IAUA NEWS

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CONTENTS

PROMISING TECHNOLOGY

Cultivation of White Milky Mushroom Standardized

Scientists of the CCS Haryana Agricultural University have standardized the cultivation of white milky mushroom.

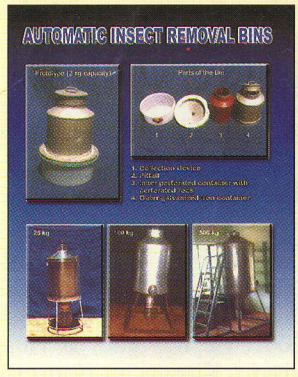
This mushroom has a shelf-life of 1 week at room temperature. It can be cultivated at higher temperature of 30-35^{0}C, and hence can be grown from April to September when the mushroom growers remain idle. It has good acceptability because of its compact head and nutritive value comparable to other cultivated mushrooms.

The univarsity's Plant Pathology department is in a position to supply spawn (seed) of this mushroom to the interested growers. The department also conducts short-term training courses on the cultivation technology for unemployed youth, women-farmers and other interested growers.

(CCS Haryana Agricultural University, Hisar)

Milky Mushroom

Storage Container for Automatic Removal of Insects from Grains



Storage container models of 2 kg, 25 kg, 100 kg and 500 kg capacity, which can remove insects automatically, have been designed and developed by the Tamil Nadu Agricultural University, Coimbatore. These containers have 4 major parts - outer container, inner perforated container, collection vessel and the lid. These models exploit the wandering behaviour of storage insects as well as their movement towards well-aerated regions. The grains are held in specially designed inner perforated containers. The space between the inner and outer containers provides good aeration. The insects, while wandering, enter the perforations to reach the aerated parts and in doing so then slip off and fall into the collection vessel through a pitfall mechanism provided in the collection vessel. To quickly collect insects, as and when they emerge from the grains, perforated (2 mm) rods are fixed in the inner container.

These containers will be useful for storing rice, wheat, broken pulses, coriander etc. The insects such as rice weevil, lesser grain-borer, red flour-beetle and saw-toothed beetle, which are commonly found attacking grains, can be removed automatically by storing in such containers. Within 10 days a majority of the insects (more than 90%) can be removed from the grains. Dr S. Mohan has received national award for this research.

(Tamil Nadu Agricultural University, Coimbatore)

PROMISING STRAINS

Banana

A promising triploid hybrid H-212 (ABB) of banana has been identified. It is a cross of Karpooravalli x Pisang Lilin. This is superior to commercial cv. Ney Poovan (AB) in yield, taste and tolerance to nematodes. Its bunch weight is 12.5 kg, with number of hands 10.8 and the number of fingers/ bunch 160.

Papaya

A high-yielding red-fleshed dioecious selection of papaya, designated 9-1 D papaya, is under evaluation. Based on the mean performance, four plants have been selected for further purification in BC generation. These plants yield on an average 66 fruits per tree, with a mean fruit weight of 2.2 + 0.12 kg.

(Tamil Nadu Agricultural University, Coimbatore)

DR S. N. PURI ELECTED MEMBER OF THE EXECUTIVECOMMITTEE OF THE IAUA

Dr S. N. Puri

Dr S. N. Puri on the basis of his seniority, has been elected as the member of the Executive Committee of IAUA on 8 June 2002. He took over as the Vice-Chancellor of Mahatma Phule Krishi Vidyapeeth, Rahuri, on 14 May 1999 for 3 years term, and due to his excellent performance in the first term he has been awarded the second term from 14 May 2002. Dr Puri had also worked as an acting Vice - Chancellor of Konkan Krishi Vidyapeeth, Dapoli (Maharasthra) from September 1999 to February 2002. He is a renowned entomologist, recipient of Hexamar Foundation Award and distinguished achievement award. He had earlier recieved the junior and senior research fellowships of the ICAR for his M. Sc. & Ph.D. studies in Entomology.

Dr S. N. Puri worked extensively on different aspects of Integrated Pest Management of cotton and other crops. He has developed an integrated Pest Management Module for white fly *(Bemisia tabaci)* by using an intercrop of wild brinjal and spraying of non-toxic chemicals like toilet-soap and neemseed-kernel extract. Another module developed by him is for the management of pest complex in unirrigated cotton.

Dr Puri has about 150 research papers to his credit.

NEW VICE - CHANCELLORS

Dr S. S. Negi

Dr S. S. Negi

Dr S. S. Negi took over as the Vice-Chancellor of Dr Y. S. Parmar University of Horticulture and Forestry, Nauni (Solan) on 27 March 2002. He was born at village Lippa, district Kinnaur in Himachal Pradesh on 5 May 1940. He passed his B. Sc. (Agriculture) in 1961 securing second position in Punjab University and M.Sc. (Horticulture) from the IARI, New Delhi, and received Ph. D. in Genetics from the University of California, USA, in 1969.

He joined the Indian Institute of Horticultural Research, Bangalore, on 29 April 1969 as Geneticist (Grape Breeder); and was promoted as Senior Geneticist (Floriculture) in May 1972. He was inducted in Agricultural Research Service in 1975 as Scientist S-3 (Horticulture), and was promoted to Scientist S-4 (Horticulture) in 1979 and Scientist S-5 (Horticulture) in 1985. He worked as Officiating Director, Indian Institute of Horticultural Research, Bangalore, from 1 March 1990 to 20 March 1991, and then joined the Central Institute for Subtropical Horticulture, Lucknow, as Director on 26 March 1991.

Dr Negi developed and released two varieties of mango, one variety of guava, four varieties of grape, 14 varieties of gladiolus, 11 varieties of chrysanthemum and four varieties of China-aster.

He is the recipient of Rafi Ahmed Kidwai Memorial Award of the Indian Council of Agricultural Research for 1993-95 in Horticulture. He was awarded Gold Medal by Grape Growers' Federation of India in 1992. He was selected as the Man of theYear1999 and was nominated for biographical inclusion in the Millennium Edition of the International Directory of Distinguished Leadership by the American Biographical Institute, the USA. He was elected to Phi Kappa Phi and Sigma XI, honour Societies of Agricultural and Science, USA. He is a fellow of the Indian Academy of Horticultural Sciences and the Indian Society of Genetics and Plant Breeding.

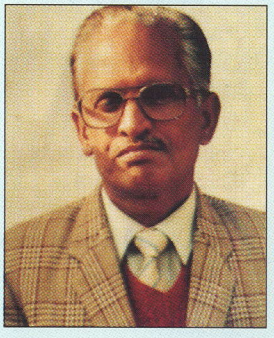
Dr Negi has 164 publications to his credit.

Dr Dhyanpal Singh

Dr D. P. Singh

Dr Dhyanpal Singh, an eminent Agricultural scientist, took over as the Vice-Chancellor of Jawaharlal Nehru Krishi Vishwa Vidyalaya, Jabalpur (Madhya Pradesh) on 12 July 2002. Dr Singh obtained his B. Sc.(Agriculture) and M. Sc. (Agronomy) from RBS College, Bichpuri, Agra University, Agra, and Ph.D. in Agronomy from MLU Halle -Witenberg. Germany,with specialization in Crop - Water Management. He served in various capacities such as Professor, Head of the Department of Agronomy, Dean and acting Vice-Chancellor at Choudhary Charan Singh Haryana Agricultural University, Hisar (Haryana). Dr Singh is the recipient of ICAR Team Research Award, Hari Krishan Shastri Memorial National Award, CCS Haryana Agricultural University Silver Jubilee Award and the Government of Germany's Best Researcher Award. He is the fellow of the Indian Society of Agronomy, Indian Society of Plant Breeding and Genetics, Indian Society of Plant Physiology and National Academy of Agricultural Sciences. He has visited 15 developed and under-developed countries under various research and educational programmes. He is also the President of International Society for Sustainable Agricultural Resource Management and of International Society for Nature Farming. Dr Singh has published 144 papers on Irrigation management and Crop production.

Prof. B. B Singh



Prof. B. B. Singh

Prof. B. B. Singh took over as Vice-Chancellor of Narendra Deva University of Agriculture and Technology, Faizabad (Uttar Pradesh) on 18 July 2002. He is a renowned Plant Physiologist and an international authority on rainfed lowland rices. Prior to this, Prof. Singh had served this university since April 1985 as Professor and Head, Department of Crop Physiology; Director, Centre of Advanced Studies; and Dean (Agriculture). Prof. Singh established a Centre of Excellence in Stress Physiology, particularly in submergence tolerance in rice, with the financial support of the World Bank; the Netherlands Government; IRRI, Manila; ADB, Manila; European Commission, Brussels; ACIAR, Australia; and Rockefeller Foundation, New York. He served as a Visiting Professor at Liebig University, Germany. He is a Fellow of National Academy of Agricultural Sciences and President of the Indian Society for Plant Physiology, New Delhi (1999). Prof. Singh has published over 100 research papers and written 2 books. He has travelled extensively in Europe and Asia.

Focus on Universities - Achievements and Events

DEEMED UNIVERSITIES

CENTRAL INSTITUTE OF FISHERIES EDUCATION, MUMBAI

Training on 'Prawn Nutrition and Feed Technology'

The training programme was attended by 20 participants. A course manual, *Prawn Nutrition and Feed Technology* was released by the chief guest Dr S.A.H. Abidi, Member, ASRB, New Delhi.

ICAR Chief Visits CIFE

Dr Panjab Singh, Director-General, ICAR, New Delhi and Secretary, DARE visited CIFE on 1 June 2002. He was felicitated by ARSS Forum, Institute's Joint Staff Council, Post-graduate School Students' Union and Fisheries Association. Dr Panjab Singh released many publications of the CIFE on this occasion: *Fishing Craft and Gear Technology, Practical Manual on Fish Biology, Practical Handbook of Principles of Fish Breeding, Matsya Ekalan Sadhan/ Fish Aggregating Devices, Matsya Darpan - Newsletter No. 17.* He also gave away the CIFE Dr Hiralal Chaudhary Annual Award (2001 - 02).

UNIVERSITIES

A Profile

TAMIL NADU AGRICULTURAL UNIVERSITY, COIMBATORE

Genesis

The Agricultural College and Research Institute was opened by Sir Arthur Lawley in July 1909. The Under-graduate programme in B. Sc. (Agriculture) was started in 1920, affiliated to Madras University. In 1958 the Regional Post-graduate Centre was established to offer programmes leading to masters and doctoral degrees. In June 1971 the Tamil Nadu Agricultural University was established at Coimbatore.

Constituent Colleges

Currently the TNAU has 10 colleges: Agricultural College and Research Institute, Coimbatore; Agricultural college and Research Institute, Madurai; Agricultural College and Research Institute, Killikulam; Anbil Dharmalingam Agricultural College and Research Institute, Trichirapalli; Horticultural College and Research Institute, Coimbatore; Horticultural College and Research Institute, Periyakulam; College of Agricultural Engineering, Coimbatore; Agricultural Engineering College and Research Institute, Kumulur; Forest College and Research Institute, Mettiaaua; and Home Science College and Research Institute, Madurai.

Affiliated Colleges

In addition, the two colleges are also affiliated to the university, viz. Adhiparasakthi Agricultural College, Kalavai (self-financing); and Pandit Jawaharlal Nehru College of Agriculture and Research Institute, Karaikal (Government of Pondichery). Besides, three Institutes of Agricultural and Rural Development, offering 2-year Diploma programme in agriculture, are also affiliated to it.

Organization

The Vice-Chancellor is the Principal Executive and Academic Officer of the university, exercising overall control over all the affairs, and is responsible for the proper functioning of the university. He is also responsible for the co-ordination and integration of teaching, research and extension education activities. The Board of Management is the supreme authority to determine and regulate all policy issues in accordance with the provision of the TNAU Act and Statutes. The Academic Council is responsible mainly for the maintenance of the academic standards. It is the policy-making body for education. The Board of Studies has the main responsibility to propose courses for various programmes, curricula for various courses, revision of curricula and introduction of new programmes as well as to formulate policy recommendations to the Academic Council relating to education. Each Faculty has a Board of Studies.

The Research Council helps in making policy decisions on research activities in various faculties, colleges and research stations of the university. The Extension Council formulates policies and outlines extension-education activities, to be carried out by the university in close association with the development departments of the Government of Tamil Nadu.

Contributions

Since its inception in 1971, the university has produced 12,516 undergraduates, 4,699 post-graduates, and 1,263 Ph. D. students. The syllabi of the under-graduate, post-graduate and Ph. D. programmes are revised once in 4 years to meet the changing needs.To enable the students to take up self-employment, a course on 'Commercial agriculture' has been introduced in the under-graduate programme. For better field exposure of students regarding under-graduate programmes, a 1 month 'Village-stay programme' was introduced in 1984,which has been intensified into a 3 months 'Rural agricultural works experience programme' since 1994-95.

All the teaching campuses have good laboratories, lecture halls and library facilities. The university attracts students from Sri Lanka, Egypt, Syria, Sudan, Thailand, South Africa and Nepal for undergraduate and post-graduate programmes.

Deans of Colleges look after the academic programmes and administration in the respective constituent colleges. The

Controller of Examinations conducts examinations for UG programmes and declares results. The Dean (PG Studies) looks after the post-graduate affairs. The Registrar is in overall charge of educational programmes, looking after the conduct of Board of Studies, Academic Council, Convocation and for issue of Provisional Degree and other certificates.The Directorate of Students Welfare looks after students' extra-curricular activities and counselling. The counselling, started since 1990, acts as a link between the business firms demanding agricultural graduates and students, and the university. On an average, 100 campus interviews are conducted every year. To strengthen this, an Agro-based Industries Interaction Cell has been established, and currently 13 agri-business firms are members in this Cell.

Research

In crop production research there is a shift in plant breeding, with emphasis on development of hybrids since the nineties. The university has so far released 3 hybrids in rice, 10 in millets, 2 in pulses, 2 in cotton, 1 in oilseeds, 2 in coconut, 2 in fruits and 1 in vegetables. Similarly, it also helps farmers by development of low-cost operation-specific implements and management technologies for various crops and resource situations.

The university has standardized the production of *Trichoderma viride, Pseudomonas fluorescens*, mushroom fungi, *Trichogramma* spp., *Chrysoperla*, NPV and GV. Similarly, tissue-culture protocols have been developed for production of banana and ornamental plants.

The new crop varieties released are 43 in rice, 48 in millets,55 in pulses, 27 in oilseeds, 13 in cotton, 10 in forage, 2 in green manure, 25 in sugarcane, 5 in mushroom, 25 in fruits, 53 in vegetables, 16 in flowers and 27 in spices and condiments.

Extension

Transfer to technology is taken up by 5 Krishi Vigyan Kendras, 3 remandated Regional Research Stations and 5 Plant Clinic Centres of the TNAU, located in different parts of the state. As an effective and easy method of technology transfer, the Directorate of Extension Education conducts programmes like Farm School on AIR and Correspondence Courses and also develops video lessons and audio cassettes on important and latest technologies for the benefit of the farming community. The TNAU has adopted 125 villages through colleges and research stations functioning under its control for holistic development programme initiated by Prof. Dr S. Kannaiyan, Vice-Chancellor.

Impact of TNAU

The effects of the research activities are reflected in the sustained growth in the productivity of crops in the state. The university has released a number of farm implements and machinery not only to manage the labour-scarcity situations but also to reduce drudgery on human labour and to facilitate soil-water conservation.

The graduates, post-graduates and the doctoral fellows trained by the university cater to the needs of manpower requirement of the agricultural sector in the state and the nation. They also work in international organizations in large numbers. Tamil Nadu Agricultural University was adjudged the best agricultural university in the country during 1998, based on its extraordinary performance in agricultural education, research and training. The university was also awarded by the ICAR for the best performance of its graduates in the Junior Fellowship examination conducted in 1999-2000.

System of Education

The Semester system of the university for all the programmes from the academic year 1991-92 is: Each semester has 105 working days; The medium of instruction is English; The duration of undergraduate programmes is 8 semesters; The duration of masters programmes is 4 semesters; and The duration of the Ph. D. programmes is 6 semesters.

The admission strength for different programmes:

Laboratory Facilities

B.Sc. (Agriculture), 376; B.Sc. (Horticulture), 75; B.Sc. (Forestry), 20; B.Sc. (home Science), 20; B. Tech. (Agricultural Engineering), 40; B. Tech. (Food Process Engineering), 20; B. Tech. (Agricultural Biotechnology, 20; B. Tech. (Horticulture), 20; M.Sc. 310; Ph. D. 145.

The excellent teaching, laboratory and other infrastructure facilities built in the system provide the learners a powerful and conducive learning environment to acquire knowledge and skill. A good number of candidates bag every year Junior Research Fellowships of the ICAR, New Delhi, despite heavy competition at all - India level.

Under- graduate Examination Hall

The institute received the Best Institution Award for 1998 from the ICAR

Many students of this university were selected for employment, doctoral and post-doctoral programmes in the USA, the UK, New Zealand, Australia, Germany, Belgium, Canada, Russia, the Philippines, the Nertherlands, Japan etc.

Curriculum

The Board of Studies is responsible for the review and modification of the curricula and syllabi periodically in the respective faculties.

Syllabus Revision

Revision of syllabus and introduction of new courses are done based on the emerging needs at the regional, national and global level. The syllabi are revised every 4 years. The syllabus revision is taken up 1 year before the end of the cycle and is discussed at various levels. A Syllabus Revision Workshop is subsequently conducted for 2 days. Besides discussion with faculty members, the PG students and the current students are consulted through debates to obtain the feedback from this clientele group, and the syllabi are fine-tuned based on the suggestions.

Abroad Based Advisory Group is constituted in the university to obtain feedback on the preparedness of the farm graduates and the emerging needs of agri-business, agro-based industries, input firms, financial institutions and the plantation sector.

RAWE

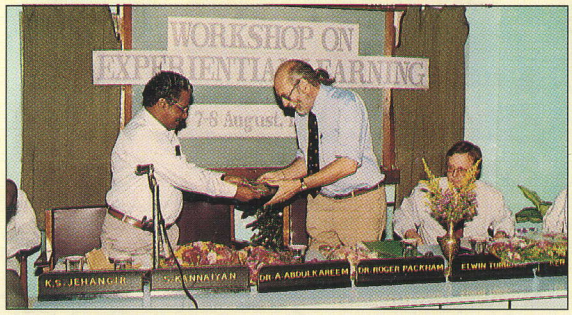
RAWE Exhibition

RAWE Programme

Rural Agricultural Work Experience (RAWE) is a key component of the B.Sc. (Agriculture) programme to make students understand the real world situation in agriculture. This programme is planned by involving all the teachers in different subjects for improving the learning capacity of students in a typical village situation. Major focus is laid on the following modes for improving better learning: Orientation for programme, Brain-storming, Group meeting, Group discussion, Situation analysis, Problem-solving skill, Mid-term appraisal meeting with teachers and Dean, Eco-friendly agriculture anaalysis, Indigenous technologies and modern technologies, Systems approach in village situation, Interaction mode with women farmers, Facilitator role of the teachers, Farm analysis, Analysis of social behaviour of small and marginal farmers in technology adoption, Organizing an exhibition by the RAWE students after completion of the course and Final RAWE workshop-presention-discussion by the students.

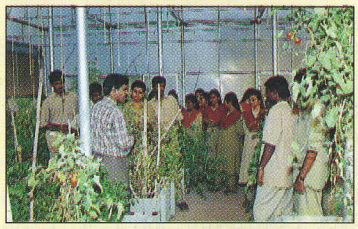
Commercial Agriculture

Under this programme, the students are given hands-on-training in various skills to take up self-employment and also to impart entrepreneurial skills. There are totally 21 courses in Agriculture Faculty alone.



Workshop on experimental learning involving participation of foreign scientists

Students' Counseling



Horticulture polyhouse to expose students to horticulture hightech

The Directorate of Students Welfare is operating a system of student scounselling. Under this, information is provided to them on the avenues open after the graduation for higher studies as well as employment. Situation available for employment as Junior Research Fellow or Senior Research Fellow in the university or elsewhere, and information on opportunities for higher studies abroad and within the country are also made available to them. Periodically campus interviews are arranged with private entrepreneurs, industries and others for job placement.

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ALLAHABAD AGRICULTURAL INSTITUTE, ALLAHABAD

Microbiological Quality of Milk

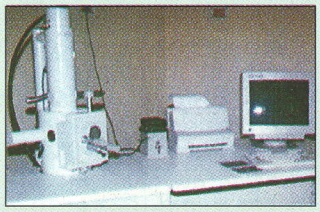
Significant reduction was recorded in milk microflora when hindquarters and udder were washed while milking. Washing was followed by wiping of udder with antiseptic solution (3% Savlon).

Animals kept in barn houses shared lesser incidence of milk contamination compared with those under loose housing.

ACHARYA N. G. RANGA AGRICULTURAL UNIVERSITY, HYDERABAD

Electron Microscope Facility at ANGRAU

The electron microscope laboratories at Acharya N. G. Ranga Agricultural University are functioning since May 2002 at Rajendranagar, Hyderabad. These are named after the scientist Ernst Ruska, the inventor of electron microscope in 1931 and Nobel Prize awardee 1986. It is equipped with



ANGARU Electron Microscope

(a) Hitachi H-7500 Transmission electron microscope (TEM),

(b) Jeol J-6600 Scanning electron microscope (SEM),

(c) U. V. microscope (Olympus),

(d) Student's research microscope with photograph attachment,

(e) Stereo Zoom trinocular microscope with diascopic stand,

(f) Digital camera, and

(g) Dark room for photography development.

Mango Show

Kisan mela clubbed with Mango show was organized by Fruit Research Station,Sangareddy, Medak district of Andhra Pradesh, on 29 - 30 May 2002. Vice - Chancellor, Dr I. V. Subba Rao, announced that FRS is rearing around 460 mango varieties. The Governor of Andhra Pradesh, Dr C. Rangarajan, called for efforts to step up the productivity of mango crop and the export of the fruit by building a network of cold-storage facilities.

ANGRAU Students Topped in GATE

Eight students of the ANGRAU College of Agricultural Engineering, Bapatla, have secured top ranks, including the I rank in the All India Entrance Examination, GATE.

BIDHAN CHANDRA KRISHI VISVAVIDYALAYA, MOHANPUR

Hybrid Technology in Vegetable Crops

Hon'ble Minister for Food Processing Industries & Horticulture, Govt. of West Bengal, Shri Sailen Sarkar *inaugurating session* of the Symposium *(second from left)*

A national symposium on "Hybrid technology in vegetable crops: prospects and constraints, and public and private sector interface" was organized by the Department of Vegetable Crops, Faculty of Horticulture, Bidhan Chandra Krishi Visvavidyalaya in collaboration with the Society for Advancement of Horticulture, held at the Farmers' Training Centre, Kalyani on 17 April 2002.

The inaugural session of the symposium was graced by Prof. D. Dasgupta, Vice-Chancellor; Sri Sailen Sarkar, Minister in Charge, Department of Horticulture and Food Processing Industries, Government of West Bengal; Dr G. Kalloo, Deputy Director-General (Horticulture), ICAR; Prof. M. G. Som, ex Vice-Chancellor; Dr S. K. T. Nasar, Director of Research; and Shri B. Ghosh, Director of Horticulture, Government of West Bengal. Stress was given to increase the productivity of vegetable crops for providing nutritional security, poverty alleviation and employment generation in agriculture sector. The recommendations are given below.

1. Hybrid research in vegetable crops should be intensified in the State agricultural university. Development of inbreds with multiple disease resistance should be given top priority.
2. To meet the demand of vegetable hybrids, parental lines developed in the public sector should be made available to the private sector for commercial production of hybrid seeds. The State Government should take initiative for multiplication of the parental lines of the proven hybrids.
3. The State Government should ensure that Horticultural/ Agricultural graduates get self-employment opportunities in the field of hybrid seed production.
4. Uniform price for parental lines and hybrids need to be framed.
5. Training programme on Hybrid Seed and Crop Production for farmers, unemployed Horticultural/ Agricultural graduates and Government officials need to be strengthened.

DR BALASAHEB SAWANT KONKAN KRISHI VIDYAPEETH, DAPOLI

Rice Palghar 2 (Palghar 103-1-2-2) for Konkan Region

This variety is recommended for *kharif* crop for the Konkan region. It is a fine-grain variety, maturing in 125 to130 days. Average 1,000-grain weight is 12.6g and yield is 3.1 tonnes/ha. It is slightly tolerant to blast and stem-borer. The variety yielded 33.25% and 35.16% more than Zinnia 63 and Kolamba 540.

Alphonso Mango and Banawali Coconut for Property Rights

This university also recommended Alphonso variety of mango and Banawali variety of coconut, the established varieties in the region, to secure international right and to register them at the national level.

CHAUDHARY CHARAN SINGH HARYANA AGRICULTURAL UNIVERSITY, HISAR

Solar Energy Treatment for Wheat Diseases

An improved Solar Energy Treatment for wheat with no adverse effect on germination has been developed for controlling seed-borne inoculum of loose smut, flag smut and Karnal bunt diseases. It involves solar heating of seed by soaking in water (1:1 ratio w/v) in a galvanized tub (top 36", bottom 24", depth 13" for 40 kg seeds), tightly covered with a transparent polythene sheet (700-gauge) in September for 6 hours (8.00 a.m. to 2.00 p.m.). The solar-heated seeds are then exposed to sun by spreading out in thin layer on pucca floor to dry. This provides more than 95% control of loose-smut disease, besides inhibition of teliospore germination (70%) of Karnal bunt pathogen *(Neovossia indica)* and total control of seed-borne inoculum of flag-smut disease.

GUJARAT AGRICULTURAL UNIVERSITY, SARDAR KRUSHINAGAR

Biological Control of Stem Rot of Groundnut

Sclerotium infection can be controlled using *Trichoderma harzianum* mixed with farmyard manure or castor-cake, applied in furrows by the side of the groundnut crop rows at the time of sowing. *Trichoderma* native isolate bears good tolerance to the commonly used agro-chemicals.

Drip Irrigation and Mulch Synergistic Effect in Bhindi GOH-1

A drip irrigation x mulching experiment was undertaken on okra at the Agricultural at Experiment Station, Paria, dist. Valsad. A 12% increase in fruit yield and 49% saving in water with drip irrigation was noticed. Superimposition of black plastic mulch produced a synergistic effect, bringing 46% increase in yield vis-a-vis 25% in plastic mulch alone.

New Variety of Karingada

Gujarat Karingada-i

Citrullus lanatus, locally known *karingada* in Gujarat, is one of the well-adapted crops of arid as well as desert regions. The crop has been under cultivation as self-sown companion crop with castor, millets, sorghum and pulses during *kharif*. However, systematic efforts in developing it as a crops were lacking. This long-standing demand of farmers has been fulfilled by the development of its first variety at the Regional Research Station, GAU, Sardar Krushinagar. It is a short-duration and high - yielding variety having excellent culinary characteristics and good seed yield.

PSB Reduces 50% P and N Requirement of Safflower

Safflower in Field

In coastal salt-affected soils of Gujarat (*bhal* area),50% of phosphorus and nitrogen requirement of safflower crop could be met by inoculation of seed with PSB *(Pseudomonas striata)* @ 30 g (108 cells/g) per kg seed as well as with *Azospirillum* and *Azotobacter*.

Management of Alternaria Blight in Tomato

Alternaria Blight in Tomato

Four sprays of mancozeb or chorothalonil or copper oxychloride each in 0.2% concentration,or 5% fresh neem-seed extract at 10 days intervals after disease initiation effectively managed *Alternaria* blight in tomato.

INDIRA GANDHI AGRICULTURAL UNIVERSITY, RAIPUR

Pigeonpea RA 6 Developed

Pigeonpea is a most important pulse crop of Chhattisgarh, occupying an area of 4,700 ha. A new variety, RA 6, developed by IGAU, is of medium duration (160 - 180 days) that gives better yield than the popular variety Asha. It has medium bold, red - colour seeds with a 100 - seed weight of 9.3 g. Proposal is being prepared for release of this variety.

MAHARANA PRATAP UNIVERSITY OF AGRICULTURE AND TECHNOLOGY, UDAIPUR

Varieties Released for Cultivation

SPH 837 Sorghum

It is an early-maturing hybrid (85-90 days) with grain-yield potential of 3.5-4.0 tonnes / ha and dry - fodder yield of 10/11 tonnes / ha. The hybrid is found resistant to most of the diseases. This hybrid stays green at maturity and has been found to withstand relatively higher degree of moisture stress.

RL 914 Linseed

RL 914 Linseed

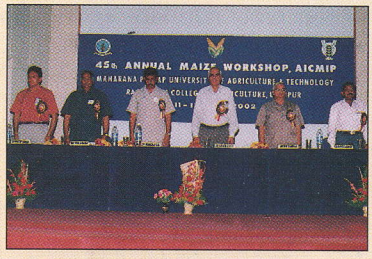
It is a seed-purpose variety with yield potential of 1.8-2.0 tonnes / ha and oil content of 40-42%. It is resistant to wilt and rust and is moderately resistant to powdery mildew, alternaria blight and bud fly. It matures in 130-137 days. Seeds are bold and brown with test weight of 7.5 - 8.5 g. It has been recommended for high-fertility, irrigated areas.

Eleventh National Symposium on Environment

Dr. Anil Kakodkar, Chairman Atomic Energy Commission and Secretary Deptt. of Environment (Govt of India) Delivering inaugural address at National Symposium on Environment in the auditorium of the Rajasthan College of Agriculture, Udaipur on 5 June, 2002

The Eleventh National Symposium on Environment (NSE 11) sponsored by the Board of Rajasthan in Nuclear Sciences, was organized by Rajasthan College of Agriculture and Rajasthan Atomic Power Station in collaboration with Health, Safety and Environment group and the Bhabha Atomic Research Centre, Mumbai in the historic city of lakes and fountains (Udaipur) during 5-7 June 2002. Dr Anil Kakodar, Chairman, Atomic Energy Commission and Secretary, Department of Atomic Energy, Government of India, in his inaugural address reiterated the need of our dependence on natural resources like thorium for atomic power production. In his speech, he gave importance to environmental aspects while laying stress on sustainable development. Nine invited talks were also delivered by eminent scientists, covering various environmental and ecological aspects viz. Environmental management and business profitability, Evaluation and implementation of radiological safety, Remedial measures for protection of ground water from pollution and Radioactive waste management, etc. Besides these, there were 140 contributions from 52 research institutes including universities and colleges. Presentations during the 10 technical sessions spread over 3 days. Dr G. S. Sharma, Dean, Rajasthan College of Agriculture, Udaipur was the Chairman of the Symposium Organizing Committee. Total 150 participants from different academic institutions and research organizations attended the symposium.

45th Annual Workshop of All India Maize Improvement Project



Chief guest Dr. Mangla Rai (DDG Crops) and other attending dignitaries

Maharana Pratap University of Agriculture and Technology, Udaipur organized the 45th Annual Maize Workshop at RCA, Campus Udaipur during 11-13 April 2002. The workshop was inaugurated by Dr R. V. Singh, Vice-Chancellor, MPUAT, Udaipur, and Dr Mangla Rai, DDG (Crop Science), ICAR was the chief guest on this occasion. The workshop was organized into seven sessions under the chairmanship of eminent scientists and other dignitaries of ICAR, New Delhi. Discussions were also held on DUS testing, registration of germplasm, verietal maintenance and procedural needs, review of programmes, and the plan of work. The Varietal Identification Committee also held its meeting under the chairmanship of DDG (CS), ICAR, New Delhi. Six varieties for different agroclimatic zones of the country were identified at this workshop. During *kharif* the varieties identified under full-maturity group were PRO 329 and F 7012 and under medium-maturity group F 7001. Likewise, for *rabi*, under full-maturity group varieties Seedtack 2324, JH 6805 and Priya (sweet corn) were identified.

New Publication

Dr L. L. Somani, Director (Resident Instructions), MPUAT, Udaipur has written an advance-level book, *Phosphatic Biofertilizer*. Published by Agrotech Publishing Academy, Udaipur.

ORISSA UNIVERSITY OF AGRICULTURE AND TECHNOLOGY, BHUBANESHWAR

New Chilli Variety Utkal Ava (BC 14-2)

Chilli variety Utkal

The variety Utkal Ava (BC 14-2) has been developed under the All-India Coordinated Vegetable Improvement Project, OUAT, Bhubaneshwar and identified for national release during its 19th Group Meeting, held at the IIVR, Varanasi. It is a dual - purpose chilli variety, used green as well as dry. The variety has shown good potentiality and it gives green fruit yield of 12.87 tonnes/ha and dry-fruit yield of 3.31 tonnes/ha. Its average fruit length is 5.2 cm and girth 3.9 cm. The fruiting habit is upward. It matures in 95-100 days for harvest of green chillies and 125-130 days of dry chillies.

Rich loamy soils are ideally suited for the variety. The recommended spacing for cultivation is 50 cm between rows and 30 cm between plants within the row, and optimum fertilizer dose is 120 kg N, 50 kg P_2O_5 and 100 kg K_2O per ha.The optimum time of sowing for dry chilli cultivation is September to October, whereas green chilli it can be grown throughout the year. The variety has proven resistance to bacterial wilt and is very popular in Orissa.

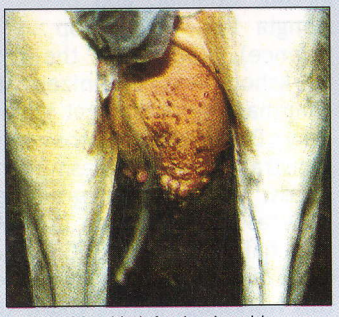
Toria Variety Anuradha for Orissa

Toria Variety Anuradha

Toria variety Anuradha [ORT(M) 6-2], a mutant of TS-29 developed by the All India Co-ordinated Research Project on Rapeseed-Mustard operating in the Orissa University of Agriculture and Technology, was released by the Orissa State Variety Release Committee on 18 April 2002. The variety was subsequently notified by the Government of India for inclusion in the seed chain. This variety is suitable for rainfed condition, has a yield potential of 13-15 q/ha and oil content of 44.2% and matures within 75 days. It performs well in sandy loam soil. The recommended fertilizer dose for the variety is 40 kg N, 20 kg P_2O_5 and 20 kg K_2O per hectare.

TAMIL NADU AGRICULTURAL UNIVERSITY, COIMBATORE

Bovine Mastitis



Mastitis infection in udder and teats in cow

It is a viral disease caused by Bovine Herpes Virus-II, characterized by dry wart and poc-like lesions throughout the affected udder and teats. The affected cows experience pain while milking. This results in poor milk yield due to improper milk letdown. Mastitis also results in the affected animal due to ulcers on the teat skin and subsequent secondary bacterial infection. This diseases is mostly encountered during February to June in northern districts of Tamil Nadu. As it is a viral disease; strict hygienic measures and isolation of the affected animals may reduce the disease incidence.

UNIVERSITY OF AGRICULTURAL SCIENCES, DHARWAD

National Science Day Celebrated

National Science Day was celebrated on 7 March 2002 at the University of Agricultural Sciences, Dharwad by organizing a series of lectures on the theme by the professors of Shri Dharmasthal Manjunath Engineering College, Dharwad. The theme of this Day was "Wealth from waste". On this occasion, Prof. S. G. Joshi spoke on "Solid waste management: an integrated approach". He explained the concept, sources, classification, composition, collection, processing techniques and disposal of solid waste. Prof. Kiran Shindhe spoke on "Large-scale compost preparation from solid waste: a case study" in peri-urban areas of Hubli-Dharwad. He explained the designs and economics of large-scale compost preparation from municipal solid waste.

All India Annual Kharif Groundnut Workshop

An All-India Annual Kharif Groundnut Workshop was organized at UAS, Dharwad from 22 to 24 April 2002. On 22 April, the groundnut research conducted at all-India level on crop improvement was reviewed and research programme was formulated for the ensuing *kharif* (2002-03). The entries Dh 2000-1 (Zones - II and IV) and GPBD 4 were promoted to Zone IV Advanced Varietal Trial. Production target of 1,265 tonnes breeder seed was envisaged for Dharwad centre during *kharif* 2002-03.

The inaugural session was held on 23 April, presided by Dr S. A. Patil, Vice-Chancellor. Dr S. N. Nigam, Principal Scientist (ICRISAT) gave the key-note address and Dr A. S. Prabhakar, D. I. (PGS) presided over the function. Guest lecture on " Advances in drought - stress research" was delivered by Dr T. G. Prasad, Professor of Crop Physiology, UAS, Bangalore. In Crop production session, experimental results were discussed and the programme for next year was drawn. Thirty front-line demonstrations were fixed for the Dharwad centre.

The session on Promotion of polythene mulch technology was held under the chairmanship of Dr S. A. Patil, Vice-Chancellor. The house recommended the polythene mulch technology (PMT) for adoption in the specific areas like residual moisture, summer irrigated situation, low-temperature areas and command areas in *rabi* / summer.

CONVOCATION NEWS

GUJARAT AGRICULTURAL UNIVERSITY, SARDAR KRUSHINAGAR

The University's 26th Convocation

The University's 26th Convocation was held at Anand on 11 April 2002. Hon'ble Governor and Chancellor Shri Sundersinghji Bhandari presided over the function. Dr Kasturirangan, Chairman, ISRO was the Chief Guest, who delivered the convocation address. Hon'ble Governor and Chancellor presented gold medals to meritorious students for their best performance in different disciplines at U. G. and P. G. levels.

INDIAN VETERINARY RESEARCH INSTITUTE, IZATNAGAR

Third Convocation and National Symposium

The Third Convocation of the National Academy of Veterinary Sciences (NAVS) and a National Symposium on "Historical overview on veterinary sciences and animal husbandry in ancient India (Vedic and Ashokan period)" was held at the Indian Veterinary Research Institute, Izatnagar during 17-18 April 2002. The function was organized in collaboration with NAVS, IVRI and the Government of India.

Inaugurating the function, Dr Panjab Singh, Secretary, DARE and Director-General, ICAR, New Delhi drew the attention of the scientists to GATT / WTO implications on livestock and livestock products trade. In an increasing quality-conscious world market today, success in improving the exports of livestock products depends on making our livestock free from diseases. He remarked that due to sustained research and development efforts by IVRI, the country is now free from the diseases of livestock like African horse sickness, dourine and rinderpest.

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