty, students and researchers of Department of Plant Breeding, Genetics and School of Agricultural Biotechnology on 26 February 2008. He added that about a billion people are at risk for zinc deficiency, whereas nearly 127 million pre-school children are suffering from vitamin A deficiency. About 10 million pregnant women in India alone are vitamin A deficient; the deficiencies of these micronutrients results in impaired physical growth, vision, reproductive development, mental development and learning capacity of the subjects. Rice is the dominant cereal crop in most Asian countries and is the staple food for more than half of the world's population, deserving major focus on this aspect.



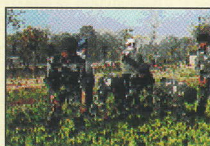
Meeting on Biofortification of rice

Dr Manjit Singh Kang said micronutrient malnutrition needs to be reduced through development of nutrient-dense staple foods by adopting breeding techniques. The proportion of undernourished population is confined to less-developed countries. For novel traits such as micro-nutrients and bio-fortified products, concepts have to consider factors associated with probability of success.

Dr Virk said that due to high per-head consumption of rice, a small increase in its nutritive value would be highly useful. Bio-fortification can provide a cost-effective and sustainable solution to combat malnutrition. Such micronutrient-fortified varieties are likely to have much more impact on rural farmers, who grow and consume them as staple food. Sharing information about the research programmes focused at this novel approach, Dr Virk said that IRRRI is developing rice varieties with improved levels of iron and zinc and with provitamin A. He informed that currently four PAU scientists are receiving training in this area at IRRRI.

Training in vegetable gardening to army men

Training on gardening for army men was undertaken by Department of Vegetables Crops. Dr Jagwant Singh Kanwar, Head of the Department, said that a group of soldiers from the army unit at cholera are receiving training from the experts of the department in vegetable-based nutritional gardening and organic farming, for 15 days in January 2008. The trainees are being imparted knowledge about nutritional gardens and practical tips for various vegetable-growing operations.



Training in vegetable gardening to Army men

Training on nanotech instruments

During National Seminar-cum-Training on High Resolution Imaging in Agricultural Research held from 9 to 23 January, a hand-on experience was given to the participants on various sophisticated nano-science instruments. The participants hailing from different states were explained basic procedures for handling and use of equipments like on focal microscope which can explore the contents of cells for a prolonged period; electron microscope, for viewing the ultra-structures of pollens, pathogen spores and epidermal cells, and for understanding the changes taking place therein during their germination, growth and development etc.; scanning electron microscopy, ultra microtome; CPD and on sputter coater etc. The participants showed keen interest with the state-of-the-art facilities of electron microscopy and nano-science technologies. They had interaction with experts including Dr Neeta D. Kang, Head, Betty Cowan Research and Innovation Centre, Christian Medical College, Ludhiana; Dr (Mrs) R.K. Parshad, Professor of Zoology at PAU; Dr V.K. Kanungo, Dean, R & D, SLIET, Longowal; and Dr S.S. Gosal, Professor of Biotechnology, PAU, on various aspects of the theme of the seminar.

Earlier Dr Neeta Kang, while delivering talk on molecular imaging and possible applications in plant sciences, traced how innovations in medical sciences can be applied to plant sciences for better understanding of the system with minutest detail. Dr Gosal shared recent advances in Biotechnology and added that this science can advantageously complement the conventional breeding approaches for crop improvement.

SARDAR VALLABH BHAI PATEL UNIVERSITY OF AGRICULTURE AND TECHNOLOGY, MEERUT

Interface on promotion of secondary agriculture

A 1-day Interface, Village Agriculture Forum on Promotion of Secondary Agriculture, was organized at Meerut in collaboration with Planning Commission (Agriculture Division), Government of India, New Delhi on 25 January 2008. Delegates from Planning Commission, State Agriculture Departments, State agricultural universities, ICAR institutes and progressive farmers from western U.P. participated in the seminar. The dignitaries were Prof. D.P.S. Verma, Chairman, Technical Advisory Committee; Prof. V.L. Chopra, Member, Planning Commission and TAC; Prof. Chandrika Prasad, Director-General, UPCAR; Prof. M.P. Yadav, VC, SVBPUAT, Meerut; and Shri P.K. Aggarwal, Special Secretary (Agricultural Education and Research), Government of U.P.



Interface on promotion of secondary agriculture

Prof. M.P. Yadav, expressed his views on recent agricultural scenario, natural resources, investment on agriculture and post-harvest losses of food, and stressed the need of secondary agriculture to provide all basic facilities like electricity, cold storages, etc. to the farmers and villagers. Prof. D.P.S. Verma emphasized the use of state-of-art-technology in India as in the USA, to promote secondary agriculture in India. He stated that the USA is producing more than 400 products from maize (corn), which is

the biggest industry in the USA. Secondary agriculture has good prospects in India. Farmers can get at least four times profit if commodities are processed in time. India may also import latest technology from abroad. He stressed the need for integration of farms for large-scale production of fruits and vegetables for the availability of raw materials to the food industries.

Dr V.L. Chopra laid emphasis on value addition from agricultural produce, by-product utilization and waste management. He suggested that parameters like quality of primary produce, technology options and socio-economic conditions should be taken into account for value addition. Prof. Chandrika emphasized at the need to consider the interest of the farmers while advocating promotion of secondary agriculture. It would not be possible to achieve the goal without active role and participation of the farmers. Farmers should get their share in profits of the agro-industries. The problems of the farmers should be solved by considering their economic conditions. He supported contract farming for the overall growth of the country similar to the success achieved in milk co-operatives. Shri P.K. Aggarwal expressed that this seminar will be beneficial for the farmers and policy-makers.

Food processing unit

A Food Processing Unit was established at Meerut with the financial support of ICAR, New Delhi under Experiential Learning Scheme. The Chief Guest, Dr S.P. Tiwari, DDG (Edn), inaugurated the Unit on 2 February 2008. Prof. M.P. Yadav presided over the inaugural function. Prof. Samsheer, Head, Department of Agricultural Engineering and Food Technology welcomed the dignitaries, and presented progress report of the project. The unit has been established with Rs 50 lakhs sanctioned under the project entitled Model Agro-Processing System for Horticultural Produce.



Dr S.P. Tiwari addressing Inauguration of Food Processing Unit

Dr S.P. Tiwari emphasized that the ICAR will provide necessary funding for creating infrastructural facilities for hands-on-training of the students. He expressed his deep satisfaction during the visit of food processing unit where the students were working on different machines after getting practical training for production of fruit and vegetable products. Several products, viz. guava RTS, mango RTS, and tomato ketchups were demonstrated by the students during the visit.

AWARDS AND RECOGNITIONS

MARATHWADA AGRICULTURAL UNIVERSITY, PARBHANI

Gold medal to Dr Uday Khodke

Under the aegis of Akola and Vasant Rao Naik Smurtri Pratishthan Pusa, a national seminar, Life security through rain-water management, was organized during 22-23 January 2008 at The College of Agriculture, Nagpur. The seminar was attended by 110 scientists from the country. For outstanding research and excellent presentation, Best Paper award was given to Dr Uday Khodke, Associate Professor, Water Management Scheme, MAU, Parbhani, along with gold medal and a certificate. His research paper was on crop planning based on rainfall and crop evapotranspiration in arid region.

He also received Distinguished Services Award of Indian Society of Agricultural Engineers on 1 February 2008 at Annual Convention of ISAE held at Central Institute of Agricultural Engineering, Bhopal.

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