IAUA NEWS

QUARTERLY NEWSLETTER OF INDIAN AGRICULTURAL UNIVERSITIES ASSOCIATION

VOLUME 2 NO. 3 JULY - SEPTEMBER 2002

CONTENTS

SPOT NEWS

Dr S.B. Singh takes over as President IAUA

Dr S.B. Singh

NEW EXECUTIVE COMMITTEE-IAUA-2003

Dr S.B. Singh, Vice-Chancellor, CSAUAT, Kanpur	: President
Dr S.S. Baghel, Vice-Chancellor, CAU, Imphal	: Vice-President
Dr S.N. Puri, Vice-Chancellor, MPKV, Rahuri	: Secy.-Treasurer
Sh. Vinay Kumar, Vice-Chancellor, CCS HAU, Hisar	: Member
Dr H.U. Khan, Vice-Chancellor, SKUAST, Jammu	: Member
Dr A.S. Faroda, Vice-Chancellor, MPUAT, Udaipur	: Member

NEW INITIATIVES

Nicotinamide Supplementation Beneficial on Straw-based Diets in Buffaloes

Studies were conducted to find out the effect of supplementation of niacin or its amide derivative, nicotinamide in buffaloes fed straw-based diets. The supplementation of 50 ppm niacin and 100 ppm nicotinamide increased the TCA-ppt N by 31.59 and 61.14% respectively, VFA concentration, proportion of propionic acid and protozoal number in the rumen of buffaloes fed concentrate mixture and wheat straw (40:60). The activity of cellulolytic enzymes (units/100 ml SRL) was significantly higher in nicotinamide-supplemented group (9.49) compared with the control (7.59) and niacin (9.32) groups. The activity of other cellulolytic enzymes, viz. β-glucosidase and cellobiohydrolase, was also highest in the nicotinamide-fed group.

(National Dairy Research Institute, Karnal)

Hydrogen Peroxide in Relation to *in-vitro* Capacitation of Buffalo Spermatozoa

Capacitation of the mammalian spermatozoa prepares it to undergo the acrosome reaction (AR), essentially required for fertilization. Reactive oxygen species (ROS), viz. superoxide anion ($O2^0$), hydrogen peroxide (H_2O_2) and hydroxyl radical (OH-) in limited amount intervene physiologically in the regulation of sperm functions. Accompanied surface and metabolic or molecular changes during capacitation are difficult to be studied *in-vitro*. Hence, *in-vitro* sperm capacitation models were proposed for cattle, goat etc. In this study the buffalo spermatozoa were *in-vitro* capacitated up to 60% on incubation for 6 hours in Bovine Gamete Handling Media (BGM_3) in the presence of heparin (10 µg/ml). AR was induced by iysophosphatidyle choline (LPC) treatment (100 µg/ml) and was differentiated in live and dead spermatozoa using triple staining technique. The number of dead cells increased up to 46% in 6 hours and showed 86% acrosome reaction compared with 60% in live spermatozoa. Incubation of spermatozoa in the presence of H_2O_2 (10 to 100 µM) showed that 25 µM H_2O_2 capacitated 56% spermatozoa, but lower and higher concentrations did not show appreciable capacitation. Addition of catalase (100 µg/ml) in the presence and absence of H_2O_2 significantly reduced the extent of capacitation. Moreover, H_2O_2 concentrations higher than 50 uM were detrimental to the motility of spermatozoa during *in-vitro* capacitation.

(National Dairy Research Institute, Karnal)

NEW VCs

Dr S.A.R. Nimbalkar, born on 26 December 1943, joined as Vice-Chancellor of Dr Panjabrao Deshmukh Krishi Vidyapeeth, Akola, on 17 May 2002. Starting his career as Lecturer in Agricultural Entomology at College of Agriculture, Nagpur, he acquired the position of Professor of Entomology at PDKV, Akola, and was subsequently elevated to the position of Dean, Post-graduate Studies before being appointed Vice-Chancellor.

Dr S.A.R. Nimbalkar

Apart from teaching entomology to under-graduate and post-graduate students, Dr Nimbalkar guided 32 P.G. students for the award of 7 Masters and doctorate degrees. He brought out 120 publications of research and technological innovations, which have a bearing on effective transfer of technologies. He also authored 6 books. Dr Nimbalkar served on various committees for academic development, including course-curriculum formulation, selection committees and research review panels.

Dr Nimbalkar has been decorated with BKS award in 1992 for his outstanding contribution in Agricultural Sciences.

Dr S.N. Pandey, born on 4 June 1947, took over as Vice-Chancellor of Birsa Agricultural University, Ranchi (Jharkhand) on 9 April 2002. Earlier he served in various capacities including Chief of Agricultural Operations - cum - Director (Plant Sciences) and Director (Soil Science and Applied Research) and Coordinator (KVKs), Command Area Development Authority, Government of Bihar, Patna; University Professor- cum-Chief Scientist and Chairman, Department of Extension Education and Department of Extension and Social Forestry, BAU; Principal Scientist / Chief Training Organizer, Krishi Vigyan Kendra, Jagannathpur, West Singhbhum (under BAU) and Associate Professor, Department of Extension Education, Rajendra Agricultural University, Pusa (Bihar).

Dr S.N. Pandey

In addition to publishing 100 research papers, scientific articles and scientific reviews as well as technical bulletins, Dr Pandey has also authored half a dozen books on extension and researches in extension education.

Focus on Universities - Achievements and Events

DEEMED UNIVERSITIES

INDIAN VETERINARY RESEARCH INSTITUTE, IZATNAGAR

Diagnostic Kit for Cattle Plague Disease

As cattle plague (rinderpest) is a highly infectious viral disease of cattle and small ruminants, the Department of Animal Husbandry and Dairying, Government of India is aiming at strategic control measures for its total eradication through National Project on Rinderpest Eradication. Under this programme, a competitive ELISA kit was developed at IVRI, Mukteswar, which was validated by World Reference Laboratory of Rinderpest at Institute of Animal Health in U.K. and was found to be at par with other international kits. The indigenous kit is not only economical but also a substitute for costly imported kit. The kit has also been approved by Office Internacionale des Epizooties (OIE), Paris for use in rinderpest-eradication programme in India and other countries.

Indigenous Live Attenuated Vaccine against Goat Plague

Rinderpest vaccine, which protects small ruminants against PPR, is currently banned in the country as per OIE guidelines towards the on-going rinderpest-eradication programme. This necessitates development of alternative vaccine for the control of PPR. The development of an indigenous vaccine for PPR at the Division of Virology, Mukteshwar has become handy to protect sheep and goat from this disease. The vaccine based on low-cost technology has been found safe, potent and acceptable and is expected to protect the animals against PPR for more than 3 years.

NATIONAL DAIRY RESEARCH INSTITUTE, KARNAL

National Workshop on Industry-NDRI Interface

A National Workshop on "Industry NDRI Interface" was organized jointly by NDRI and the Dairy Professionals Guild of India on 11 July 2002, which was inaugurated by Mr Peter M. Hobbs, Trade Communication Counsellor, New Zealand High Commission, New Delhi at NDRI, Karnal. Dr V.K. Taneja, Deputy Director-General, ICAR, New Delhi in his Presidential address stressed the need for sharing of research resources and building mutual confidence and trust between the stake-holders, simplifying R&D regulations, including Intellectual Property Rights, and for evolving functional linkages and collaborative programmes for technology development and dissemination. Under the new set up, decks shall be cleared for jointly evolving technologies for transfer to the field and for adoption by the progressive dairy farmers and dairy entrepreneurs.

Dr B.N. Mathur, Director, NDRI emphasized that for making the mechanized dairy farms commercially viable, there is a need to develop new technologies, ensuring milk of better quality. Efforts are also required to generate new technologies for product diversification, including commercial production and packaging of indigenous dairy products.

Dr N.Balaraman, Joint Director (Res.) lighting the ceremonial lamp during inauguration of industry-NDRI interface workshop

A Profile

CHANDRA SHEKHAR AZAD UNIVERSITY OF AGRICULTURE AND TECHNOLOGY, KANPUR

A view of university main gate

Administrative Block

College of Agriculture, Kanpur

Background: The first serious attempt to form a policy of agricultural research during the British period was made in 1889 by Dr J.A. Voelcker, a Consultant Chemist to the Royal Agricultural Society. In Uttar Pradesh in 1893, a small school at Kanpur was established to impart training to revenue officers, which was granted the status of Agricultural College in 1913. The period from 1944 to 1948 was the most luminous landmark in the history of the College. Agra University recognized its few Masters and Ph.D. degree programmes. The college was upgraded as the U.P. Institute of Agricultural Science in 1969. It became the nucleus of Agricultural Education and Research in the State. Finally, it became one of the constituent colleges of Chandra Shekhar Azad University of Agriculture and Technology, Kanpur in 1975.

Maharani Avantibai College of Home Science, Kanpur

Dr B.R. Ambedkar College of Agricultural Engineering & Technology, Etawah

Maharani Avantibai College of Home Science was added to it in 1996, and Dr B. R. Ambedkar College of Agricultural Engineering and Technology in 1994. College campus is spread over 147 acres of land.

Mission and Mandate

- Making provision for the education of rural people of Uttar Pradesh in different branches of agriculture, including rural industry and business and other allied subjects.
- Furthering the conduction of research in agriculture and allied sciences.
- Undertaking field and extension programmes.

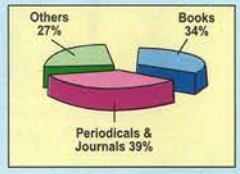
Campus: The Headquarters of the university is at Kanpur. It has well-equipped Library, Research Stations, Computer Centre, Laboratories, Auditorium, Extension Programmes, Hostels, Agricultural Research Information System (ARIS), Agriculture Information Bureau (AIB), Agriculture Technology Information Centre (ATIC), Playgrounds etc. The university comprises 3 colleges, viz. College of Agriculture and College of Home Science at Kanpur, and College of Agricultural Engineering and Technology at Etawah. It has well-equipped sections of Rabi Cereals, Oilseeds, Legumes and Vegetables.

Jurisdiction: The university is dedicated to the development of agriculture and animal husbandry in 28 districts of 6 divisions (Allahabad, Agra, Jhansi, Chitrakut Dham, Kanpur and Lucknow) spread in the three agro-climatic zones (South-western semi-arid, Bundelkhand and the Central plains) of Uttar Pradesh. In addition, there are three Regional Research Stations located at Bharari Jhansi, Madhurikund Mathura and Daleepnagar Kanpur Dehat, besides six sub-stations. Agricultural and rural sector researches were recognized by placing greater emphasis on production-oriented, need-based and problem-solving projects with no let-down in the mission-oriented fundamental and strategic researches of high order.

Central Library: The Library is accommodated in a three-storied building, a basement and 3 stores, covering 3,617 m area.

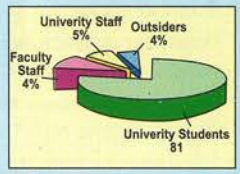
Central Library, Kanpur

Directorate of Placement: The university imparts job-oriented professional education in the fields of Agriculture, Home Science and Agricultural Engineering. The university also endeavours to find suitable employment for its students and also its alumni, through Directorate of Placement.



Library holdings

Admission: Admission to different undergraduate and post-graduate programmes is made through entrance examination, conducted on all-India basis during May-June every year. However, the academic session starts in July-August. The admission to B.Tech. (Agric. Engng) programme is made through Combined Entrance Examination. The degree programmes presently being run in the university are given below.



Average daily visitors to the Library

Degree programme at Chandra Shekhar Azad University of Agriculture and Technology, Kanpur

College	Year of establishment	Degree programme	Duration	Admission capacity
College of Agriculture, Kanpur	1906	B.Sc. Agric. (Hons)	4 (8)	132
		B.Sc. (Forestry)	4 (8)	30
College of Home Science, Kanpur	1996	B.Sc.(Home Science)	4 (8)	44
College of Agric. Engng. & Techol., Etawah	1944	B.Tech.(Agric. Engng)	5 (10)	60
		B.Tech. (Computer Science)	5 (10)	40
		B.Tech. (Electronics)	5 (10)	40

Post-graduate degree is being awarded in 14 disciplines of Agriculture and in 5 disciplines of Home Science

College	Degree programme	Duration(years) (Semesters)	Admission capacity
College of Agriculture, Kanpur	M.Sc. (Agric.)	2 (4)	138
	M.B.A. (Agri-Business)	2 (4)	30
	Ph.D.	3 (6)	26
College of Home Science, Kanpur	M.Sc. (Home Science)	2 (4)	40
	Ph.D.	3 (6)	04

Course Curriculum: The growth of the university is characterized by uninterrupted expansion of research and education. University adopted the semester-based course work and evaluation during 1976. The present instruction programme is distributed over a period of semesters as needed by the students for their degrees.

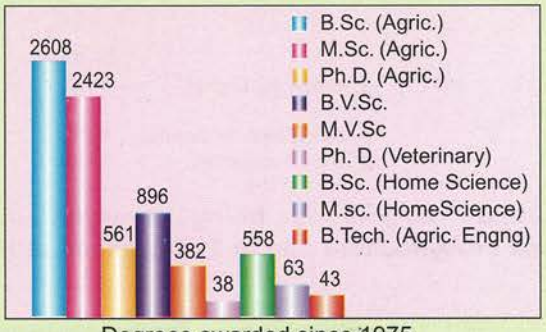
Under-graduate Home Science students in class-room

Students attending Agri - Business Management class

PG girl students in Food and Nutrition Laboratory

PG girl students in Practical class

* Four-year duration, eight-semester course for B.Sc. Agric. (Hons) degree with 132 seats (total 162 credit hours are required for the award of the degree).
* Four-year duration, eight-semester course for B.Sc. (Forestry) degree with 30 seats (total 162 credit hours are required).
* Two-year duration, four-semester course including thesis for M.Sc. (Agric.) degree with 138 seats (total 50 credit hours are required).
* Two-year duration, four-semester course including Summer industrial attachment followed by project work in elective field for M.B.A. (Agri-Business) degree with 30 seats (total 75 credit hours are required).
* Three-year duration, four-semester course for Ph.D. degree with 2 seats in each department (14) (total 70 credit hours are required).
* Four-year duration, eight-semester course for B.Sc. (Home Science) degree with 44 seats (total 162 credit hours are required).
* Two-year duration, four-semester course for M.Sc. (Home Science) degree with 40 seats in five disciplines (total 50 credit hours are required).
* Five-year duration, 10 semester course for B.Tech. (Agric. Engng), B.Tech. (Computer Science) and B.Tech. (Electronics) degrees with 60, 40 and 40 seats respectively. The university has adopted the ICAR guidelines for the award of degrees and the courses of various faculties are based on the recommendation of the Dean's Committee.



Degrees awarded since 1975

Important Crop Varieties Developed by the University

Wheat: K 88, K 8804, K 9107 (Deva), K 8962 (Indra), K 9006 (Ujiyar), K 9162 (Gangotri), K 8434 (Prasad), K 9465 (Gomti), K 7903 (Halna), K 9644 (Atal), K 8027 (Magahar). **Barley:** K 1149 (Geetanjali), K 508 (Pragati), K 551 (Ritambhara), K 560 (Haritma), K 406, K 1155 (huskless), K 329 (Manjula), Usar 1. **Paddy:** K RS 142 (Ashwani). **Maize:** Azad Uttam. **Jowar:** Varsha, **Toria:** Bhawani. **Rai:** T 59 (Varuna), Rohini, Vaibhav, Vardan, Urvashi, Basanti. **Castor:** Chandra Prabha 7911 (Ballia Selection). **Groundnut:** Prakash, Chitra, Kaushal, Amber. **Linseed:** Gaurav, Shikha, Parvati, Rashmi, Sheela, Shekhar, Padmini. **Sesame:** T 78, T 13.

Wheat variety Gomti (K 9465)

Linseed variety Parvati (LMH 16-5)

Tomato variety KS 7

Brinjal variety Azad B-3 (long)

Safflower: K 65, T 163. **Field pea:** Rachna, Shikha, Sapna, Swati, KPMR 400, KPMR 552. **Gram:** KWR 108, KGD 1168 (Alock), Sadabahar 13, Avrodhi. **Lentil:** K 75. **Moong:** T 44, K 851. **Pigeonpea:** KA 32-1 (Amar), KA 91-25 (Azad). **Urd:** Azad Urd 1, KU 301 (Shekhar 1), Azad Urd 2, Urd Shekhar 2. **Sawan:** Kanchan. **Kakun:** Nischal. **Chena:** Bhavna. **Mandua:** KM 13 (Nirmal). **Oat:** Cantt. **Lobia:** Russian Giant. **Sorghum:** M.P. Chari. **Cotton:** Vikas.

Vice-Chancellor Dr S.B. Singh, showing newly released chilli variety to Dr Panjab Singh, Secretary, DARE & DG, ICAR

Chilli variety Azad Achar 8

Radish variety KN 1

Tomato: KS 7, Azad T-6, Azad T-5, Azad T-3. **Brinjal:** KS 224 (round), KS 331 (long), Azad Hybrid (round). **Chilli:** Chanchal, Azad Mirch 1, Azad Achar 1. **Bean:** Rajani, KT 2, **Radish:** KN 1. **Sponge gourd:** Azad Taroi Chikni 1, Hari Chikni, **Bottle gourd:** Azad Harit, Azad Nutan (long), Azad Sankar 1. **Bitter gourd:** Kalyanpur Sona. **Pumpkin:** Azad Kaddu. **Vegetable pea:** Azad P-1, Azad P-2, Azad P-3, Azad P-4, Azad P-5. **Onion:** Kalyanpur Red Round. **Coriander:** Azad Dhaniya 1. **Fennel:** Azad Saunf 1. **Kalaunji:** Azad Kalaunji 1. **Ajowain:** Azad Ajowain 1. **Colocasia:** Azad Arvi 1. **Turmeric:** Azad Haldi 1.

Bittergourd variety Kalyanpur Sona

Onion variety Kalyanpur Red Round

Turmeric variety Azad Haldi 1

University Farms: The university has 31 farms spread over long distances, totally covering 1,605 ha, with cultivable area of 930 ha.

New Developments

The major recent, developments during the last 2 years in the fields of teaching, research, extension education, etc. are given below.

Teaching

* Opening of 3 new departments of Vegetable Science, Agroforestry and Agri-business Management in the College of Agriculture.
* Opening of 3 new departments of Home Science, Extension Education, Human and Child Development, and Clothing and Textiles in the College of Home Science.
* Opening of 10 new departments of Production Engineering, Soil and Water Conservation Engineering, Farm Machinery and Power Engineering, Post-Harvest Technology and Food Technology Engineering, Irrigation and Drainage Engineering, Electronics and Communication Engineering, Computer Science Engineering, Mechanical Engineering, Civil Engineering and Electrical Engineering in the College of Agricultural Engineering and Technology, Etawah.

Vice-Chancellor Dr S.B. Singh interacting with the students during Practical Crop Production class

* Revised syllabus designed by the ICAR was implemented in UG and PG in all the Colleges.
* Computer-aided education has been made mandatory in all the colleges to make the education more effective, through establishment of computer laboratories in all the colleges of the university.

Dean (Agriculture) Dr K.D. Upadhyaya reviewing RAWE programme at Bahadur village

* The CD ROM facility is available in the University Library. Rural Agricultural Work Experience programme has been a part of UG curriculum.
* The university is now on Internet from November 2000, which has provided ample connectivity with the entire world.
* The regularized academic session and quality education interacting with the students have made the foreign students interested for this during Practical Crop Production. Many students especially from Nepal have been admitted during this period.

A view of newly developed multimedia laboratory

* New laboratories like Multimedia Laboratory, Central Instrumentation Laboratory and Plant Clinic Laboratory in the College of Agriculture, and Nutrition and Child Development Laboratories in the College of Home Science have been established.
* The Directorate of Placement, established in December 2000, has started placement, counselling and training services of the students, leading to selection of 90 students.

Number of research projects sanctioned

Research

* New varieties of wheat in cereals; pigeonpea and urd in pulses; tomato, brinjal, chilli, bean, radish and vegetable pea in vegetables; and coriander, fennel, kalaunji, ajowain and turmeric in spices have been developed and released.
* New research projects were added. Before 2000, only 19 ad-hoc research projects were in operation, financed by various agencies, which increased to 51 in 2001 with finances of 846 lakhs.
* Diversification in agriculture has been given top priority, viz. livestock production, mushroom production, fruit and vegetable production, bee-keeping etc.
* Most effective technologies for mass production of bio-control agents like *Gliocladium virens* and *Trichoderma harzianum* and *Trichogramma* spp were developed. Compatible strains of *T. harzianum* and *Pseudomonas fluorescens* were identified, and mixed formulations of these two bio-agents are being tested under field condition.
* For sustainability, Integrated Plant Nutrient Management is emphasized through use of FYM and compost, green-manuring, bio-fertilizers along with chemical fertilizers.
* Farm machines and tools designed at the university have given new impetus to low-input agriculture, e.g. low-cost bullock-drawn tractor was developed through which important farm operations like soil turning, ploughing, levelling etc. can be done very easily. In addition, bullock-drawn storage battery has also been developed, which can run electric fans, light and even television.
* After screening under different environmental conditions, strain 719 of *Agaricus bisporus* is recommended for small and marginal growers of Kanpur locality for seasonal cultivation.
* Production of off-season vegetables has been emphasized due to high price and high productivity. Polyhouses also allow availability of seedlings in rainy season and to bring about early production of vegetables. Polyhouses are also emphasized for fruit-nursery production and opportunity of employment to the growers throughout the year.
* Collaboration with the industries was enhanced. The industries such as Bayer India Ltd, PPIC, Tirupati Agro, Hemant Fertilizers, K.M. Sugar Mills, Balrampur Sugar Mills etc. have granted several research projects to the university.
* Institutions like DST, UPDASP, NBRI, Government of India etc. financed 13 new research projects, costing more than Rs 2.5 crores.
* Under the single-window system, Seed Production Centre of the university produced nucleus and breeder seeds and established their processing, storage and marketing system. The centre now produces total breeder seed requirements of the state for important cereals, oilseeds and pulses.
* Collaboration with international institutions and universities in the areas of teaching, research and extension and also exchange of technology has been initiated. The university entered into international collaboration with organizations like FAO, Ferntz Inc., Alberta, as well as Canada etc. during 2001-2002.

Extension

The area jurisdiction of the university is spread over 28 districts of U.P. for transfer of technology. However, the following achievements are notable:

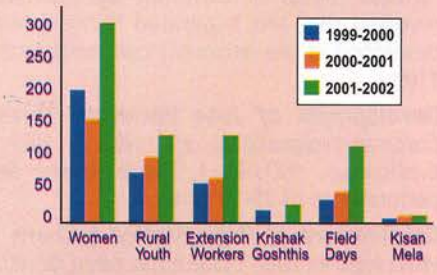
* Number of demonstrations conducted has increased from 247 in 2000-2001 to 540 in 2001-2002.

Farmers are shown wheat experiment during Kisan Mela

* Record number of farmers (more than 24,000) visited Farmers' Fairs.
* The university adopted 10 villages for intensive transfer of technologies.
* Chandrashekhar Krishak Samiti consisting of 250 farmers of 28,263 villages has been strengthened.
* New subject-matter specialists in the areas where there were no universitys, KVKs/ KGKs have been established.

A view of Krishak Goshthi

* During 2000 - 2002, 178 farmers' groups (17,715 farmers) of 28,263 villages of 28 districts of the University jurisdiction area have been trained under Kisan Adan Pradan Yojana.



Training programme & Extension activities at KVKs

* The university has established an Agriculture youth workers' goshthis day melas Information Bureau, which has started regular publication of monthly Hindi magazine, *Krishak Bharati* and a quarterly English newsletter, *CSA News* from September 2000.

* Different categories of government officers, bank personnel, farmers, retiring defense personnel, tribal farmers etc. have been trained to generate self-employment through activities like bee-keeping, mushroom production, livestock management, poultry keeping etc.

University Farms

The University farm is a commercial venture, spread over an area of 1,047.40 ha. During the past 2 years the farm has come up with a profit for the first time after more than 2 decades. The salient features are as follows:

* Crop-diversification programme was adopted. The seed-production programme finds more number of crops, which increased 3 folds during these 2 years.
* Varietal diversification on seed production was emphasized.
* Production of seed increased from 11,856.16 q in 1997-98 to 1,8050.34 q in 2001-2002. There has been substantial increase in the area of major crops. Some more crops were added such as arhar, maize, okra, urd, cowpea, brinjal, coriander, radish, spices etc.
* Quantity of seed was supplied to UPS and TDC. Efforts were made not only to produce large quantity of seeds of various crops and their varieties, but the raw seed supply was also increased.

Perspective Plan: Vision 2020

New frontiers of knowledge of contemporary importance that would enable it to develop low-cost technology to the field-oriented and location-specific problems are necessary, e.g. development of new expertise in the field of post-harvest technology, especially of vegetable crops, food science and technology and agri-business management, which have gained high priorities in the present economic scenario. Some of the areas that would be strengthened are biotechnology, seed and plant health clinics, informatics in agriculture science, molecular biology, integrated disease management and eco-friendly crop production and protection practices.

Emphasis has to be given for adequate teaching aids, field visits of students in the development of skill-oriented practicals for imparting quality education, specialized training to the faculty members for updating their knowledge coupled with periodical curriculum revision and delivery, and upgradation of laboratories.

In Agriculture College it is essential to initiate some courses on the subjects like resource requirement, human-resource development, and handling, storage and marketing management of agricultural produce. Besides, new departments of nematology, biotechnology, environment, fisheries and basic sciences will be created.

In addition, some of the departments require strengthening Agronomy: Agro-meteorology; Crop physiology; plant metabolism, growth-regulators, hormones and environmental physiology; Agricultural bio-chemistry; Biotechnology at U.G. level; Entomology; insect toxicology, insect pathology, insect taxonomy, apiculture, and insect-pest management; Plant pathology; integrated disease management, seed-health technology, mushroom- production technology, new tools in the diagnosis of plant pathogens, and forecasting and epidemiology; Plant Breeding and Genetics; tissue culture and genetic engineering; Soil Science and Agricultural Chemistry; integrated plant-nutrient management, remote sensing, management of problematic soils; and Horticulture; fields of dryland horticulture, landscape gardening, medicinal and aromatic plant propagation and post-harvest technology including preservation and processing of quality seed production and certification as well as seed-viability techniques in technology.

In Home Science College, post-graduate programmes in the areas of public health, food processing and technology, textile fabrication, and fashion and textile designing are to be initiated. Diploma courses in journalism and mass communication besides audio-visual aids have to be initiated.

In Agricultural Engineering College, strengthening of laboratory facilities in all the departments is required, e.g. renewable and non-conventional sources of energy, the introduction of new diploma courses on maintenance and handling of agricultural machinery.

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ASSAM AGRICULTURAL UNIVERSITY, JORHAT

Academic Reforms

Agri-Business Management Programme Introduced

A new PG degree programme in Agri-business Management to run as professional course on self-sustainable basis has been introduced in the Faculty of Agriculture from the first semester of 2002-03. Candidates with B.Sc. (Agric.), B.V.Sc. & A.H., B.E. (Agric. Engineering), B.Sc. (Dairy Science), B. Sc.(Home Science) of 4 years duration, and B.F.Sc. or B.Sc. (Forestry) are eligible to apply for the programme. The syllabus for the programme is designed to train the students in recent areas of management skills in order to make them competent to serve the Agri-business sector.

Research Achievements

Development of INM Package for Sali Rice: Demonstrations in farmers' fields in different agro-climatic zones of Assam has revealed that the Integrated Nutrient Management (INM) package developed at the university can increase the yield of sali rice by 17-110%.

Development of Jute Varieties: Three promising varieties of *Corchorus capsularis*, viz. NCJ 4, NCJ 5 and NCJ 7 and 1 of *C.olitorius*, NOJ-PL-1, have been developed with a yield performance of 25-30 q/ha.

Development of Regeneration Systems in Chickpea: Routine *in-vitro* regeneration system has been developed for Indian cultivars of chickpea. Also, putative transformation in chickpea containing bean amylase inhibitor gene to confer resistance to stored grain pests has been established.

Identification of Promising Parasitoid: The tritrophic interaction among *Trichogramma chilonis*, lepidopteran pests and rice varieties, viz. Ranjit, Basundhara, Kushal, Satyaranjan, Mansarober, Luit, Govind, Annada, Jaya, Bishnuprasad and Lachit has shown that the field realease of *T. chilonis* successfully reduced the stem-borer and leaf-folder damage.

Bio-formulation against Bacterial Wilt of Tomato: The bio-formulation of *Pseudomonas fluorescens* in vermicompost was found to be most effective in reducing the bacterial wilt incidence (2.87%) in tomato compared with the untreated control (70.28%). It also significantly increased the plant vigour, which was correlated with yield increase.

Off-season Flowering of Chrysanthemum: Work on development of technology for off-season flowering of chrysanthemum resulted in achievement of off-season flowering in the cultivars: Prof. Harris, Yellow Decorative and Yellow Button. Further work on improving the technology is in progress.

Management of Acid Soils: Application of press mud @ 100% of lime requirement value without considering liming factor was found most promising vis-a-vis agricultural lime and lime-sludge in managing the acid soils of both flood-free and flood-prone situations of Upper Brahmaputra Valley zone of Assam. This was assessed in terms of improving the fertility status of soil as well as for increasing the productivity of rapeseed and even greengram grown in *rabi* and summer seasons respectively.

DR BALASAHEB SAWANT KONKAN KRISHI VIDYAPEETH, DAPOLI

Seminar on 'Fishing during monsoon'

DBSKKV, Dapoli, ATMA and Department of Fisheries jointly

organized a seminar on 'Why fishing should be stopped during monsoon season' on 30 July 2002 at Harnai, dist. Ratnagiri. Dr S. S. Magar, Vice-Chancellor emphasized the need of stopping fishing in rainy season and appealed the fishermen to go instead for prawn farming, mussel farming etc. during this period. The fisheries scientists explained the reasons behind avoiding fishing during rainy season to the participating 200 fishermen.

Training Programme for Members of Co-operative Institutes and Mahila Self- help Groups

Ratnagiri District Central Co-operative Bank organized a training programme on agriculture and co-operation on 3 September 2002 at Dapoli for the members of co-operative institutes, Mahila Self-help Groups and bank-beneficiary farmers cultivating summer crops from Dapoli block.

DR PANJABRAO DESHMUKH KRISHI VIDYAPEETH, AKOLA

New Crop Varieties

The university released intra-specific *Gossypium hirsutum* hybrid based on cytoplasmic male-sterility (PKV Hy.5) and an intra-*arboreum* diploid cotton hybrid based on genetic male-sterility (PKV DH 1) during 26-28 May 2002 for general cultivation in Vidarbha and Maharashtra respectively. Kabuli chickpea (PKV Kabuli 2) was also released for cultivation in Maharashtra region.

GUJARAT AGRICULTURAL UNIVERSITY, SARDAR KRUSHINAGAR

Simarouba : an Oil Tree for Kutch Region

Simarouba (*Simarouba glauca*), a native of El Salvador, is a polygamodioecious versatile oilseed tree with a productive potential of 2,000 kg oil/ha/year. It has the ability to establish well even in marginal land with degraded soils, e.g. Kutch and north Gujarat with erratic rainfall and poor soils. Simarouba is a medium-size evergreen tree. It starts bearing at the age of 4-6 years (grafts begin to do so in 3-4 years) and reach stability in production after 4-5 years. The fruits are ready for harvest by April-May. Besides giving 25-30 kg fruit yield, each well-grown tree enriches the soil by adding 15-20 kg leaf litter. Seed, which is about 40% of the fresh fruit by weight, contains 52% oil in its kernel. The fruit pulp, which contains about 11% sugar, can be used for beverage manufacture or in fermentation industry. Simarouba seedlings are raised during April-June in polybags and outplanted in the field after 2-3 months.

Satellite Krushi Goshthi : Links with Market Yards

The GAU SATKRU, a satellite channel introduced by the university, has started programmes for the benefit of Agricultural Market Yards in the State. Shri Parshottam Rupala, Agriculture Minister, inaugurated this programme at the studio of Remote Sensing and Communication Centre at Gandhinagar recently.

Buffalo Delivered a Monster

A buffalo delivered a calf resembling a monster, having eight legs, one head with two separate mouths and tongues. The buffalo was brought from a far-off village to the Veterinary Hospital of GAU at Sardar Krushinagar for delivery parturition. The College of Veterinary Science and Animal Husbandry, Dantiwada imparts academic training to the veterinary graduates besides providing treatment to the sick animals brought to the hospital.

JAWAHARLAL NEHRU KRISHI VISHWA VIDYALAYA, JABALPUR

Release of Early-duration four-seeded Soybean Variety

JS 93-05, an early 4-seeded pod variety of soybean developed at Jabalpur, has been released and notified by the Central Variety Release Committee, New Delhi, for the Central Zone in 2002. This will replace the old early varieties and help in avoiding monoculturing of JS 335. It is highly suitable for intercropping, matures in 90-95 days and allows double cropping in rainfed areas. Its yield potential is 20-25 tonnes/ha, and it has been found resistant to major diseases and insect-pests as well as tolerant to abiotic stresses.

Soybean JS 93-05

KVK, Chhindwara, Adjudged The Best

The Krishi Vigyan Kendra, Chhindwara has been awarded the Best KVK Award of the ICAR for 2000-2001. The award consists of a shield, a citation and a cash prize of Rs 50,000.

Dr V.S. Tomar, Director (Extension), JNKVV, receiving Best KVK Award for KVK, Chhindwara from Union Agriculture Minister Shri Ajit Singh (16.7.2002)

MARATHWADA AGRICULTURAL UNIVERSITY, PARBHANI

Impact of Technology

The regional Extension Service Centres at Parbhani, Aurangabad, Latur and Ambajogai provided a team of scientists to the office of Extension Agronomist located in Marathwada Agricultural University jurisdiction.

Dr V.M. Pawar, Vice-Chancellor, MAU, Parbhani and Smt. Fouzia Khan, E.C. Member observing banana bunch exhibited at Farmers' Rally on 17 September 2002

These centres organized Farmers' Rallies at Taluka level to give current information pertaining to *kharif* crops. The farmers were also encouraged to take fruit plantation. Diagnostic and advisory services regarding whitefly, and rallies were organized through NATP programme at Pimpalgaon (Balapur) and Katneshwar in Parbhani district. The Women self-help groups were established and they were trained in nursery plant production and sericulture. Agricultural Technology Information Centre of MAU has started functioning from 5 August 2002. More than 200 farmers visited the centre to seek technical advice. About 751 farmers made use of Krishi Mahiti Wahini (Agro Info Line), seeking their queries through telephone.

MAHATMA PHULE KRISHI VIDYAPEETH, RAHURI

ATIC, a Boon to Farming Community

A newly established Agricultural Technology Information Centre (ATIC) at MPKV will be very useful for effective transfer of farm technology towards farming community. Amongst extension methods and techniques being used for transfer of technology, ATIC was inaugurated by Dr Panjab Singh, DG, DARE, ICAR, and Secretary, Government of India, New Delhi, constructed with the financial support of the NATP. Dr S.N. Puri, Vice-Chancellor presided over the funtion.

Dr Panjab Singh, Director-General, ICAR and Secretary, DARE, Government of India, New Delhi addressing the faclty during inauguration of ATIC at MPKV, Rahuri on 3 August 2002

Mobile Crop Dispensary Launched

The Mahatma Phule Krishi Vidyapeeth launched Mobile Crop Clinic for the farmers in its jurisdiction. A jeep has been modified for soil and water testing, with facility of microscope for plant observation. Charts and photographs are also available.

It will collect soil and water samples from farmers for testing free of cost. The mobile crop dispensary provides specialized services of various scientists such as Extension Dairy scientist, Entomologist, Horticulturist and Agronomist.

Mobile Crop Dispensary, Regional Extension Centre, Rahuri

MAHARANA PRATAP UNIVERSITY OF AGRICULTURE AND TECHNOLOGY, UDAIPUR

Agricultural Technology Information Centre Inaugurated


Agricultural Technology information Centre inaugurated at MPUAT, Udaipur

The ICAR-sponsored Agriculture Technology Information Centre (ATIC) was inaugurated on 10 July 2002 by H.E. Justice Anshuman Singh, Governor of Rajasthan and Chancellor of the University. The Chancellor in his inaugural address said that this centre would serve as a single-window delivery system for services and products of research to the farming community of the university service area. The project is aimed for quick dissemination of proven technology through training, publications as well as by providing seeds of improved varieties of different crops, true-to-type plant materials of various fruits, manual and power-operated agricultural implements, and soil and water-testing facilities. Besides, skill upgradation through exhibition and guidance will also be arranged. The Vice-Chancellor Prof. A.S. Faroda presided over the function.

Training under Agri-Clinics and Agri-Business

Training under Agri-clinics and Agri-business centre

Training under Agri-clinics and Agri-business centres scheme for agricultural graduates sponsored by the Government of India (SFAC, New Delhi, MANAGE, Hyderabad and NABARD, Mumbai) was organized from 6 May to 5 July 2002 at Directorate of Extension Education, Udaipur. Total 19 unemployed agricultural graduates were trained, out of which 6 were entrepreneurs.

Training on Integrated Plant Nutrient and Pest Management Organized

A 7-day training programme on Integrated Plant Nutrient and Pest Management sponsored by DASP, Dehra Dun was conducted at the DEE, Udaipur from 25 September to 1 October 2002, wherein 20 Agricultural Officers of the project area participated.

N.D. UNIVERSITY OF AGRICULTURE AND TECHNOLOGY, FAIZABAD

New Varieties Released

Lentil variety Narendra Masoor 2, having parentage DLG 105xPL 406 has been released by Dr Ranjeet Singh and his team. This variety matures in 125-130 days with yield potential of 20-25 q/ha. It is resistant to wilt rust and root rot. Plants are semi-erect with slightly hairy stem and height 40-45 cm. Seeds are medium bold (2.25 g/100 seed). This variety is suitable for irrigated and rainfed situations and is tolerant to soil alkalinity.

A barley variety NDB 1017 has been released by Dr Girish Pandey, Dr S.R. Vishwakarma and his team. It is 6-rowed barley with early maturity (110-115 days) having synchronous parellel ears, better tillering capacity and salt tolerance. It may be sown up to December mid-weak and shows better salinity tolerance up to pH 8.9 - 9.8 and EC 4.2 - 4.8 dsm-1.

Dr R.N. Singh, Dr B.N. Singh, Dr A.K. Singh and their team members have developed a variety of wheat NW 2036 for the North-Eastern Plains Zone. This is a good variety suitable for late and very late sowings for the area. It yields 45-50 q/ha. It is resistant to brown rust and is tolerant to foliar blight, which is the major threat in this area.

AWARDS AND RECOGNITION

INDIAN VETERINARY RESEARCH INSTITUTE, IZATNAGAR

Award Ceremony to Felicitate Scientists of IVRI

Shri Santosh Gangwar, Hon'ble Union Minister of State for Petroleum and Natural Gas was the chief guest at the IVRI Award Ceremony, on 23 August 2002, organized to felicitate scientists of the institute who contributed significantly in the field of animal research, and helped the institute get "Sardar Patel Outstanding ICAR Institution Award, 2001" in the field of animal health and production. On this occasion Dr Usha Rani Mehra, Principal Scientist of the Nuclear Research Laboratory of the Animal Nutrition Division, IVRI was awarded Punjabrao Deshmukh Women Agricultural Scientist Award, 2001 for her contribution in Animal Nutrition. She has developed techniques such as estimation of the microbial growth and VFA production rate in ruminants using isotope dilution technique, which has now been recommended by the FAO/IAEA for routine use. Dr Jagmohan Kataria, Senior Scientist, Avian Disease Division, IVRI was awarded "Bharat Ratna Dr C. Subramaniam Award, 2001" for best teacher. He has developed vaccines for gumboro disease, litchi heart disease and egg-drop syndrome. He also developed methodologies or diagnostic reagents for chicken, quail, duck and turkey.

N.D. UNIVERSITY OF AGRICULTURE AND TECHNOLOGY, FAIZABAD

Dr Sanjay Kumar, Assistant Professor (Livestock Production) of Veterinary College was selected by Ministry of Foreign Affairs, Israel, for scholarship to attend the fifth international post-graduate course on poultry management, and the nutritional, physiological and veterinary aspects, at the Rehovot campus, Israel from 25 June to 23 July 2002.

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