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SPOT NEWS

Dr Subba Rao elected General President, ISCA and gets Borlaug award too

Dr I.V. Subba Rao

At the 91st Session of the Indian Science Congress, held at Panjab University, Chandigarh from 3 to 7 January 2004, Dr I.V. Subba Rao, an eminent agricultural scientist and former Vice-Chancellor of Acharya N.G. Ranga Agricultural University, Hyderabad, has been elected the General President of Indian Science Congress Association for the year 2005-06. This is an index of the high esteem in which Dr Subba Rao is held by the scientific community of India. In the 92 years' history of ISCA, Dr Subba Rao is the fourth agricultural scientist to become the General President of ISCA, the three illustrious predecessors being Dr B.P. Pal, Dr M.S. Swaminathan and Dr R.S. Paroda while they were Director-Generals of ICAR. Dr Subba Rao will chair and conduct the 93rd Science Congress, whose venue and the general theme will be decided at the 92nd Science Congress, scheduled to be held at NIRMA University, Ahmedabad in January 2005. The Indian Agricultural Universities Association considers this a unique honour for an agricultural scientist. As the President of IAUA during 2002, Dr Subba Rao introduced many innovations and rendered yeoman service, establishing a landmark in the annals of IAUA. He was also the Chairman of the ICAR Committee of Vice-Chancellors on University Governance and Personnel policies. In recognition of his services, the President of India conferred Padma Shri on him in January 2002.

The prestigious Dr Norman E. Borlaug Award for 2004 was also awarded to Dr Subba Rao, by Dr A.P.J. Abdul Kalam, Hon'ble President of India, on 5 February 2004 at Vigyan Bhawan, New Delhi at a special function, for his outstanding contributions in improving the productivity, profitability and sustainability of major farming systems, including rice-farming systems. The citation said that the Coromandel Fertilizers is privileged to recognize through the Borlaug Award his many contributions to agricultural research, education and extension in our country during 2004, which has been designated by the United Nations as the International Year of Rice. The Award consists of a citation, a Gold Medal and Rs 1 lakh cash. He is also an outstanding research leader and educationist, who served with distinction as Vice-Chancellor of Acharya N.G. Ranga Agricultural University for two terms.

Dr I.V. Subba Rao receiving the Borlaug award from HE Dr A.P.J. Abdul Kalam, President of India

The IAUA congratulates Dr Subba Rao for the honours bestowed on him.

Vice-Chancellors' Annual Conference Organized by ICAR

Annual Conference of the Vice-Chancellors of the State Agricultural Universities and Central Agricultural Universities as well as of Vice- Chancellors and Directors of Deemed-to-be Universities was held at the National Agricultural Science Centre, Pusa Campus, New Delhi on 19-20 February 2004. Hon'ble Union Minister of Agriculture, Shri Rajnath Singh inaugurated the Conference and Dr Mangala Rai, Secretary, DARE and DG, ICAR chaired it.

The following main points emerged at the Conference:

* One-year practical training was considered necessary to build confidence and professionalism among agricultural graduates.
* To reorient agricultural education for employment generation, all VCs of SAUs and President, IAUA strongly favoured the grant of statutory empowerment of the ICAR to regulate higher agricultural education in the country.
* ICAR to provide Rs 100 crores from its already allocated budget to the universities to support the areas of excellence, and build the necessary facilities and competent faculty.
* Recommended upper age limit for Vice-Chancellors to 67 years from the existing 65 years.
* To increase emoluments of Emeritus Scientist to Rs 15,000 per month.

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NEW VC

Dr Mrinal Kanti Majumder takes over as VC, UBKVV, Coochbehar on 1 Feb. 2004

Dr Mrinal Kanti Majumder

Dr Mrinal Kanti Majumder, born on 21 February 1943, is first class M.Sc. (Agric.) and Ph.D. in Genetics and Plant Breeding from Calcutta University and Post-Doctorate from the IRRI, Manila. He has submitted his D.Sc. thesis to Calcutta University. He has nearly 33 years of research and teaching experience at various levels. He has guided 9 Ph.D. students and has attended 8 national and 2 international seminars and workshops. He has published 34 papers in national and foreign journals, and has to his credit one book, *Plant Breeding and Biometry*. He has contributed to agriculture by developing some new varieties in rice, and in chillies and other vegetables.

Focus on Universities - Achievements and Events

UNIVERSITIES

A Profile

UNIVERSITY OF AGRICULTURAL SCIENCES, BANGALORE

Historical Growth and Purpose

The origin of the university can be traced to an experimental farm of 30 acres established at Hebbal in 1899, which was gradually extended to 202 acres. An agricultural school was set up in 1913, whose reputation led to the establishment of Mysore Agricultural College at Hebbal in 1946 and Agricultural College at Dharwad in 1947, affiliated to Mysore University and Karnataka University respectively. Later, in 1958, a Veterinary College was established at Hebbal campus. In line with national goals, the University of Agricultural Sciences Act, 1963 was passed by the Government of Mysore (Karnataka). The University of Agricultural Sciences, Bangalore, was inaugurated on 21 August 1964.

The UAS came into existence on 1 October 1965 with the transfer of Colleges of Agriculture at Hebbal, Bangalore and Dharwad; Veterinary College at Hebbal and 35 research stations located in different parts of the state along with 45 ICAR schemes that were with the State Departments of Agriculture, Horticulture, Animal Husbandry and Fisheries. Later, Marine Product Processing Training Centre (MPPTC) at Mangalore and Krishi Vignana Kendra, Hanumanamatti, Dharwad were also transferred to the university. The university established Fisheries College at Mangalore in 1969 to provide degree-level training and Agricultural Engineering Institute at Raichur the same year to offer a 3 year diploma course in Agricultural Engineering. The Home Science College was started at Dharwad campus in 1974, besides establishment of a College of Basic Sciences and Humanities and a College of Post - graduate Studies at Hebbal.

In 1986 the erstwhile UAS, Bangalore was bifurcated into two universities, by establishing one more agricultural university at Dharwad. The institution and research stations located in 15 southern districts of the state came under the jurisdiction of UAS, Bangalore. The growth of the university over the years has been phenomenal. To begin with, it had two degree programmes covering broadly agriculture and veterinary disciplines. Over the years, attempts have been made to diversify agricultural education by starting specialized undergraduate and postgraduate degree programmes in various branches of agricultural sciences. Presently the university offers nine degree programmes covering Agriculture, Veterinary, Fisheries, Horticulture, Dairy Sciences, Agricultural Marketing and Co-operation, Forestry, Sericulture and Agricultural Engineering disciplines; and Masters' degree programmes in 47 disciplines, as well as Ph.D. programme in 34 disciplines.

Naik Bhavan, Administrative Building

Mandate of UAS, Bangalore *(as specified in the University Act)*

* Making provision for imparting education in different branches of study, particularly agriculture, horticulture, veterinary and animal sciences, forestry, fisheries, agricultural engineering, home economics and other allied sciences.
* Furthering the advancement of learning and research, particularly in agriculture and other allied sciences.
* Undertaking extension of such sciences to the rural people of the state.
* Such other purposes as the State Government may specify by notification in the official gazette.

Mission

The mission of UAS, Bangalore is to strive ahead and provide leadership in teaching, research and extension services related to agriculture and allied sciences.

Main Objectives

Objectives of the university have been projected under the following categories.

Teaching

The university has catered to the growing needs of agricultural sector by offering excellent education in a host of areas of agricultural sciences. There has been a significant diversification of agricultural education, keeping pace with the rapid developments in science and technology.

Visit of Hon'ble Chief Minister of Karnataka to UAS, Bangalore

Objectives in Teaching

* To make agricultural education responsive to growing and changing needs of the society in general and aspirations of the farming community in particular.
* To establish a dynamic system of agricultural education to train highly skilled and competent manpower to address challenging tasks with new emerging areas of research, extension and industry.
* To provide an education system that is contemporary and meets the changing needs of the agricultural sector.
* To make agricultural education responsive to the needs of farming sector and widen the knowledge base by providing vocational training in agricultural sciences to rural youth from all strata of the farming community.

* To start courses of current and future relevance, to build a strong academic foundation for scientific and technical manpower generated by the university.


Parliamentary Standing Committee

Research

Research activities of the university are organized both on zonal and thematic basis. Karnataka has 10 agro-climatic zones, out of which six zones are located in the jurisdiction of this university. The major areas of research in the university include breeding of crop varieties, crop production, crop protection, horticulture, animal sciences, veterinary sciences, forestry, sericulture, agricultural implements, social sciences, resource conservation, water management in command areas, and watershed management for rainfed areas.

Objectives in Research


ATIC

* To develop suitable end-use technologies to solve farmers' problems vis-a-vis agricultural production including animal husbandry and fisheries, and foster research aimed at conceptual advances in all disciplines for technology development in the long run.
* To develop technology in a proactive manner that solves immediate problems of the farmers on priority and enhances the productivity of agriculture, reduces the cost of production and increases the production in a sustainable manner.
* To document problems that require immediate attention and those that need long-term attention, and address them in mission-mode and strategic mode respectively.
* To identify thrust areas that have relevance for future, and initiate work so that emerging problems can be spotted and research directed towards their solution.
* To establish state-of-art infrastructure including well-equipped laboratories, extensive farm lands and an operational research-management system that will ensure quick, efficient and cost-effective implementation of research programmes.
* To attract qualified and talented personnel to undertake research.

Extension


Extension of Post-Harvest Technology in maize

The extension branch of the university provides information to end-users with research and technological outputs from various on-going programmes of the university. In the process, it provides feedback to the university regarding the efficacies of various technologies developed. The extension programmes of the university have been designed to supplement and complement the efforts made by various development departments. It is also vested with the responsibility of organizing training programmes.

Objectives in Extension

* To facilitate effective transfer of technology to farmers in an effective manner.
* To educate farmers, government officials and trainers on new developments in agriculture for their wider dissemination.
* To develop extension techniques that are best suited for transfer of technology and overall development of farmers' knowledge base.
* To set in place an effective feedback mechanism from grassroot level on the performance of technology released and on emerging problems for the benefit of researchers and teachers.
* To develop training facilities for the extension functionaries of the development departments.
* To organize field extension work to take care of trials on farmers' fields as well as early demonstration work.
* To organize farmers' training programmes in selected regions.
* To provide farm-advisory service to subject-matter specialists.
* To initiate farm-information programmes in support of extension activities.

Main Achievments in Three Decades


Sardar Patel award

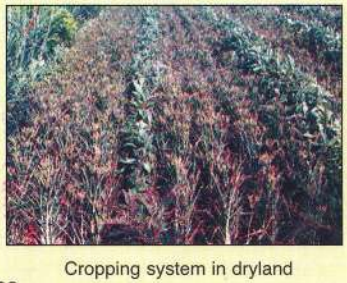
UAS, Bangalore was the recipient of prestigious Sardar Patel Outstanding ICAR Institution Award 2001. The university was awarded second prize in ICAR's All-India Competitive Examination for JRF-2002.

During the past 37 years, the university released 35 varieties in paddy, 16 in *ragi*, 8 in sugarcane, 7 in cowpea, 6 in sunflower, 5 in cashew, 4 in soybean, 2 each in *Dolichos*, sesame and sweet potato, and also in a number of other crops for commercial cultivation.


Students secured 2nd place in ICAR's JRF-2003

In addition, one breed of sheep and four breeds of poultry birds have been released. The Operational Research Project on Watershed Management in Rainfed Agriculture implemented by the university team at Mittemari (Mittemari Watershed Project) and Kanakapura (Kabbalanala Watershed Project) has received the best productivity award from the National Productivity Council, Government of India, New Delhi.

The university had launched a strong research programme on millets 3 decades ago. The contribution of the Indaf varieties, a household name, in enhancing production of *ragi* in Karnataka is unequivocally acknowledged. The development of blast-resistant varieties of *ragi* (GPU 26 and GPU 28) in recent years has eliminated a major production constraint, thereby ensuring practice of *ragi* cultivation. UAS (B) at present holds a position of pre-eminence in research on minor millets. Besides introducing new varieties, the university also played a major role in introducing many new crops into the state. lima-bean and grain-amaranth are among the most recent efforts besides soybean in the seventies. Research efforts in pest and disease management has helped in the release of paddy varieties resistant to gall midge and brown planthopper, the first blast-resistant *ragi* variety, and the whitefly-tolerant and leaf curl-tolerant tomato varieties.


Cropping system in dryland

The university has also popularized cost-effective and low-insecticide input-management practices like the collection of white grub adult pioneered after intensive biological studies, hand collection of red hairy-caterpillar in groundnut, stem injection or root feeding of insecticides for the management of coconut blackheaded caterpillar, seed treatment of groundnut for the management of groundnut white grubs, development of neemseed-kernel extract as a home-made insecticide for management of redgram and bengalgram pod-borer, diamond-back moth of cabbage, whitefly-transmitted viruses, honge oil for management of mites in commercial rose and use of neem oil for management of mealy bugs and scales in diverse crops. Hand collection of white grubs as the best method of managing this pest has become a model for many other states.

Development of a seasonal short-duration Hebbal Avare series of varieties of various crops and development of grain-amaranth, lima-bean, winged-bean and mustard varieties for cultivation have provided greater choice of crops to the farmers of the state.

Improved UAS sheep

A more significant achievement in diversification of farming systems is the development of sericulture, poultry, dairy industry and other livestocks. Earlier the practice of silkworm rearing was largely limited to a few southern districts of the state. The university has successfully tested and popularized it over the length and breadth of the state as an important income-generating activity for the rural community. Shoot-rearing technique, that saves labour and improves the quality and quantity of silk produced, is one such modification that has been readily picked up by the farming community.

A pioneering effort in the production of hybrid broilers of the Ubro breeds in the seventies set the trend for research on various aspects of poultry production to cater to the needs of industry as well as the individual farmers. The development of Giriraja and Girirani the two hardy, scavenging, dual-purpose poultry breeds has been found ideal for household poultry rearing. UAS Sheep, the dual-purpose breed, with high-quality meat and wool, surpasses the best of the local breed, Deccan Sheep. Yorkshire Pig is another breed of livestock promoted by the university. This breed shows a high conversion efficiency of feed into Improved UAS sheep meat.

Another area of the university's forte was development of the inland fisheries. Multi-species combinations of fishes to improve total harvestable yield in the shortest possible time for the natural ponds for short to medium duration has been successfully achieved.

Inauguration of Micronutrient Laboratory

Testing of various biogas plants was one such effort to promote the development of unconventional energy in the rural areas. Energy production and organic manure production were further enhanced by testing different types of biological sources, including aquatic weeds, for both biogas production and composting. Another significant achievement of the university is the utilization of coir waste from coconut-based industries and crop residues for production and organic manure production were further enhanced by testing different types of biological sources, including aquatic weeds, for both biogas production and composting. Another significant achievement of the university is the utilization of coir waste from coconut-based industries and crop residues for development of composting methods to produce safe and quality manure, and the augmentation of efficient and effective microbial cultures for accelerating composting to produce nutrient-rich, high-quality manure.

Extensive areas in the state are under rainfed agriculture and contribute nearly 40 % of agricultural output. The university has paid great attention towards developing Watershed Technology. A multidisciplinary team has developed farm ponds of ideal size, established *nala* bunds, check dams, *in-situ* water-conservation measures, established perennial crops, intercropping, modifications to the existing farm operations, selection of crops suitable for dryland etc.

Carcinogenic aflatoxin is a problem in stored food of man or animals. Successful use of a strain of *Saccharomyces cerevisiae* to degrade aflatoxin in poultry-feed is a significant breakthrough by the university. Similarly, production of toxins in protein-rich diets can be a serious health hazard for humans. Toxins produced by *Vibrio* spp. in fishes and mussels have been the subject of intensive investigation by the Department of Fishery Microbiology. A forewarning system developed by the Department to alert the local people in situations of outbreaks of *Vibrio* in marine mussels has saved many lives.

Visit of Dr Amrita Patel, Chairperson, NDDB to Dairy Science College

In biotechnological research, achievement par excellence is the production of rabies vaccine in plants (muskmelon and tobacco) that can be used for immunization against rabies disease in animals and human beings. Besides these, several other vaccines have been produced for immunizing animals. A few of these are: a superior vaccine against pox infection to protect sheep and goats; a combined vaccine developed for blackquarter and haemorrhagic septicaemia by incorporating somatic cells of *Clostridium chauvoel* and capsular polysaccharide of *Pasteurella multocida*; An inexpensive vaccine against Brucellosis that causes abortion and infertility among cows; a *Vibrio* vaccine to protect the shrimp, *Penaeus monodon*, in hatcheries; identification of an immuno-stimulant to protect shrimp against viral white spot disease; and development of vaccine for *Aeromonas hydrophila*, which causes the epizootic ulcerative syndrome in major carps and other cultured fishes.

Technologies still Relevant

Crop Sciences

The major contributions of the university in crop sciences are the development of *ragi* varieties (HR, MR, Indaf and GPU series), hybridization in sunflower and rice, watershed for sustainable production, integrated nutrient management in dryland, *Simarouba glauca* -an edible oilseed tree for wastelands, vaccines from plants against rabies, release of Mallika and identification of MA 1 Alphonso clone for release. Practices have been standardized for vegetative propagation in jackfruit, tamarind, medicinal and aromatic plants and bamboo. Air-layering of rose has been adopted with great success, rejuvenation of old cashew trees by top-working yielded as high as 16.25 kg / tree just after 5 years compared with 3.5 kg / trees without top-working and shoot rearing of silkworm.

Equipments Developed

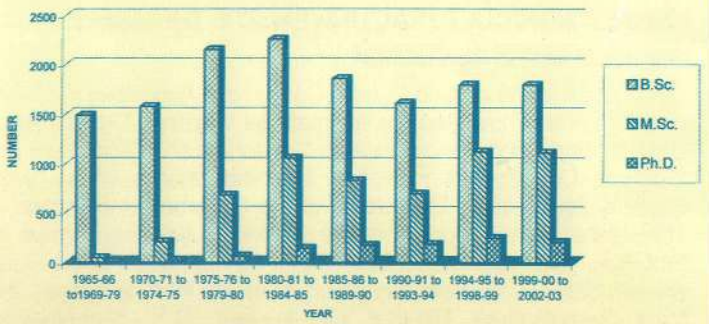
The university developed bullock-drawn seed-cum-fertilizer drill for *ragi*; bullock-drawn soil-clod crusher and crust breaker; bullock-drawn multi-furrow opener suitable for line sowing or planting; low-cost, foot-operated sunflower threshers or maize sheller (2 q/day), and power-operated equipment along with 0.25 HP electric motor (12-15 q/day); foot-operated winnower suitable for *ragi* and paddy; power tiller-mounted blade harrow; improved long-handle weeders for manual weeding and intercultivation, improved bullock-drawn intercultural hoes for intercultivation and earthing in row crops suitable for *ragi*, groundnut and other line-sowing crops, and self-sharpening sickle.

Animal Sciences

UAS Sheep is preferred to Deccan Sheep for its meat quality and wool; Yorkshire Pig gives higher conversion efficiency of feed into meat; Giriraja and Girirani scavenging-type poultry birds yield three times more meat and egg compared with the native ones and are resistant to diseases. Culturing of freshwater prawn fingerlings up to juvenile stage using recycled marine water has been developed and are further grown in freshwater ponds, which is a breakthrough for prawn culture in the inlands; giant freshwater prawn *M. rosenbergii* has been successfully bred for the first time in the state under a re-circulatory system at Hissar-aghatta; a sensitive technique has been standardized for the field detection of white-spot shrimp virus even in dormant condition in healthy animals; technology for recovery and utilization of whey protein from cheese whey was developed; germination of wheat seeds in cow-urine is used as a tool to confirm early diagnosis of pregnancy in cows; and the inoculation of crude tick-extract antigen with liquid paraffin as adjunct has given 95% reduction in total tick count in cattle at Tiptur.

Five-yearly Student Outturn

The students outturn is presented gtaphically.



Outturn of graduates

New Initiatives

World Bank-funded community based Projects

* A Project Cell has been constituted in the Directorate of Research to enthuse and motivate faculty research.
* Consultancy services for World Bank-funded community-based Tank Management Project were launched.
* Consultancy services to World Bank-assisted Sujala Watershed Programme was launched.
* The university has entered into MoU with Canadian International Development Agency along with UAS, Dharwad and TNAU, Coimbatore to implement Consolidation of Food Security in India.
* Operational Research Project on Watershed is providing consultancy services to Tibetean settlers in Karnataka.
* Fishery Microbiology has been selected as the Centre for testing antibiotics in seafood by the Ministry of Commerce, Government of India.
* The university is the role model in the country for establishing large-scale agro-processing centres.
* It has taken steps to commercialize the technologies developed by the scientists
* It has undertaken breeder seed-production programme in 10 crops covering 45 varieties.
* To tap the resources, the university has entered into MoU with private and public institutions involved in agri-business.

CH. SARVAN KUMAR KRISHI VISHWAVIDYALAYA, PALAMPUR

Kisan Mela at Bajaura

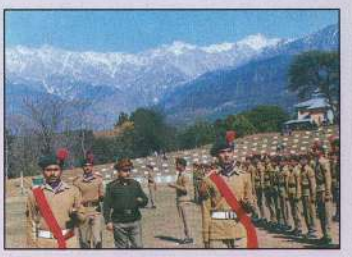
Kisan Mela at Bajaura

Hill Agricultural Research and Extension Centre, Bajaura (Kullu) organized a Kisan Mela and seminar on Garlic on 24 March. Dr R.B. Singh, Member, Farmers' Commission, Government of India, was the chief guest; and Dr Tej Partap, Vice-Chancellor, CSK HPKV, presided over the function.

A large number of farmers from the district Kullu, including farm ladies, attended the Mela and evinced keen interest in the new scientific technology presented at the exhibition. They also visited the experimental farms and interacted with the scientists.

Dr R.B. Singh appreciated the efforts of the university in educating the farmers in modern farm techniques and advised the scientists to guide the farming community in value addition and marketing of high-value crops.

VC Conferred the Rank of Col. Commandant, NCC



Dr Tej Pratap inspecting parade, as Col. Commandant (NCC)

Dr Tej Partap, Vice-Chancellor, CSK HPAU was conferred with the rank of Colonel Commandant of NCC at an impressive piping ceremony held on 24 March 2004 at the university campus. The ceremony was performed jointly by Col. A.S. Chitchot, Group Commander, Group Headquarter, Shimla and Col. S.D. Pun.

DR PANJABRAO DESHMUKH KRISHI VIDYAPEETH, AKOLA

AGROVET-2003 at Birth Anniversary of Dr Panjabrao Deshmukh

Shri Kishan Bir Chaudhary inaugurating AGROVET 2003 along with Shri Anil Deshmukh, Dr Sharadrao Nimbalkar and others

The 105th birth anniversary of Krishi Ratna Dr Bhahusaheb Panjabrao Deshmukh, first Minister of Agriculture, Government of India, was celebrated by organizing AGROVET-2003, a mega exhibition of agriculture and livestock. There was scientists farmers discussion sessions on topical subjects. This state-level event was jointly organized by the DPDKV, Akola; Shri Vasantrao Deshmukh Pratisthan, Katol, (Nagpur); Agro Input Dealers' Association, Nagpur; Agricultural and Animal Husbandry Departments of the State; and BARC, Mumbai at District Council School ground, Katol, dist. Nagpur during 27-31 December 2003.

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

Seventh International Symposium on Temperate Zone Fruits

7th International Sympodium

The university organized the 7th International Symposium on Temperate Zone Fruits in the Tropics and Subtropics under the aegis of International Society for Horticultural Science from 14 to 18 October 2003. The symposium was inaugurated by His Excellency the Governor of Himachal Pradesh, Shri V.S. Kokje. It was attended by more than 300 delegates, including 18 scientists from 11 countries around the globe and over 250 scientists from 25 SAUs and Central institutes from India.

INDIRA GANDHI AGRICULTURAL UNIVERSITY, RAIPUR

New Mango Strains

Indira Gaurav

For the first time delicious strains of mangoes were selected in the state, by the IGAU, which are capable of attracting attention at the national level. Dr Prabhakar Singh and Vijay Jain selected seven new strains, which are divided basically into three categories.

Pulp and Table purpose

Indira Gaurav: Fruits are 500-700 g in weight, pulp up to 75.6% and as soft as butter, fibreless and extremely sweet. Total soluble solids are 23%, and it has 0.3 - 0.5 % acidity.

Indira Sona: It is one of the regular bearer strains with 500-700 g fruit weight. Fruits can also be consumed in unripe or immature stage. TSS 16% with 0.384 % acidity, and fruit pulp 74.55 %. It is good for pulp making and has better keeping quality. Fruits most suitable for processing industries.

Sucking purpose

Indira Mohini: It is very sweet with total soluble solids 30%, and is highly suitable for sucking. Fruit weight 200-300 g and pulp is 71.29%. Its stone is of 35-40 g.

Indira Rasvanti: Its skin colour is sunset orange, with fruit size 150-200 g, having 19.2% TSS and 0-25% acidity. It has plenty of juice.

Pickle purpose

Indira Achar: The plant has cluster-bearing habit, each cluster having 10-12 fruits. Average weight of fruit is 250-300 g. This strain has 2.88%, acidity.

Indira Maya: Fruits are oval, dark-green with 200-250 g weight, containing 77.8% pulp with 1.34% acidity. Fruit-pulp colour is white.

Indira Bhushan: For the people who prefer sweet mango pickles, this is highly suitable, having 12.1% TSS with 0.5% acidity. Average fruit weight is 250-300 g.

JAWAHARLAL NEHRU KRISHI VISHWA VIDYALAYA, JABALPUR

Orange-coloured Lac Insect: a New Species

Lac, the resinous secretion from the specialized lac glands of *Kerria lacca*, has wide industrial use. It serves as a cash crop to the lac growers. Generally the colour of the brood as well as the adult *K. lacca* of both Rangeeni and Kusumi lac is crimson or purple. However, during a survey orange-yellow coloured lac insect was found in Khargone district, Madhya Pradesh. It is probably a new lac insect species. Both the adults as well as the emerging brood are orange-yellow.

Lac cultivation on *palash*

On pressing the lac encrustation on the stem, yellow colour of the insect stains the fingers. The colour of lac is widely used both as industrial and edible dye. In view of this orange colour of the new strain, which may be helpful in replacing the present food-grade chemical dyes, an effort is underway to multiply it.

Though there are over 113 host trees of *K. lacca* in M.P., it is commercially promoted on *palas (Butea monosperma* Lamk*), ber (Zizyphus mauritiana* Lamk*)* and *kusum (Schleichera oleosa Lour-Oken)*, which are found abundantly.

While promoting lac cultivation, it was observed that a majority (resource-poor or landless men and women) in the community could not adopt this livelihood enterprise in spite of their keen interest. Non-availability of land and *Butera monosperma* - its common host tree were the major constraints. Involvement of women to adopt lac cultivation by addressing their problems was a major challenge. After 3 years' research, a local variety of *arhar* or pigeonpea *(Cajanus cajan)* was considered an alternative host. This plant attains a good height and could be easily cultivated in the small area of the backyard, and any woman could easily perform inoculation of broodlac on it. The developed technology envisages broodlac inoculation on widely spread plants of *C. cajan* in October, yielding 0.75 kg to 1.1 kg grain/ plant in March-April, apart from 0.83 kg to 1.05 kg lac/ plant. The value of 1 kg grain is Rs 10 and that of lac is Rs 40. Thus from a single plant species *(C. cajan)* two cash crops are harvested, which may fetch Rs 50/tree. Efforts are being made to introduce lac cultivation on pigeonpea.

Lac cultivation on *Arhar*

KERALA AGRICULTURAL UNIVERSITY, THRISSUR

Gender Issues in Agriculture

The Centre for Studies on Gender Concerns in Agriculture (CSGCA) of KAU commemmorated the International Women's Day, 8 March 2004, by organizing a conference on Gender Issues in Agriculture and Women's Development in Kerala, in collaboration with the Small Farmers' Agribusiness Consortium of the Government of Kerala at Thiruvanthapuram (Trivandrum). The conference was inaugurated by Smt. K.R. Gouriamma, Hon'ble Minister for Agriculture of the State, wherein Shri V.P. Joy, Secretary (Agriculture) was the Chairperson. Ms Mina Swaminathan, Director, Gendeavour, M.S. Swaminathan Research Foundation, Chennai was the keynote speaker. The technical sessions of the conference were moderated by Dr K.N. Shyamasundaran Nair, former Vice-Chancellor of KAU. Delegates to the conference constituted representatives from the university, Department of Agriculture, Banking institutions, Non-Governmental Organizations and farmers' groups in the state.

Smt. Gouriamma in her inaugural speech appreciating the programme and *illustrated* the important position of women in farming from time immemorial and the neglect they are subjected to. Ms Mina Swaminathan's keynote speech reiterated the glaring issues of gender in the farming scene. Quoting various eye-opening facts and data, she pointed out the need of taking direct action to solve the problems women face in agriculture with regard to technology, land ownership, support services and multiple workload, and exhorted the researchers and extension workers to be gender sensitive in their efforts.

MARATHWADA AGRICULTURAL UNIVERSITY, PARBHANI

NCC Cadets bring Laurels

The NCC cadets of MAU, Parbhani, bagged the General Championship Trophy 2004 successively for the third time in the Annual Training Camp of 52 Maharashtra, Battalion NCC, Nanded held from 27 January to 5 February 2004, by winning six gold and two silver medals. They presented a guard of honour to H.E. Shri Mohammed Fazal, the Governor of Maharashtra, during his visit to the university on 3 March 2004.

HE Shri Mohammed Fazal, Governor of Maharashtra, receiving guard of honour from the NCC cadets. Also seen VC, Dr V.M. Pawar and others

MAHATMA PHULE KRISHI VIDYAPEETH, RAHURI

22nd Convocation

Twenty-second convocation of the university was held at its Central Campus, at Rahuri on 6 March 2004. At this occasion, Dr S.N. Puri, Vice-Chancellor, welcomed the chief guest Dr Kirti Singh, former Chairman, ASRB (ICAR), New Delhi and all the present dignitaries and staff of the university. Shri Govindraoji Adik, Pro-Chancellor, MPKV, Rahuri and Minister for Agriculture, Law and Judiciary, Maharashtra State presided over the convocation.

22nd Convocation

On this convocation total 1,940 students received the different degrees, i.e. 63 Ph. D., 471 M.Sc. (Agric.) 24 M. Tech. (Agric.) and 1,382 Bachelor's degrees under different faculties.

Phule Triveni Cattle

The Research-cum-Development Project on Cattle of the university at Rahuri has evolved Phule Triveni, a triple crossbred cow, which

has make-up of 50% Holstein Friesian + 25% Gir inheritance. These cows are characterized by high milk production, higher fat content in milk and ecological adaptability.

MAHARANA PRATAP UNIVERSITY OF AGRICULTURE AND TECHNOLOGY, UDAIPUR

Transfer of Technology among Farm Women

Empowerment of women in agriculture

Under NATP Mission Mode Project on Empowerment of Women in Agriculture, the College of Home Science, MPUAT, Udaipur transferred the improved technologies in agriculture and animal husbandry, viz. improved sickle, maize sheller (tubular), groundnut decorticator, hanging - type cleaner grader, fertilizer broadcaster, chaff-cutter, and the rake and wheel barrow. The main extension activity was the release of Krishi Calendar 2004. To facilitate and guide farmers to adopt improved agricultural technologies, 1 lakh Krishi Calendars were published and made available to them at the nominal cost of Rs 10.

Release of Krishi Calendar 2004

PUNJAB AGRICULTURAL UNIVERSITY, LUDHIANA

Visit of Russian Delegation to PAU

A three-member delegation under the leadership of Dr Mikhail Erokhin, Vice-Chancellor of an agricultural university of Moscow State of Russia, visited the PAU and held a meeting with Dr K.S. Aulakh, Vice-Chancellor of PAU, Ludhiana.

Russian delegates at PAU farms during Kisan Mela

RAJENDRA AGRICULTURAL UNIVERSITY, PUSA (SAMASTIPUR)

Rajendra Agricultural University successfully organized its fourth convocation on 14 February 2004 after a gap of about 14 years. Bharat Ratna Dr A.P.J. Abdul Kalam, the Hon'ble President of India, delivered the convocation address. He lauded the contribution made by various agricultural missions of the country and of the state. He said that now India had to embark upon second Green Revolution, which would enable it to further increase the productivity in the agricultural sector to match our population growth. Our agricultural scientists and technologists had to work for doubling the productivity of the available land with lesser area being available for cultivation with less water. The type of technologies needed would be in the areas of development of seeds that would ensure good yield even under constraints of water and land. He warned that due to improved agricultural technology, fewer people will be available for farming, because many will be migrating to food processing and marketing. More thrust needed to be given on adopting methods such as multi-cropping, rotation of crops and organic farming for soil upgradation. Access to food would need the enhancement of purchasing power of the rural and urban population. This could only come out of employment generation through entrepreneurship and through increase in the income of the existing farmers. He further added that we need to develop proper agricultural technologies and water-conservation methodologies and management plan. Solutions may be just beyond agriculture alone, spanning to animal husbandry, poultry, agro-processing and other related activities. Agricultural waste should be put to use by developing appropriate and cost-effective technologies such as generation of biogas, production of vermi compost and paper. Emphasizing the need of information technology, he advised that it should be used for maintaining an updated and enriched database of region-specific agricultural information. A new management style has to emerge for managing enterprises like management of schools, health-care units, vocational training centres etc. Today for exporting any farm product, a certification is required for its nutrient value and that it is free of chemicals. This aspect has to be focused right from the development of seed to final product.

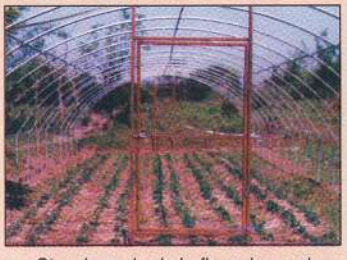
RAJASTHAN AGRICULTURAL UNIVERSITY, BIKANER

Animal Disease Forewarning System

College of Veterinary and Animal Science, RAU, Bikaner, has developed a software, Animal Disease Forewarning System, for the benefit of livestock wealth by forecasting the expected diseases. This computerized software has retrospectively analysed the animal disease- information data collected from all over the state since 1995 to arrive at forewarning of diseases in various parts of Rajasthan for different species of animals. The advantages are: anticipation of diseases by field veterinarian well in time, dissemination of information to farmers about probable diseases and their prevention, timely vaccination to prevent losses, timely procurement of appropriate medicines, and preventive measures that can be taken up in advance.

SHER-E-KASHMIR UNIVERSITY OF AGRICULTURAL SCIENCES AND TECHNOLOGY, JAMMU

Successful production of runners in strawberry vars Gorella and Belrubi was achieved by Division of Pomology and Post-Harvest Technology, SKUAST, Jammu, under the subtropical plains of Jammu by using 50% Agroshade net (green colour) conditions. Runnering was profuse with 17 runners/plant and crown diameter 11.74 mm. These were of better quality than of hill region, indicating potential of strawberry multiplication in irrigated belt of subtropical plains. Normally growers in plains have to invest money every year for purchase of planting material. This technology will enable them to produce planting material themselves, making the strawberry cultivation more remunerative in subtropical plains.



Strawberry beds in flowering and fruiting (in Feb-Mar)

Same strawberry beds after runnering under 50% shade (in Oct)

UNIVERSITY OF AGRICULTURAL SCIENCES, BANGALORE

Important Technologies Developed

* The leaf-colour chart (LCC)-a simple tool, easy to use and inexpensive-has been developed to help farmers determine the right time of N application to rice crop.
* Two sugarcane varieties, Co 62175 and Co 86032, were identified at VC Farm, Mandya, adaptable to wide-row cultivation with 20% saving in the seed rate both in plant and ratoon crops without compromising on cane and sugar yields and rice quality.
* A novel eco-friendly local isolate of *Bacillus thuriengiensis* (Bt.) has been isolated at GKVK and was found insecticidal, fungicidal and nematicidal as well as non-toxic to honey-bees and silkworm. This will be useful in organic farming for control of pests and diseases.
* A prototype manual arecanut dehusker has been developed. The unit has a capacity of 650 kg/day/4 persons. Eight units have been fabricated and supplied to arecanut growers.
* A prototype for processing foxtail millet by modifying the ragi-pearler has been developed under the PHT project.

AWARDS AND RECOGNITION

CH. SARVAN KUMAR KRISHI VISHWAVIDYALAYA, PALAMPUR

National Fellowship for Dr Acharya

Dr C.L. Acharya

Dr C.L. Acharya, Director of Extension in CSK HPKV was selected the Fellow of the National Academy of Sciences (FNAS), India for his significant contributions in Agriculture, especially in Soil Science.

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

Award to Dr K. K. Jindal

Dr K.K. Jindal

Dr K.K. Jindal, Director of Research, was awarded the International Society for Horticultural Science Medal in recognition of his meritorious services to the society as Convenor of the 7th international symposium.

Kejriwal Award to University Scientists

Dr P.C. Sharma, Shri S.K. Sharma and Shri B.B. Lal Kaushal of the Department of Post-harvest Technology were awarded Kejriwal Award 2002 for their research article 'Studies on the preparation of foam mat-dried hill lemon juice powder by the All-India Food Processors' Association, New Delhi.

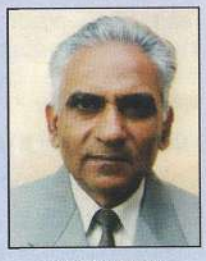
INDIAN AGRICULTURAL RESEARCH INSTITUTE, NEW DELHI

Dr P.S. Sirohi

Dr P.S. Sirohi, Head, Division of Vegetable Science, received Eco-friendly award by Urivi Vikram Charitable Trust, New Delhi in 2003 and also elected Fellow of the National Academy of Agricultural Sciences, New Delhi in January 2004.

INDIAN VETERINARY RESEARCH INSTITUTE, IZATNAGAR

Dr M. P. Yadav, Director, IVRI gets International Award



Dr M.P. Yadav

The Higher Education and Development Summit, New Delhi, and the International Association of Education for World Peace (an UN-affiliated non-governmental organization having special status with Economic and Social Council), United Nations Development Programme (India), Educational and Cultural Organization, and International Children's Emergency Fund with headquarters at Alabama, USA and South Asia headquarters at New Delhi, conferred the prestigious Higher Education and Development (Head) Award 2004 to Dr M. P. Yadav, Director-cum- Vice Chancellor of IVRI. The award was bestowed on him by the Court of Governors of the International Association of Education for World Peace, based on the recommendation of a specially constituted Search Committee on 15 April 2004 on the occasion of the Higher Education and Development Summit held on 15-16 April 2004 at India International Centre, New Delhi. Dr M.P. Yadav was earlier honoured with Swadeshi Vigyan Puruskar and Vocational Education and Development (Veterinary) Award for his contributions to research and education including vocational education, and leadership in technology development.

KERALA AGRICULTURAL UNIVERSITY, THRISSUR

Dr K.V. Peter, Vice-Chancellor, was nominated to the Association of Indian Universities Standing Committee for the 2004-05 by the President, AIU and was also nominated to the Finance Committee of the ICAR by Director-General, ICAR for the year 2003-04.

MAHARANA PRATAP UNIVERSITY OF AGRICULTURE AND TECHNOLOGY, UDAIPUR

Higher Education and Development award

Dr R.P. Singh

Dr R.P. Singh, VC, MPUAT, Udaipur, a great visionary and planner in Higher Education and Extension was awarded "2004 Higher Education and Development award" given by Higher Education and Development Summit (UN-Affiliated NGO having special status with ECOSOC, UNDPI, UNESCO, UNICEF) Headquarters: Alabama, USA-South Asia Headquarters, New Delhi

Dr A.N. Mathur

Dr A.N. Mathur, Dean, MPUAT, Udaipur was conferred the ISAE Fellowship for his contribution to the profession of Agricultural Engineering in the area of Renewable Energy.

PUNJAB AGRICULTURAL UNIVERSITY, LUDHIANA

Shri Deepak Kumar Ansal Wins State Project Award

Mr Deepak Kumar Ansal, final year B. Tech. student of the College of Agricultural Engineering, won the best B. Tech. Project State Award in mechanical engineering and allied branches in Punjab. The award was given by the Indian Society for Technical Education for his project, Economics of bottlegourd-okra-green peas crop sequence for round-the-year utilization of trickle irrigation system.

Dr Hari Mohan Saxena

Honours to Dr Hari Mohan Saxena, Professor of Immunology in the Department of Veterinary Microbiology, Veterinary College, was awarded Mid-Career Scientist Award (Gold Medal) of the Indian Society for Veterinary Immunology and Biotechnology for his outstanding research contributions in immunology.

A paper co-authored by Dr Saxena and his former M.V.Sc. student, Dr (Miss) Veenu Minhas (currently pursuing her Ph.D. studies in the USA), presented by Dr Saxena, was adjudged the best paper presented at the International Symposium on Biotechnology at the Tenth Convention of the ISVIB held at Chennai during 18 to 20 December 2003 to commemmorate the centenary of establishment of Madras Veterinary College.

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