

News in Brief

From the DG's Desk 1

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From the DG's Desk

Dear Readers,

The rice-wheat system has emerged as a major cropping system in Indo-Gangetic plains (IGP) in more than 10.5 million ha area. The rapid spread of technologies improved farm productivity, production, food security and rural development



in the region. A general consensus among agricultural research and development community is that infusion of new technologies is the need of the hour to enhance and sustain productivity and to tap new sources of growth in agricultural productivity. In this context the role of conservation agriculture in improving efficiency, equity and environment is well recognized.

The Resource Conservation Technologies (RCTs) in India are becoming immensely popular and in a short span of time the area under these technologies, like raised-bed planting, zero-till and laser leveling has spread from a mere 0.02 million ha in 1999-2000 to over 3.0 million ha by now primarily in the IGP region. Collateral technologies such as pressurized irrigation systems like drip and sprinkler have also been standardized for different farming systems that save water to the extent of 30-70%. The RCTs if applied on a larger scale can help in reducing the concentration of CO₂ as the no till fields are reported to act as a CO₂ sink thereby helping in efforts to check global warming.

Agriculture depends heavily on energy to sustain surge in needed productivity growth to feed the burgeoning population. Like water and

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nutrients, low use efficiency of energy is a matter of serious concern from economic and environment point of view. Poor use of energy, more specifically fossil energy entails country's exchequer more foreign exchange and increases cost of production and chances of global warming. Since the agriculture is becoming more and more mechanized, issues related to poor mechanical efficiency also come in the forefront of energy management. The RCTs have resulted in improving the productivity of land, efficiency of water, energy and nutrient use to the tune of 20 to 30% with an average saving of about Rs 2,500/ha. The savings and gains would be phenomenal if these technologies are put to use in about 140 million of area under cultivation.

The adoption of RCTs also offers avenues for much needed diversification of agriculture thus reducing the risk on account of seasonality of farming. Surface seeding of excessively wet 'Rice-Fallow' lands (~ 3.5 million ha) in eastern Gangetic plains can be planted to legumes (lentil, chickpea, peas) and other crops through para-cropping and surface seeding practices. Farmers who wait for conventional tillage for establishment of succeeding crops after rice often end up in fallows due to very short winter window in the east. The prospects for introduction of sugarcane, pulses, vegetables etc. as intercrop with wheat and winter maize provide good avenues for further intensification and diversification of rice-wheat system. Resource conserving technologies help integrate crop-livestock, land and water management research in agro-ecological intensification of both low and high potential environments. Such technologies need to be developed and popularized extensively.

Indo-Gangetic plains where a package for mechanized no till has been developed, small and even landless farmers have benefited from it through custom operations. With more and more farmer experimentation the zero tillage technologies are helping the entrepreneurs. To begin with there were just 2 private entrepreneurs manufacturing the drills in Punjab in year 2000 but popularity of this technology led to increase in their number and now more than 150 units are spread all over the region.

Presently, India is major partner in the Rice - Wheat Consortium (RWC) of the CGIAR institutes and the NARS of India, Bangladesh, Nepal and Pakistan. The international

initiative has received the CGIAR Award for Best Research Partnership and King Baudouin Award.

Appreciating the importance of Conservation Agriculture in the national, regional and global context, the ICAR and the National Academy of Agricultural Sciences (NAAS) will be jointly organizing the 4th World Congress on Conservation Agriculture from 4 to 7 February 2009 in New Delhi. The co-sponsors of the Congress include several international institutions such as International Center for Agricultural Research in Dry Areas (ICARDA), the Rice-Wheat Consortia (RWC), the Food and Agriculture Organization of United Nations (FAO), the International Fund for Agricultural Development (IFAD), the Indian Society of Soil Science (ISSS), and the Indian Society of Agricultural Economics (ISAE). The Congress aims at bringing together all stakeholders including researchers, farmers, extension-workers, policy-planners, corporate leaders and non-governmental organizations to address *innovations in agriculture for realizing improved efficiency, equity and environment*. Over 1,000 delegates from different parts of the world are likely to participate in the Congress. The deliberations during the Congress would focus on (i) document global R&D efforts in conservation agriculture; (ii) measure benefits of conservation agriculture; and (iii) identify region specific up-scaling issues so as to develop a road map and evolve strategies to promote conservation agriculture.

The role of conservation agriculture in improving efficiency, equity and environment is well recognized and many global treaties have raised concerns to conserve natural resources for a better quality of life. The 4th World Congress is expected to review global R&D efforts; identify region, situation and system specific issues; prepare grounds for partnerships and policy setting; and suggest measures to improve the state of natural resources in pursuit of realizing enhanced farm profitability and productivity. I on my behalf and on behalf of the ICAR and NAAS invite all concerned to actively participate in this important event and make it a success.



(Mangala Rai)

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Conservation Agriculture

Innovations for Improving Efficiency, Equity and Environment

4-7 February 2009, New Delhi, India

For further information please visit
www.icar.org.in/wccagri/index/html
www.wccagri.ernet.in



WORKSHOPS, MEETINGS, SEMINARS, SYMPOSIA, CONFERENCES

ICAR Foundation Day: President of India remembers doyens of Green Revolution

New Delhi, 16 July 2008. The President of India, Smt Pratibha Devi Singh Patil addressed the scientists of ICAR and fondly remembered



Bharat Ratna C. Subramaniam and Late Annasaheb P. Shinde for their key role during Green Revolution. She laid the Foundation stone of a 1,200 seater capacity Auditorium in the name of Bharat Ratna C. Subramaniam, and also dedicated the Symposium Hall to the memory of Late Annasaheb P. Shinde.

Union Minister of Home, Shri Shivraj Patil, Union Minister of Finance, Shri P Chidambaram, Dr M. S. Swaminathan, Member, Rajya Sabha were present on the occasion.

In the ICAR Foundation Day address, the President said that the Foundation Day offers an opportunity to introspect and to pay homage to those who contributed to taking Indian agriculture to great heights. The ICAR has generated agricultural technologies and contributed to the Green Revolution, made agriculture more resilient against natural vagaries, and helped to ward off threats of famine. This, indeed, is commendable work. The President also flagged gender concerns in agriculture—she mentioned that women undertake approximately 65% of the farm work from planting to harvesting and post-harvest operations. She appreciated the establishment of National Research Centre on Women in Agriculture for enhancing technological empowerment of women in agriculture and allied sectors.

Shri Sharad Pawar, Minister of Agriculture and President of ICAR, welcomed the President of India and Union Home

Minister, Shri Shivraj Patil, and Union Minister of Finance, Shri P. Chidambaram. He said that ever since its establishment, the Council has continued to provide techniques and technologies for the growth and development of farming and to benefit millions of farmers in the country. Starting with a foodgrains production of about 51 million tonnes in 1950-51, nearly four-fold increase in the production has come about by the increase in productivity in last 5 decades for which our agricultural scientists also deserve compliments. Similarly, our achievements in horticulture, fisheries and livestock have placed us among the leading producers of fruits, vegetables, milk, eggs, fish etc. Although the country has made progress in the development of infrastructure, the outstanding contributions of various technologies generated in agricultural research institutions have lent strength to self-reliant food security, something that still eludes several nations of the world.

The ICAR and its scientists face the challenge of feeding a nation with a billion plus population, while sustaining the environment and ensuring higher returns for the farmer. In the entire production to consumption system, the post-harvest component, especially that of processing and product development has remained weak. Among the various options available for improving farm



productivity, production and quality, the new tools of biotechnology and other frontier sciences offer exciting opportunities for application in agriculture. Besides generating farm-friendly technologies, the Council is also making dedicated efforts to take these technologies to the farmers through a countrywide institutional network of 561 Krishi Vigyan Kendras, located in the rural districts.

Dr M.S. Swaminathan also addressed the august gathering on the occasion and remembered the significant contributions

made to Indian agriculture by Bharat Ratna C. Subramaniam and Shri Annasaheb P. Shinde.

Dr Mangala Rai (DG), ICAR, said that ICAR has played a pioneering role in ushering Green Revolution and subsequent developments in agriculture in India through its research and technology developments. It has played a major role in promoting excellence in higher education in agriculture.

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XIX meeting of the ICAR Regional Committee II

Bhubaneswar, 27 September 2008. A 2-day meeting of XIX meeting of the ICAR Regional Committee-II comprising states of Andhra Pradesh, Orissa, West Bengal and Andaman & Nicobar Islands was inaugurated by HE M.C. Bhandare, Governor of Orissa at the Orissa University of Agriculture and Technology, Bhubaneswar on 26 September 2008.

He solicited the co-operation of research scientists and developmental agencies for rehabilitation of agriculture in the flood affected areas. In view of recurrent national calamities he urged upon establishment of a National Institute on Disaster Management in the state.

Dr Mangala Rai, Secretary, DARE & DG, ICAR who was the Chairman of the ICAR Regional Committee meeting informed that this meeting is held for the first time after its reorganization. He emphasized on the problems relating to agriculture and allied sectors including the problems of soil salinity, flooding, water management, soil erosion and nutrient loss etc.

Sjt. Surendranath Naik, Minister of Agriculture, Govt. of Orissa, emphasized upon developing suitable crop varieties for handicapped ecologies and stressed upon screening of local varieties of pulses, upgradation of banana germplasm, post-harvest management of betelvine leaves and management of eriophyid mite in coconut. Sjt. Golaka Bihari Nayak, Minister, Fisheries and Animal Resource Development, Orissa, laid emphasis on fodder cultivation to enhance productivity of milk.



Dr Anisur Rahaman, Minister, Animal Resources Development, West Bengal suggested to explore the possibility of homoeo-medicine for dairy animal healthcare for promoting organic milk production.

The Technical Sessions were chaired by Dr Mangala Rai, wherein deliberations were made on the identification of research and developmental needs and formulation of strategies to solve the issues. Following action points were formulated to combat problems of coastal agriculture:

- ◆ Resistance breeding deploying salinity and submergence tolerance genes in rice.
- ◆ Emphasis on collection, multiplication, evaluation and improvement of tuber crops.
- ◆ Production of true potato seeds and thick skinned microtubers for commercial purpose.

Broad-based meet on land use planning

Nagpur, 26 July 2008. Dr Mangala Rai (Secretary, DARE and Director-General, ICAR) inaugurated a 2-day National Brainstorming Session on Land Use Planning and Policy Issues on 25 July 2008 at the National Bureau of Soil Survey and Land Use Planning (ICAR). He said that the land and land use are the most important issues confronting our country. He felt that the existing database is inadequate and it should be strengthened. He further emphasised that the prospects of integrated perspective land use planning exercises at district level must be looked at to fulfill the aspirations of



- ◆ UBKV was identified as main centre for conservation of mango germplasm and voluntary centre for underutilized crops.
- ◆ Recommendation was made for growing sunflower in flood-affected areas of Orissa.
- ◆ Large-scale cultivation of oil palm in Sunderban – Midnapore – Cuttack – Puri – Ganjam tract was suggested in view of feasibility.

Suggestions for post-flood management in Orissa

Special discussions were held on current flood position in Orissa and following suggestions were made.

- ◆ In flood hit areas, if rice rejuvenates appropriate agronomic management practices should be taken up to harvest some yield.
- ◆ A committee was constituted involving ICAR Institutes, SAUs and Government Directorates of concerned Departments to prepare a blue print on strategy for post-flood management.
- ◆ The Chairman requested NBPGR to collect germplasm of rice, which has survived such devastating flood.

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the stakeholders. The problem is that any suggested land use plan will have no sanctity in the absence of a policy and legislative framework. Dr Mangala Rai said that to attain 10 to 11% national growth rate it is imperative that agriculture must grow at least at 4% per annum. And for achieving it strong land use policies and clear cut land use planning are required. Dr Rai also mentioned that the conversion of good quality of agricultural land to other non-agricultural purpose has been compensated by increasing cultivation in the forest areas and other terrain which were unused till now. As a matter of fact, if the net sown area has not decreased much, it is possibly because of the marginal lands being brought under the plough.

The meeting was divided in three sessions, viz. Land Use Scenario in India, Land Use Policy Issues, and Land Use Planning: Methodologies and Applications.

Prominent dignitaries that participated in the meeting were from the ICAR, SAUs, Western Orissa Development Council, Planning Commission, Department of Science and Technology, New Delhi, Forest Survey of India, Dehradun, Department of Urban Planning, School of Planning and Architecture, New Delhi, State Land Use Board, Lucknow, Western Coalfields Limited, Nagpur, National Highway Authority of India, Nagpur, Environmental Science and Engineering, Indian School of Mines (ISM), Dhanbad, Jharkhand, National Remote Sensing Agency, Hyderabad, National Environmental and Engineering Research Institute, Nagpur and Law Faculty, RTM Nagpur University. Shri Sharad Joshi, MP, Rajya Sabha and Shir Sudhir Bhargava, Member, GB, ICAR, also presented their views.

The deliberations of this national meet will be the basis of a road map being prepared by the Indian Council of Agricultural Research for perspective land use planning.

Recommendations

- ◆ Need for convergence of these database on a common platform (scale and projection).
- ◆ Strong working linkage between organizations generating data and a strong awareness campaign needed for the potential of data/information generated from different sources.
- ◆ Land Use Planning (LUP) must integrate agriculture, horticulture, animal husbandry, fisheries, forestry, etc. and also address the issues of climate change through different systems. Set up a mechanism to link carbon credits with incentives to make it remunerative.
- ◆ Land revenue records need to be resurveyed, reclassified and updated.
- ◆ A price support mechanism should be developed for agro-forestry products. A marketing policy also needs to be developed for this important sector. Policy amendments must for mandatory purchase of agro-forestry based raw material for industry.
- ◆ Diversifications suggested in Land Use Plans must evaluate the issue of economic gains vs. food security of the country and should be in tune with food and food and commodity targets. The District Agriculture Plans should be implemented through scientific land use planning using participatory approach.
- ◆ Develop a long term perspective plan on type of land to be allocated for urbanization/industrialization in various regions.
- ◆ There is a strong need of Decision Support System (DSS), which provides answers to where, how, when and what crops are to be grown linked with employment opportunities.
- ◆ The proposed methodology for district level land use planning being implemented through a National network project by the NBSS&LUP should be carried out as soon as soil map and other interpretative maps of any new area are made available.
- ◆ There is a need for proper integration for a holistic outlook and creation of homogenous drought management units for action plans, supported by policy instruments.
- ◆ As soon as possible after mining, progressive rehabilitation practices should be used to enable the land to return to a productive use .
- ◆ Revitalize the “National Land Use and Wasteland Development Council” and use it for providing effective functioning policy guidelines to the State Land Use Boards for implementation of land use policy in the respective state.
- ◆ An integrated land use policy with proper legislative framework should be made available for the country, and implemented.
- ◆ Land use, now is a matter of national concern, hence, there is a need to amend the constitution transferring the subject from State List to the Concurrent List. In view of WTO Agreements the forthcoming implications need to be considered in formulating land use plans and policies.

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New initiatives for *zamin-kand* (*Amorphophallus*) production

Patna, 20 July 2008. His Excellency the Governor of Bihar Shri R L Bhatia inaugurated the national seminar on *Amorphophallus*: Innovative Technologies on 19 July 2008 at Patna. He stressed on the need of scientists interacting with farmers so as to understand their problems and suggest suitable mitigation technologies. He also advised

to transfer suitable innovative technologies to the farming communities to increase the productivity of *zamin-kand* (*Amorphophallus*) and thereby the rural prosperity.

Dr H.P. Singh (Deputy Director-General, Horticulture), presided over the seminar and appraised that the seminar

was aimed on identifying innovative technologies developed and to disseminate to the farming community for increasing production. He focused on nutritive, medicinal and food values of *Amorphophallus*. There were seven different technical sessions, viz. current status, biodiversity and crop improvement, production technology, pest management, utilization and post-harvest technology, transfer of technology and crop promotion, and an interactive open forum with farmers and scientists.

The Gajendra *Amorphophallus* developed under the AICRP on Tuber Crops has shown production between 30 and 60 tonnes/ha in 19 states of India. An exhibition on *Amorpho-phallus* and its products was also organized as a part of the seminar. In the plenary session, future line of research and

extension activities were deliberated and arrived at under the Chairmanship of Dr H.P. Singh.

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Harvest and post-harvest technology for tuna

Cochin, 24 July 2008. Dr K Devadasan Director, CMFRI, inaugurated the seminar on Harvest and Post-harvest Technology for Tuna, organized by Society of Fisheries Technologists (India). The seminar focussed on biology and distribution of tunas in Indian seas, current status of assessment of tuna stocks, harvest technologies and by catch issues, product development and quality issues, special aspects pertaining to production of *sashimi* grade tuna, market development and expansion, economics of tuna long lining and status of management and conservation of tunas.

There were two technical sessions, viz. Resources and Harvest Technology, and Post-harvest Technology and Marketing.

Recommendations

- ◆ For sustainable management of highly migratory species like tuna that extend beyond the confines of EEZs, it is necessary to participate in the regional management

framework and work in close collaboration with Regional Fisheries Management Organization (RFMO), viz. Indian Ocean Tuna Commission (IOTC).

- ◆ Indigenous capacity and expertise for the training personnel may be enhanced.
- ◆ Training in harvesting and specialized handling techniques for *sashimi* grade tuna, and production of value-added products.
- ◆ Knowledge on migratory pattern, spatial distribution and abundance of tuna stocks in Indian waters and impact of climatic change may be strengthened.
- ◆ Mothership-catcher boats concept may be implemented for cost-effective harvesting of tuna from Lakshadweep Islands, Andamans and other tuna fishing areas.

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Group Workers' Meeting on Subtropical Fruits



Fruits, organized by the Central Institute for Subtropical Horticulture, on 29 June 2008 at CISH.

Dr H.P. Singh in his inaugural address complemented the progress made under this project and further emphasized the need to re-look into the research programmes in present day context. On this occasion, *Commercialization of CISH Technologies*, *Udhyan Rashmi* (Hindi) and *CISH Newsletter* were released. The new mango variety Arunia (Amapali x Vanraj) having deep red peel, good quality with high carotenoid content, high yield with longer shelf life, was

Lucknow, 2 July 2008. Dr H.P. Singh (DDG, Horticulture) inaugurated XVIIIth Group Workers' Meeting of AICRP on Sub-tropical

also released for commercial cultivation. Newly developed hybrids, viz. Ambika (Amapali x Janardan Pasand), CISH-M-2 (Dashhari x Chausa) and H 949 (Amapali x Vanraj) also attracted the participants.

The progress of different centres was reviewed thoroughly, and the new technical programme for the next two years was finalized. The following technical sessions were held:

- (i) management of genetic resources and varietal improvement,
- (ii) propagation, rootstocks, planting density, training and pruning,
- (iii) agro-techniques, (iv) use of bio-regulators to increase productivity and quality of fruits, (v) insect pest management, (vi) disease management, and (vii) achievements of adhoc-scheme.

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Partnership beyond commercialization

New Delhi, 17 July 2008. The second ICAR-Industry Interface was held on 17 July 2008 at NASC Complex, New Delhi. The interface was jointly chaired by Dr Mangala Rai, Secretary, DARE & Director-General, ICAR, and Dr Amit Mitra, Secretary General, FICCI, and was attended by ICAR officers, FICCI, CII, ASSOCHAM and representatives of member industries.

Dr Mangala Rai, in his opening remarks, presented a vision of partnership between agriculture and industry to put Indian Agriculture on an accelerated growth trajectory to meet the requirements of the country and of the other needy nations. He indicated that a weak linkage of Indian Agricultural Research System with Indian Industry in the past has greatly constrained the growth of Indian agriculture. He hoped that the ICAR-Industry linkages would go beyond the limited issues of commercialization of ICAR technologies, and encompass the entire domain of making appropriate technology available for Indian agriculture and for the whole developing world.

Dr Amit Mitra indicated that the Indian industry was indeed unprepared as of now to take up the whole range of challenges of Indian agriculture. Indian industry in general and FICCI in particular would need more



Research–civil society interface

Mathura, 31 July 2008. An Interface Meet of the Scientist-Panchayat Institution-NGOs-SHG-Development Officers was organized at the Central Institute for Research on Goats, Makhdoom, to apprise regarding available technological options related to goat production. Village Pradhans, progressive farmers of Farah block, representatives of self-help groups (SHGs) from Farah and Bharatpur (Rajasthan) and NGOs working on goat rearing projects, bankers, development officers, SMS from KVK and scientists participated.

An NGO's representative shared his experiences on goat farming with the participants and proposed to strengthen the linkages between Lupin Foundation and the CIRG to carry out goat production and improvement programme in a big way in the operational area.

Different credit schemes for individual farmers and SHGs for taking up goat rearing activity and benefits of livestock insurance were discussed in detail. On this occasion

presentations were made on 'Improved breeding and reproduction in goats', 'Disease prevention and health management in goats', and 'Economics and efficient marketing of goats'. It was particularly emphasized to produce as per the market demand.

The farmers and other stakeholders showed real interest to promote improved goat rearing as an enterprise. On scientists' suggestion, the Block Pramukh and Gram Pradhans resolved that they would bring such resolution in their Gram Shabha and Block Development Council that only recommended pure breed males (buck) and bulls (buffalo and cow) should be reared and used for breeding purpose by the farmers. They also showed willingness to insure their livestock.

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time to come up with proposals and mechanisms for linkages with agricultural research. He concurred with Dr Mangala Rai in terms of the need for comprehensive co-operation between agricultural research and industry for the transformation of Indian agriculture. He outlined the mechanism of technology evaluation with listing of potential benefits before looking for potential markets, clients, competitors and intellectual property acquisition.

Dr Nirankar Saxena, FICCI, explained the technology commercialization programme in detail. Shri Abhiram Seth, CII, stressed the need for linking the production activities with consumption geographically under the present paradigm of spiraling energy costs to minimize transportation as well as processing requirements.

Dr S. Ayyappan, DDG (Fisheries), ICAR, presented the major recommendations of the First ICAR-Industry Meet held during January 2006 and subsequent progress made by the ICAR in the domain of Intellectual Property Management and technology commercialization. A flavour of the ICAR technologies available for commercialization was presented by the Deputy Directors-General of Crop Sciences, Horticulture, Animal Sciences, Fisheries, Natural Resource Management and Engineering.

Based on the various presentations and deliberations, the following points emerged for suitable action.

- ◆ A standing committee for Co-ordination between ICAR and Industry may be constituted that could meet at least twice a year.
- ◆ The needs for skill development for the industry may be worked out and appropriate measures taken to meet the requirement.
- ◆ The R & D infrastructure in public sector could be accessed by the industry for mutual benefits.
- ◆ ICAR and Industry could form a continuum for technological development and transfer with more effective utilization of resources.
- ◆ The R & D programmes of the ICAR may keep the goal of business development upon completion of the R & D activities.
- ◆ Adequate infrastructure needs to be set up in the production catchments and beyond for minimizing the post-harvest losses and adding value.

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Livestock genomics for productivity increase

New Delhi, 4 July 2008. Inaugurating a 2-day National Symposium on Livestock Genomics for productivity increase, Dr Mangala Rai (Director-General, ICAR) said that the topic chosen for



the Symposium is apt and timely as India is making continuous efforts to increase productivity of its livestock. Although genomic tools have come up as one of the very promising means to increase breed productivity, the overall performance of the livestock population has to be seen from the point of view of feed resource availability. A specific programme on accessing fodder seeds therefore needs to be taken up. He further said that as genes do not have any species specific barrier, application of its tools in animals need not to be seen in isolation. Any success story on engineering the genes in animals is worth trying and retrying in achieving the target in animal production improvement. Considering the importance of sequencing buffalo genome, the Council has already cleared a project on buffalo genomics to be operated by the NBAGR and CIRB on Network mode. Presiding over the function, Dr K.M. Bujarbaruah, DDG (Animal Sciences) emphasized the need on a better cohesion and understanding between the animal breeders and the geneticists, so that the discipline could achieve the animal population with higher productivity and better disease resistance. Dr Bujarbaruah also said that among other viable options in biotechnology sector area having very high prospects is the identification of QTLs for disease resistance.

Dr P.N. Bhat, Patron of the Society, advocated that whole animal cloning should also be used in conjunction with genomics to rapidly achieve the goals. Dr T.J.



Rasool (Assistant Director-General, AP&B) introduced the theme of the National Symposium and focused on developing a road map for using molecular tools in enhancing livestock productivity. He also suggested that India should be a partner in the International Consortium not only to share the knowledge but also to harness the benefits.

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Diagnostics and vaccines for blue tongue disease

Mukteshwar, 19 August 2008. The Annual Scientists' Meet of the "Network Programme on Blue Tongue" was held during 18-19 August 2008 at the IVRI Campus, Mukteshwar, to review the progress of all the centres for 2007-08.

Inactivated pentavalent vaccine using BTV-1,2, 15, 18 and 23 developed earlier under the project has been validated under field condition. It was quite effective in providing protection. A VP7 gene recombinant antigen based indirect ELISA diagnostic kit has been developed indigenously for the detection of group specific BT antibodies in sera samples, and was comparable to the imported kit being used till now, thus reducing the cost of import of the kit.

BT isolates originated from different parts of the country were catalogued. Phylogenetic studies of Indian isolates of BT virus clearly indicate its close relation to Australian isolates rather than South African isolates.

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Conservation and use of farm animal and microbial genomic resources

New Delhi, 29 August 2008. A 2-day Interactive meet on Conservation and Use of Farm Animal and Microbial Genomic Resources, was inaugurated at NASC Complex. Genomic resources and associated microbes are getting global attention in revolutionizing the livestock sector. With the increasing knowledge on genes and its organization with advanced research tools, these genetic identities need to be characterized and catalogued, as these are also important in the context of WTO regime. The purpose of the meet is to develop a national strategy on conservation and utilization of animal and animal genomic resources, identify partners/institutions to work in the area and also to deliberate on modalities to develop gene banks for veterinary pathogens, rumen microbes etc., so that an information and material storehouse could be put in place for resource sharing and updating. Important issues were discussed in three sessions — Farm animal genetic resources, Veterinary pathogens, and Dairy microbes.

Shri Sompal, formerly Minister of State for Agriculture, GoI and Dr Pradeep Kumar, Secretary DAHD&F, GoI were the Guests of Honour, and Dr Mangala Rai (Secretary, DARE and DG, ICAR) presided over the inaugural session.

Recommendations

- ◆ Inventorization and categorization of AnGR on the basis of option value and formation of breed societies.
- ◆ NBAGR to develop linkages with species institutes for *ex-situ* conservation of gametes and embryo. Somatic cells and DNA conservation to be done by the NBAGR
- ◆ Land use policy/reservation may be reviewed involving all stakeholders like forest, railway, agriculture and AH department.
- ◆ On the lines of PPVFRA, an act as PABAKRA (Protection of Animal Breeds and Animal Keepers Rights Act) may be pursued for approval of the Government

- ◆ A Central technical body headed by an expert may be constituted to plan and monitor AnGR related issues including maintenance of referral populations/economic evaluation of AnGR/harmonization of existing programmes
- ◆ Considering the importance of Veterinary pathogens, Dairy and rumen microbes, it was recommended to grant independent status to Veterinary Type culture (VTC) in the form of Indian Veterinary Type Centre with two co-ordinating units at NDRI, Karnal for Dairy Microbes and the other at the NIANP for Rumen Microbes for which resource provisioning needs to be included in VTC EFC.
- ◆ Development of Protocols for microbes/pathogens concerning collection, identification, preservation, transport and post-conservation assessment.

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Research and Extension Specialists Workshop for Horticultural Crops

Ludhiana, 29 July 2008. The Vice-Chancellor, Dr Manjit Singh Kang, inaugurated a two-day Research and Extension Specialists Workshop for Horticultural



Crops at the PAU and said that the diversity of ecological and soil characteristics make it possible for Punjab to grow a wide range of horticultural crops. Biotic stresses are hindering productivity in mango (malformation, alternate bearing), stone fruits like plum, peach (gummosis, flat headed borer, root-knot nematode) and guava (wilt). He told that PAU had taken a lead in hybrid development in vegetables, e.g. tomato, muskmelon, brinjal and chilli, and

that necessary training is being imparted to growers for production of hybrid seeds.

Dr Baldev Singh (Director of Horticulture), spoke on 'Targets, productions and problems in fruits, vegetables and flowers', and stressed on the need for hybrid varieties of different vegetables, organic farming and eco-friendly production technologies for these horticultural crops in Punjab. He added that there are six fruit processing laboratories in the state with a processing potential of 80,000 kg.

Dr P.S. Minhas, Director of Research, said that agri-business and agri-processing with enhanced participation of private sector would help achieve second Green Revolution. An exhibition projecting recent technologies of the PAU for fruits, vegetables, flowers, post-harvest management, farm machinery for horticultural crops, mushrooms etc. was organized.

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Sanitary and Phytosanitary Workshop

New Delhi, 23 July 2008. Second SPS Workshop relating to plant produce was organized during 22-23 July 2008 at New Delhi, under the auspice of Indo-US Agricultural Knowledge Initiative. Ms Roxana Henderson from the USDA, Washington DC and Dr R K Khetrpal from NBPGR, New Delhi, were the co-ordinators of the workshop. There were 16 presentations from both the Indian and US sides followed by active discussion. Case studies of Pest Risk Assessment studies from different countries were discussed along with the issues related to WTO, International Plant Protection Convention, American Regulatory System for import/ export of agricultural commodities, Indian SPS framework, and commercial-legal requirements.

Some important recommendations include:

- ◆ Development of a sufficiently large group of professionals on food safety issues including those of SPS and TBT related to agricultural trade.
- ◆ A structured research and development programme on food safety in the country to generate relevant science based knowledge.
- ◆ Effective linkages among the concerned arms of the Government and private sector are essential to be as effective as the systems in the USA, EU or other developed nations.
- ◆ Proactive, rapid and responsive risk assessment, management and communication to the emergencies to save people and trade.

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Annual Group Meeting of AICRP on Rapeseed-Mustard

Bhubaneswar, 9 August 2008. The Fifteenth Annual Group Meeting of AICRP on Rapeseed-Mustard, organised by NRCRM, Bharatpur, was held at the Orissa University of Agriculture and Technology, Bhubaneswar (Orissa) from 7 to 9 August 2008.

His Excellency, the Governor of Orissa, Sh Murlidhar C. Bhandare, Chief Guest, in his inaugural address mentioned that mustard greens are rich source of vitamins A, C and E, and mustard oil has the best fatty acid ratio. He expressed his unhappiness over the low productivity of rapeseed-mustard in Orissa. The urgent need for popularization of proven technology for augmenting the production and productivity of this group of crops particularly in the Orissa, is needed considering the very low productivity level. It was also desired that this group meeting should contemplate intense discussion on various limiting factors and on threats that rapeseed-mustard crop face particularly due to climatic change, biotic and abiotic stresses among others.

The special guest of the function, Dr P.L. Gautam, DDG (Crop Sciences), ICAR, addressed the house and remarked that beginning of All-India Co-ordinated Research Project in 1957 was a landmark development in Agricultural Research in India. Up to 1967, only 26 improved varieties were released, while thereafter release of 152 improved varieties of rapeseed-mustard signifies the contribution of co-ordinated research work carried out since then. Dr P.L. Gautam flagged certain issues like development of varieties possessing resistance to biotic and abiotic stresses, especially drought, thermo-tolerance and frost tolerance; systematic seed production system for ensuring adequate quantity of good quality seed of candidate varieties; management of marketing interventions; registration of valuable germplasm with NBPGR and released varieties under PPV&FRA; and patenting of significant technologies that need to be addressed adequately. He also underlined

Measures to enhance quality and relevance of higher education

Pantnagar, 3 September 2008. North Zone Vice-Chancellors' Meet was inaugurated at the GBPUAT, Pantnagar, by the Chief Guest Dr S.P. Tiwari, Deputy Director-General (Education), ICAR. He emphasized upon the use of innovative techniques in higher education in this era of information



the need for more judicious testing for the development of improved varieties and technologies, meticulous reporting and rigorous monitoring for securing better results and reorientation of research under changed climatic scenario.

Dr D. P. Ray, Vice-Chancellor, OUAT, Bhubaneswar, in his address, said that two varieties of *toria* (Parbati and Anuradha) developed by this University were registered, and have received wide acceptance covering around 60% area of rapeseed-mustard in Orissa. In Orissa, the average productivity is considerably low. The FLDs conducted on *toria* have shown a yield gap of 138%. Thus, there is ample scope for enhancing the production and productivity in the state. He indicated that instability in production and low oil content are the major constraints. Therefore, technological development should go in a befitting manner for the benefit of farming community.

Dr Arvind Kumar, Director, NRCRM, Bharatpur, presented the research highlights of AICRP-RM for the year 2007-08. He reported that two strains of mustard, viz. Divya (INGR No. 08028) and NRCDR 515 (INGR No. 08029) were registered with the NBPGR, New Delhi. He also presented the identified donors of drought, earliness, high oil content, salinity / alkalinity, high temperature tolerance at seedling and terminal stages and different diseases, viz. *Sclerotinia* rot (EC 552580). It was mentioned that 30 CMS-based hybrids were evaluated in IHT / AHT during this year. Against the indent of 104.09 q of breeder's seed, 141.38 q breeder's seed was produced. During 2007-08, seasonal conditions were in general unfavourable due to wide spread occurrence of frost and inadequate rainfall in major mustard -growing areas in rainy season resulting in reduction in acreage and production.

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technology. Dr Tiwari desired that the universities should produce graduates with knowledge and skill and who have vision too. DDG (Education) also told about starting a new programme of experiential learning in agricultural universities.

Dr B.S. Bisht (VC, GBPUAT, Pantnagar) informed that distance education, dual-university degree programmes, overseas

campuses, international faculty engagement, etc. will be the new initiatives in the times to come.

Dr V. Hanumayya, VC, Baba Saheb Bheem Rao Ambedkar University, Lakhnow, emphasized upon the need of increasing enrolment of students in higher education and improving quality of education as well as infrastructural facilities. Dr S.P. Mishra VC, Sanskrit Vishwavidyalaya, Hardwar, advocated for private sector participation in higher education as in professional education.

The major theme of discussion was "Innovations in Higher Education". The meet was divided into different sub-thematic areas, viz. quality assurance, experiential learning, distance education, e-learning and capacity building, which were discussed in different technical sessions.

Recommendations

- ◆ A combination of traditional experiential learning approach need to be introduced in higher education system.
- ◆ End-to-end pilot plant projects run by the students under the guidance of faculty should be launched.
- ◆ Teachers' capacity building through training and development of skills, including motivational skills, through participation.
- ◆ A mechanism should be developed for monitoring quality of distance- and e-learning programmes.
- ◆ The institutions should identify gaps in their system and structure their activities accordingly.
- ◆ In selection and promotion the teaching and capacity building record of the candidates should also be considered along with research publications.
- ◆ Evaluation of HRD requirement and preparedness to meet them.
- ◆ Creation of database of status and resource allocation to education in different Five Year Plans by the universities.
- ◆ Review of syllabus every three to five years.
- ◆ Constitution of an autonomous education commission consisting of academicians only for ensuring autonomy of the university.

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SAARC meet on 'Operationalization of Milk Grid'

Kolkata, 20 September 2008. National Centre for Agricultural Economics and Policy Research organized a consultation meet with the policy advisors, and representatives of private sector and dairy co-operatives from SAARC (South Asia Association of Regional Cooperation) countries to develop modalities for establishing regional or sub-regional milk grid during 19-20 September 2008 in Kolkata. The purpose was to transfer milk or milk products from surplus regions to deficit regions. Delegates from Bangladesh, Bhutan, India, Nepal, Pakistan and Sri Lanka attended the meeting. The meeting was inaugurated by Mr D.K. Chakravatri, Principal Secretary (Agriculture and Rural Development), Government of West Bengal, India. He suggested for adopting an integrated approach to address all milk and dairy industry related issues. Mr Sanjeev Chopra, Principal Secretary (Agriculture), Government of West Bengal, welcomed the participants and gave an overview and context of convening the first-ever Meeting on SAARC with private sector. Dr P.K. Joshi, Director, National Centre for Agricultural Economics and Policy Research (NCAP), New Delhi, dwelt on the genesis and evolution of the concept, dating back to 2000 when proposal for the SAARC Quadrangle Milk Grid. He elaborated on various aspects of regional co-operation with a view to processing milk into high value-added milk products and marketing these products across the region. Mr M. Riaz Hamidullah, Director, SAARC Secretariat thanked the Government of India for holding the Meeting. He also recalled the emphasis placed by the Fifteenth SAARC Summit, especially issuance of the Colombo Statement on Food Security, wherein institution of the SAARC Milk Grid could

play an important role in ensuring nutrition security for the region's people.

The deliberations were chaired by Mr. Dilip Rath, Joint Secretary (Animal Husbandry and Dairy), Government of India. The meeting concluded that the spectrum of Milk Grid is to be expanded in future, covering inter alia feed, fodder, exchange of live animals, germplasm, vaccines, medicines, technology and dairy equipment/machinery. It was decided that in order to harmonize standards related to milk and milk products to ensure quality, safety and hygiene measures/standards, SAARC Regional Standards Organization (SARSO) may formulate appropriate guidelines/standards to facilitate institution of accreditation, laboratory and standards in each SAARC Member State. It was suggested that to pilot a sub-regional project by developing facilities in bordering India, Bangladesh, Bhutan and Nepal may be launched after conducting a joint feasibility study.

The meeting also decided to document the existing trading regime, e.g. the documents and procedures to comply with in case of importation of dairy products and materials, and undertake a broad assessment of consumer preferences across the Member States for better understanding of the regional market. It was also decided for creation of a knowledge network, involving all stakeholders, e.g. producers, co-operatives, trade bodies, consumer groups, manufacturer of dairy related equipment.

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Sharing knowledge on poultry production

Hyderabad, 25 July 2008. The Andhra Pradesh chapter of Indian Poultry Science Association (IPSA) in collaboration with PD on Poultry, Hyderabad, organized a Technical Seminar at the Project Directorate on Poultry, Rajendranagar on 25 July 2008 with the overall objective to promote, advance and update knowledge of all aspects of poultry science.

Three presentations were made during the technical session. Dr J.M. Kataria, Director, National Institute of Animal Health, Government of India made a presentation on "Diagnosis of important viral disease of chickens and ducks". He also provided latest information on epidemiology of Avian Influenza (Bird Flu), and how to tackle the same. Dr P.K. Shukla, Joint Commissioner (Poultry), DAHD, Government of India, gave a brief on "Policy initiatives

for sustainable poultry production in India", where he emphasized the requirement of certain key initiatives like predicting growth and market demands, production and marketing infrastructure, increasing breeding capabilities and conservation of native germplasm, maintaining health and biosecurity, quality control standards for poultry products, including environment and welfare issues. He also mentioned about the Government initiatives for National Livestock Policy including poultry at par with agriculture. Mr M. Soundarajan, MD, Suguna Poultry delivered a lecture on "Opportunities and Challenges in Poultry Industry" in which he stressed on fulfilling challenges like good infrastructure, raw materials, sales with value-addition, etc.

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Role of Bioinformatics in Biological Research

Izatnagar, 28 August 2008. A National workshop-cum-training programme during "Bioinformatics" was organised on 26–28 August 2008 at the Bioinformatics Centre (DISC), IVRI, Izatnagar.

Inaugurating the workshop, Dr R M Acharya, former Deputy Director-General (Animal Sciences), ICAR, New Delhi, stressed the vital role of bioinformatics in biological research. He further informed that research in genomics, proteomics, drug designing, etc. involve large amount of information, which demands computational techniques, statistical tools and other related databases for managing and analysis of information, to solve complex biological problems.

Delivering the Presidential address, Dr S P S Ahlawat, Director, IVRI, stressed the need to develop e-learning, e-extension, e-nutrition, e-livestock farming, health coverage, etc. which may provide accurate data-based statistics about the livestock population, diseases and other livestock related information.



Dr Rajendra Singh, Course Director of the workshop briefed about the workshop-cum-training programme and emphasized about the development of newer statistical techniques, algorithms, etc. to provide viable solutions to problems posed by new central dogma of biology.

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Mycotoxicosis in livestock and poultry

Izatnagar, 11 July 2008. A two-day National Seminar-cum-Workshop on "Current Status, Diagnosis and Management of Mycotoxicosis in Livestock and Poultry" was held on 10–11 July 2008 at Indian Veterinary Research Institute, Izatnagar.

In his address Dr R B Singh, the Chief Guest, formerly Chairman, ASRB, stated that in the coming years, livestock production will be the most important agricultural sector in terms of added value. The combination of higher demand, more people and less space is leading rapidly to a global transformation of the livestock sector.

In his Presidential address, Dr S P S Ahlawat, Director, IVRI, stated that mycotoxicosis is of high economic importance since almost all species of animals and birds are affected, besides human beings. He also hoped that the

recommendations emerging out of the discussions will form guidelines in dealing with mycotoxicosis at national level.

While speaking as Guest of Honour, Dr W S Lakra, Director, NBFGR, Lucknow, emphasized on the problem of aflatoxicosis in fishes such as, rainbow trout. The other Guest of Honour, Prof. N.S. Agar, University of Sydney, Australia, stressed on the significance of practical training, assignments and group discussions in the teaching methodology.

Dr R. Somvanshi, Chairman of the organising committee highlighted the objectives of the National seminar-cum-workshop. The special feature of this seminar was Farmers' Forum which was attended by more than 50 farmers from Bareilly district.

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Gender analysis and its application in sustainable rural livelihood security

Bhubaneswar, 7 September 2008. A three-day Training-cum-workshop on “Gender analysis and its application in sustainable rural livelihood security” was organized on 5–7 September 2008 at the National Research Centre for Women in Agriculture, Bhubaneswar, with support from International Rice Research Institute (IRRI), Manila, under IFAD grant facility.

Dr P Das, Deputy Director-General (Agric. Extn.), ICAR, presided over the inaugural session and Dr Mruthyunjaya, National Director (NAIP) was the chief guest on the occasion. Dr Thelma Paris, Gender Expert at International Rice Research Institute (IRRI), was the key facilitator for the programme.

Dr Mruthyunjaya, emphasized the need for incorporating gender issues in livelihood security sub-projects under Component-3. Dr P Das, suggested that, rather than focusing on narrow domains like small enterprises development, our approach should encompass a broader perspective incorporating issues like vulnerability to solve the problem of livelihood insecurity among poor and marginal sections. The

programme consisted of three technical sessions related to different theme areas of livelihood project and field exercises to identify gender issues and gender based interventions. Some of the recommendations that emerged were:

- ◆ Need for strengthening the multi-disciplinary team work for livelihood research.
- ◆ Need for scientists across disciplines to inculcate gender perspective in the research work.
- ◆ More number of gender sensitization programmes for scientists and collaborative actions.
- ◆ A system approach in planning and implementation of interventions to create a wider impact of the project and develop some models, which could be replicable elsewhere.

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Krishak Samman Samaroh

Jhansi, 2 September 2008. All India Radio, Jhansi with the cooperation of NRCAF organized Krishak Samman Samaroh, Bundelkhand region on 2 September 2008 at the NRCAF, Jhansi. *Krishak Samman Patra* was given to the progressive farmers by the Chairman Dr S K Dhyani, Director, NRC on Agroforestry, Jhansi.



The selected farmers have adopted agroforestry land use and diversified agriculture to reap benefit from farming through reduction in the cost of cultivation, checking pollution and adoption of cutting edge technology in tandem with market demand.

The farmers were selected through a survey of *Kisan Shrota evam Anusandhan Ikai*, Directorate of All-India Radio, New Delhi.

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Idea generation in aquaculture biotechnology

Mumbai, 29 August 2008. The CIFE, Mumbai, organized a two-day workshop on “Idea Generation in Aquaculture Biotechnology”, sponsored by Department of Biotechnology, Government of India during 28-29 August 2008. The workshop had the immediate objective of identifying significant researchable issues and define infrastructure, and collaborative programme needs and a long-term perspective of translating some of the viable technologies into commercial reality. The workshop was structured into work group discussions to generate ideas and open house discussion to fine-tune the ideas generated. Thirty-one ideas were generated in different aspects of aquaculture biotechnology which will be made available to research scientists, students, managers and administrators from academia and government, and also to the representatives of aquaculture industry for future action.

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Animal scientists meet on climate change and Indian livestock

Karnal, 21 September 2008. An interactive workshop on Climate change and Indian livestock was held under the chairmanship of Dr K M Bujarbaruah, Dy. Director General (AS) at National Dairy Research Institute, Karnal from 20–21, September 2008 to discuss the GHG mitigation plans and facilitation measures for livestock to adopt to impending climate change. Following recommendations were arrived at:

- ◆ All species institutes of Animal Science division of ICAR shall develop a species/location/altitude specific THI parameter and also attempt to bring in awareness among the line department officers, NGOs and livestock keepers on the likely impact of climate change on Indian livestock.
- ◆ Methane production under different feeding systems shall be assessed using a common protocol in all the Network Centres.
- ◆ Quantification of Methane from different feed resources and feed combination to be developed using *in vitro* gas production technique in the network centres.
- ◆ Research on manipulation of methanogenic archaea and metagenomics is to be strengthened in NIANP and IVRI.
- ◆ Allele mining in various species like cattle, buffalo, goat and sheep by sourcing animals from different agro-climatic zones–
 - Southern India–NIANP, TANVASU



- North-eastern India–AAU and NRC- Pigs
- Northern India–NBAGR, NDRI, CIRG, CSWRI
- Western India–AAU, Anand
- ◆ Documentation of stress related phenotypic characterization at NRC-Camel and NRC-Yak
- ◆ Designing shelters for different species and climate zones using cost-effective and eco-friendly materials with expertise from NDRI, CIRG and CSWRI.
- ◆ Animal waste management and carbon trading at NDRI, IVRI, CIRB and CARI.

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Pig Seed Project Launched

Guwahati, 14 August 2008. ICAR over the years has developed/screened suitable varieties of pigs for different regions through its institutes and AICRP Centres. In an effort to produce the seed of these varieties for the benefit of pig growers, a pig seed production project was launched at the NRC Pig, Guwahati, on 14 August 2008, where the identified centres, viz. ICAR Research Complex, Nagaland Centre; Assam Agricultural University, Khanapara; Birs Agricultural University, Ranchi and the State Veterinary Department, Mizoram participated. Launching the programme, Dr K M Bujarbaruah, DDG (AS) apprised the participating centres about the programme detailing the time frame for its completion. In addition to the pig seed programme, two new AICRP Centres at Central Agricultural University, Aizwal and Nagaland University, Medziphema were also launched.

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Farm Mechanization for Small Holder Agriculture: SAARC Regional Workshop



Bhopal, 24 September 2008. Dr Anwar Alam (Vice-Chancellor, SKUAST, Srinagar) inaugurated a 3-day Regional Workshop on Farm Mechanization for Small Holder Agriculture in SAARC Countries at the Central Institute of Agricultural Engineering, Bhopal, Madhya Pradesh on 22 September 2008. The workshop, organized in collaboration with South Asia Association for Regional Cooperation (SAARC) Agricultural Center, Dhaka, Bangladesh, aimed at documenting the status of smallholder farm mechanization in the member countries and identifying the feasible areas of collaborative programmes and activities to address the relevant problems and issues. The workshop was attended by the representatives of Bangladesh, Bhutan, India, Nepal and Sri Lanka.

Dr Nawab Ali, DDG (Engg), ICAR, chaired the inaugural session. The workshop deliberated on agricultural mechanization research, development and technology transfer in the member countries; policies and extension programmes; and specific issues on smallholder farm mechanization. The participants visited CFMTTI, Budni and an exhibition on modern farm machines.

Recommendations

Exchange of technology, prototypes, and experts among SAARC countries should be done and a system for harmonized testing of agricultural machinery should be developed among member countries so that a machine tested in one member country is acceptable in other member country when imported or exported.

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Universities sign MoU for collaborative research

Jalgaon. Memorandum of Understanding of the following Universities was signed with Jain Irrigation Systems Ltd., Jalgaon, Maharashtra, for collaborative research and field training.

- ◆ Anand Agricultural University, Anand
- ◆ Birsa Agricultural University, Ranchi
- ◆ CS Azad University of Agriculture and Technology, Kanpur
- ◆ Devi Ahilya University, Indore
- ◆ Dr YS Parmar University of Agriculture and Forestry, Solan

High Level Committee meets for Establishment of National Knowledge Network

New Delhi, 12 July 2008. The 2nd Meeting of the High Level Committee (HLC) was held in New Delhi. Secretary, Department of Information Technology said that on the recommendations of the HLC in its first meeting, Technical Advisory Committee was constituted to work out the architectural design and other technical details of the National Knowledge Network (NKN). He appreciated the work of the Technical Advisory Committee during this period and mentioned that they have produced a Design Document of the NKN, which would be presented during the current meeting.

Dr R. Chidambaram (Principal Scientific Adviser to the Government of India (PSA) and Chairman of the HLC thanked all the members of Technical Advisory Committee for their excellent effort in the preparation of the design document in such a short period.

Prof. S.V. Raghavan (Chairman, Technical Advisory Committee) emphasized on the design philosophy, topology, security issues, and on issues related to quality of service (QoS). It was informed that the core will be of capacity with multiples of 10 Gbps and the edges would be in multiples of 2.5 Gbps.

- ◆ Junagadh Agricultural University, Junagadh
- ◆ Maharana Pratap University of Agriculture and Technology, Udaipur
- ◆ Mahatma Phule Krishi Vidyapeeth, Rahuri
- ◆ ND University of Agriculture and Technology, Faizabad
- ◆ Navsari Agricultural University, Navsari
- ◆ North Maharashtra University, Jalgaon
- ◆ Punjab Agricultural University, Ludhiana
- ◆ Rajendra Agricultural University, Pusa, Samastipur

- ◆ Sardarkrushinagar-Dantiwada Agricultural University, Sardarkrushinagar
- ◆ Tamil Nadu Agricultural University, Coimbatore
- ◆ University of Agricultural Sciences, Dharwad

Jain Irrigation has pioneered drip irrigation for small farmers in India. They have Research and Development Farm with emphasis on Scientific Wasteland Transformation, Watershed Development, Water Management, Field Crops, Agro-forestry Crops, Horticultural Crops, Plant Protection and Environmental Protection.

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Recommendations

- ◆ Northern and Central parts of India have not been given adequate representation in identifying the Level 1 PoPs of the proposed Topology for the core backbone of the NKN. It was clarified that the proposed Topology is based on the existing PoPs of NIC and ERNET and the fibre availability with the NLDs, but that additions could be made.
- ◆ Allahabad/Lucknow/Kanpur/Patna/ Raipur/Nagpur/ Vishakhapatnam and Bhubaneshwar should be the part of the core of the NKN in the first phase itself. Accordingly the topology could be revised. The Chairman suggested that the members give suggestions within a week directly to DG (NIC) or Prof. Raghavan in this regard so that the topology could be modified suitably.

The members agreed that a policy for participation of the private institutions should be evolved.

The Chairman also suggested formation of committees, for working out use of the National Knowledge Network in various application areas. Some are as follows:

- ◆ Education: MHRD would constitute a committee

- ◆ Agriculture: Department of Agricultural Research and Education would constitute a committee
- ◆ Telemedicine: Department of Health and Family Welfare would constitute a committee
- ◆ E-Governance: DG (NIC) would constitute a committee

It was also indicated that the First area implemented on the Grid computing could be related to Climate Modelling, "Strategic Knowledge Mission for Climate Change" in the National Action Plan on Climate Change (Secretary, Department of Earth Sciences/Secretary, Department of Science and Technology would be consulted in this context).

The Secretary (Planning Commission) said that Department of Information may send a proposal for "in principle approval" of the National Knowledge Network to the Planning Commission. It was agreed that NIC could use its plan funds for upgrading the existing PoPs of NICNet and ERNET so that preparation for the establishment of NKN could be started without delay.

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ICAR Awards for Excellence in Agricultural Research

New Delhi, 16 July 2008. Union Minister for Agriculture, Consumer Affairs, Food and Public Distribution, Shri Sharad Pawar honoured 111 awardees under 12 different categories for the excellence in agricultural research at the ICAR Award 2008 ceremony. The list of awardees comprises four institutions, 103 scientists, 3 farmers and one journalist. Out of 103 scientists, there are 13 women scientists.

The Best Institution Award has gone to the Central Marine Fisheries Research Institute, Kochi. Another institution that has won the award is the Vivekananda Parvatiya Krishi Anusandhan Sansthan, Almora, Uttarakhand. Among agricultural universities, Acharya N.G. Ranga Agricultural University, Rajendra Nagar, Hyderabad has won the Best Institution Award.

Chaudhary Devi Lal Outstanding AICRP Award has been bagged by All-India Co-ordinated Research Project on Tuber Crops, Kerala with its Headquarters at Thiruvananthapuram. This AICRP has developed varieties of various tuber crops and thus alleviated problems of tuber crop growers.

Eighteen Jawaharlal Nehru Awards for outstanding Ph.D. theses are given, out of which four have gone to Young Women Scientists. There are two awardees for Panjabrao Deshmukh Women Agricultural Scientist Awards. The Vasant Rao Naik Award for Outstanding Research and Application in Dryland Farming Systems has gone to a Team of scientists at the Water Technology Centre for Eastern Region at Bhubaneswar for a technological approach to development and management of an ideal and replicable watershed in a sub-humid region.

The Team Research Award has been bagged by seven research teams in the areas of Crop Improvement, Natural Resources, Agricultural Engineering and Technology, Horticulture, Fisheries, Animal Production and Health, and Social Sciences.

The Jagjivan Ram Kisan Puruskar in Crop Production has been awarded to two farmers, one from Andhra Pradesh



and the other from Maharashtra. The N.G. Ranga Award for Diversified Agriculture has been awarded to a farmer from Andhra Pradesh.

The Fakhruddin Ali Ahmad Award for Outstanding Agricultural Research in Tribal Areas has been bagged by Scientists from NEH Region and Andaman and Nicobar Islands. The research work in the NEH region pertains to Mithun and that in Andaman and Nicobar Islands to enhancing productivity of home gardens.

The Chaudhary Charan Singh Award for Excellence in Journalism in Agricultural Research and Development has been awarded to Dr Mahendra Madhup, Editor, *Sharad Krishi* (Hindi).

The authors of five technical books in Hindi, each on Crop Science, Natural Resource Management, Horticulture, Animal Health and Animal Production have been selected for Dr Rajendra Prasad Puruskar.

Seven teachers were selected for the Bharat Ratna Dr C. Subramaniam Award in the fields of Crop Science, Resource Management, Engineering and Food Technology, Veterinary and Animal Sciences, and Social Sciences.





Shri Kantilal Bhuria, Minister of Agriculture (State), focussed on the enhancement of production of vegetables, fruits and use of modern technology so that we may get qualitative results.

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ASEAN countries should come together for enhancing the crop productivity and profitability, as we share same continent and nearly same climatic and socio-economic conditions. The representative of Ministry of External Affairs of India stressed on co-operation among co-existing countries and felt the need of *Indo-ASEAN Newsletter*, Lecture series and seminars on exchange basis. During the seminar the status of crop production and possible areas of co-operation were discussed. The deliberations formed the basis for finalization of mutually beneficial areas of co-operation in agricultural research and development.

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International Linkages

Indo-ASEAN meet on crop improvement

New Delhi, 11 September 2008. Dr Mangala Rai (Secretary, DARE and DG, ICAR) inaugurated the 2-day Expert -level seminar on Enhancement of Productivity and Profitability of Crops in India and ASEAN Countries at NASC Complex, New Delhi.

Dr Mangala Rai in his inaugural address said that the World is looking towards East as Sun, the source of all energies, rises in the east. And agriculture is the only process through which this solar energy is tapped and made available to living beings. He was of the view that increase in profitability will stimulate the farmers to improve the productivity. He outlined the core issues for the discussion — water management; resistance to biotic and abiotic stresses; germplasm evaluation and sharing of material with the support of five National Bureaus of India; pest and disease management as these are trans-boundary problems; harmonization of seeds and planting material; and short-term trainings. He further stressed that India and



CARI, Andaman, celebrates 30th Foundation Day

Port Blair, 8 July 2008. The Central Agricultural Research Institute celebrated its Foundation Day through a series of events like Brainstorming session on Development of Island Fisheries, Foundation Day Celebration, Launching of Agricultural Column, Agro Advisory Bulletin, Foundation Day Lecture by eminent personality followed by visit of school students to the Institute to encourage scientific temperament among the future of India.

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CIPHET Organized Technology Transfer Day

Ludhiana, 2 August 2008. The CIPHET organized a Technology Transfer Day on 2 August 2008 in which representatives from various Agro-industries and agro processing entrepreneurs participated. On this occasion technologies were transferred.

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NBPGR Foundation Day Celebration

New Delhi, 1 August 2008. The 32nd Foundation Day of National Bureau of Plant Genetic Resources (NBPGR), New Delhi, was celebrated on 1 August 2008. Dr Mangala Rai, Secretary, DARE and Director-General, ICAR, was the Chief Guest. Dr Mangala Rai in his address while commending the work being carried out by the NBPGR, motivated its



entire staff to think of gene management, where enormous possibilities exist for future development.

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Foundation Day celebrations at Directorate of Oilseeds Research

Hyderabad, 1 August 2008. The DOR Foundation Day was celebrated at this Directorate on 1 August 2008. On this occasion, Dr B. V. Pattabhi Ram, Consultant, Prashanti Counseling and HRD Centre, Hyderabad, delivered a lecture on "7 Ds of Work Culture". He narrated the impact of positive



thinking to improve the self-confidence and the overall maintenance of good health.

DOR Foundation Day Lecture was delivered by Dr P.L. Gautam, DDG (CS), ICAR on "Addressing the Emerging Challenges in Indian Agriculture". As per him the priority is to increase the production with improved nutritional quality and income without deterioration of the quality of environment.

The DOR Annexe Laboratory building, inaugurated by Dr P.L. Gautam, DDG (CS), ICAR on 2 August 2008, has Biotechnology Laboratory, Bio-Chemistry Laboratory and Conference Hall.

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Farm School on Fishery Science

Budbud, 26 July 2008. A Farm School was organized by the KVK, Burdwan district, to extend the experience of progressive farmers to other farmers who are lacking the essence of successful fishery enterprise. The farm school was organized in the fields of outstanding farmers. The head master of this school showed that how a successful fishery enterprise could be built up individually or by group. The farmers were shown spawn rearing in nursery ponds to raise maximum numbers of fish fry in minimum area. The practical training programme in this school recreated the model by bringing together a diverse group of farmers



who wanted to develop professional skill in aquaculture. Participants of Farm school gained practical skills and direct farming experience that enables them to take a next step toward establishing their own farming enterprise.

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Brackishwater Aquafarmers' Meet-2008

Kakdwip, 3 July 2008. The Central Institute of Brackishwater Aquaculture (ICAR), Chennai, organised the Brackishwater Aquafarmers' Meet-2008 at its Centre in Kakdwip, West Bengal, to popularise CIBA technologies to the local brackishwater fish farmers, to review the trends in brackishwater aquaculture development in West Bengal, and to exchange the views between farmers and scientific communities.

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Fair Organized for hill farmers

Almora, 30 August 2008. A Farmers' fair was organized at Hawalbagh Campus of the VPKAS in which more than 500 farmers from various districts of Uttarakhand participated. Visitors and farmers were taken about the Farm and briefed about the experiments being conducted at the institute on various aspects of hill agriculture, seed production and organic farming. In the inaugural address, the Chief Guest emphasized upon the integrated use of agriculture, horticulture, forestry and animal husbandry in hills

farming system; and better co-ordination between various departments/ organizations for successful implementation of the programmes. On the occasion *Krishi Calendar* published by the institute was well appreciated. Regional Rural Bank, Nainital-Almora handed over Credit Cards to 21 farmers of the region.

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Intellectual Property Rights and its Protection

Jhansi, 2 September 2008. Training-cum-awareness programme on "Intellectual Property Rights and its

Protection" was organized in association with Council of Science and Technology, Uttar Pradesh on 2 September 2008 at NRCAF, Jhansi. Dr S P Ahlawat, Nodal Officer, IPR Training Programme highlighted the importance of IPR in context of WTO. Dr Rajeev Pandey, Scientist, IPR Unit, CST, briefed about IPR unit. Dr S K Dhyani, Director, NRCAF, emphasized the need of the knowledge of the IPR and focusing research on public and private partnerships.

The resource person provided basic knowledge regarding IPR including patents, GI and designs and presented the review of patent system in India. Farmers were asked to remain vigilant about their Intellectual Property Rights particularly ITK.

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LAUNCHING OF PROJECTS/FACILITIES

Plant Germplasm Registration

New Delhi, 9 July 2008. The XVIIIth meeting of the Plant Germplasm Registration Committee of ICAR was held on 9 July 2008 at the National Bureau of Plant Genetic Resources, New Delhi, under the chairmanship of Dr P.L. Gautam, DDG (Crop Sciences). A total of 91 proposals

were considered. The Committee approved registration of 48 germplasm lines (38 new and 10 revised proposals) belonging to 22 species.

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Faculty Development Programme

Izatnagar, 9 July 2008. A six-day faculty development programme on Education Methodology and Instructional Technology under Niche Area of Excellence, ICAR, New Delhi, was held at Indian Veterinary Research Institute (IVRI), Izatnagar from 4–9 July 2008.

In his inaugural address, Dr S.P.S. Ahlawat, Director, IVRI, brought to the notice of the distinguished gathering the dramatic change in educational methodology with the introduction of e-learning and other computer added teaching aids. He also hoped that the training programme will be very useful for the scientists in updating their knowledge on various aspects of the modern technologies such as, e-learning, online technology etc.

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Aleuritic Acid Pilot Plant inaugurated

Ranchi, 6 July 2008. Dr Nawab Ali, DDG (Agric. Engg.) inaugurated an aleuritic acid pilot plant at Processing and Demonstration Unit, Indian Institute of



Natural Resins and Gum, Ranchi. The plant can produce 2 kg aleuritic acid per batch, valued at Rs 2,200, from 11 kg seedlac costing about Rs 1,320. One batch can be processed in a day of eight working hours.

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Value chain for clean meat production from sheep

Hyderabad, 2 September 2008. The Launch Workshop of NAIP (Component II) project “Value Chain for Clean Meat Production from Sheep” was held on 2 September 2008 at National Research Centre on Meat, Hyderabad, to formally launch the project. Dr K.M. Bajurbaruah, DDG (AS), ICAR, New

Delhi, the Chief Guest of the function, formally launched the NAIP project. The project is approved for NRC on Meat, Hyderabad, as Lead Centre with one Consortium Partner, Sri Venkateshwara Veterinary University, Tirupati, and three Associate Partners, (i) Mandava Foundation, Venkatachalam, AP, (ii) Department of Animal Husbandry, Nellore, AP and (iii) Alkabeer Exports Pvt Ltd, Rudraram Village, Medak, AP. The main objectives of the project are augmenting quality meat and byproducts production through nutritional intervention for growing ram lambs to optimum/heavy live weights; research on designing and establishment of model slaughter houses for popularizing clean meat production; research on developing appropriate technologies for value-addition to meat from heavy weight lambs and spent sheep; and training and awareness creation about efficient lamb production, processing and utilization. The outcome of the project would be developing a successful model for achieving efficiency in quality meat production with entrepreneurship, and rural feed processing for better livelihood of rural farmers.

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Sustainable and green livestock production

Izatnagar, 10 September 2008. A 21-day advanced short course on “Nutritional Strategies for Sustainable and Green Livestock Production” was inaugurated on 10 September 2008 at the IVRI, Izatnagar.

In his inaugural address, Dr S.K. Ranjhan, Director, Hind Agro, and FAO Consultant threw light on food and safety, and cautioned that while exporting animal products, care should be taken on many aspects, such as biological contaminants, hormones, pesticides, radiation and genetically modified organisms. He further stated that the big challenge for nutritionists is to achieve sustainable and green livestock production, with the available feed resources.

Dr Iain A. Wright, Asian Representative of International Livestock Research Institute, Ethiopia, and the Guest of Honour, in his inaugural lecture on Global farm animal production and climate change, emphasized that the changing climate and increasing climate variability are clearly going to have considerable impact through a wide range of mechanisms on people whose livelihood depends largely on livestock.

In his presidential address, Dr S P S Ahlawat, Director, IVRI, remarked that animal nutrition strategies need to be revised to address the national requirement of balanced livestock production, environment and human needs through appropriate nutritional interventions.

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Enhancing adoption of IPM technologies

New Delhi. The use of critical IPM inputs, i.e. biocontrol agents (parasitoids and predators), microbial pesticides (bacteria, viruses and fungi) etc. have assumed significance as important components of IPM because of their economic viability and eco-friendly nature. They hold promise as alternatives to chemical pesticide and can help in reducing pesticide load in the environment. The future of Plant Protection lies in Biocontrol and Integrated Pest Management. Technologies that are available for commercialization at NCIPM, New Delhi are:

- ◆ **Egg cleaning device** (Kumar P, Kumar Surinder and Puri S N. 1998. Egg cleaning device) (submitted for patent in ICAR, notified in Gazette of India). (No. 107/DEK/1999).

Patented

- ◆ **Aerial Insect Trap** (Kumar P, Jalali B L, Kumar, Surender and Singh, Amerika, 2001) (submitted for patent in ICAR) (Patent application No. 1118/DEL/2001).

Patented

- ◆ **Ultra violet chamber for *Corcyra* eggs sterilization** (Kumar P, Kumar, Surender and Singh, Amerika. 2003. Ultra violet chamber for *Corcyra* eggs sterilization

Designed, fabricated, commercialized

- ◆ **Field kit for the multiplication of insect larval parasitoid** (Surender Kumar Singh, Desh Bandhu Ahuja, Dinesh Kumar Garg and Amerika Singh. 2007. Field kit for the multiplication of insect larval parasitoid) (Patent application No. 170/DEL/2007).

Patented

- ◆ **Apparatus for culturing the biological control agents *in situ***. (Surender Kumar Singh and Amerika Singh 2007. Apparatus for culturing the biological control agents *in situ*) (Patent application No. 489/DEL/2007)

Patented

- ◆ Non-sticky insect trap (Surender Kumar Singh, Desh Bandhu Ahuja, Dinesh Kumar Garg and O M Bambawale.

2008. Non-sticky insect trap) (Patent application No. 1454/DEL/2008). Filling date: 18.06.2008)

Patented

- ◆ **Oviposition cage for *Helicoverpa* (for winter season)** (Kumar P, Kumar, Surender).

Designed and fabricated

- ◆ **Improved *Corcyra* Rearing Boxes** (Kumar P, Kumar, Surender)

Designed and fabricated

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Exposure on food processing

Abohar. 25 August 2008. CIPHET, Abohar, imparted one day exposure to EDP trainees from North India Technical Consultancy



Organisation, Chandigarh, on value-addition to pomegranate, *aonla*, guava and grapes. Technology developed and pilot plant facilities were shown to 25 trainees.

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CIFT: Zonal Technology Management Centre

Kochi. Central Institute of Fisheries Technology, Kochi, is identified as the ZTMC (Zonal Technology Management Centre) for South Zone, under the ICAR plan scheme "Intellectual Property Management and Transfer / Commercialisation of Agricultural Technology" (Up-scaling of existing component, i.e. Intellectual Property Rights on Management of Information Services) with a total project cost of Rs 48.60 crore. The CIFT has been considered due to its expertise in IP-related activities and location. Twenty-two ICAR Institutes in the Southern Zone will have access to expertise from CIFT, Cochin. The ZTMC at CIFT will have the regional role of facilitation / Co-ordination/compilation as well as any other role decided by the apex IPR Unit at ICAR to contribute to the overall objectives of the scheme.

The total amount sanctioned to CIFT is Rs 189 lakh for four years. Additionally, there will be convergence with the Business Planning and Development (BPD) component of the National Agricultural Innovation Project (NAIP), which is currently working on establishment of the ZTMCs as BPD units.

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Training on evaluation of dairy foods

Karnal, 7 July 2008. Dr K. Pradhan (Chairman of NDRI QRT) inaugurated 23rd Training Programme on "Sensory and Related Techniques for Evaluation of Dairy Foods". Dr Pradhan emphasized upon the importance of food product characterization for various attributes, particularly indigenous dairy products for optimization of technological parameters and evolving the standards of such projects. Dr A.K. Srivastava (Director, NDRI) focussed on importance of sensory and other evaluation techniques in product development and maintenance of uniformity.

The course curriculum was designed to impart the theoretical as well as practical knowledge of characterization of dairy foods. The Programme covered—evaluation of dairy foods for sensory, rheological, microbiological, nutritional, colour and therapeutic attributes.

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Nematodes problems and their management

Kalyani, 7 July 2008. A training programme on Nematode problems and their management was organized by AICRP (Nematodes), Kalyani Centre, BCKV for the farmers of the area. The main objective of the programme was to create awareness among farmers about major nematode problems of crops especially on rice, jute, vegetables and tuberoses. More than 95 farmers and 7 government officers from 7 districts of West Bengal and some experts participated on that training programme.

The farmers were advised to get their soil tested before crop cultivation and avail the facility of the University to solve the problems related to nematodes. The emphasis was on the dissemination of available technologies through collaborative efforts of the government and universities. In

the technical session scientists of the project elaborately discussed the nematode problems of crops and their management practices. Government officers and farmers participated actively and expressed their satisfaction in getting the solution to their problems. A visit to the experimental fields of the AICRP (Nematodes) was also taken up to apprise farmers of on-hand field exposure.

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Seabass breeding and culture

Chennai, 29 August 2008. A 10-day training programme on "Seabass (*Lates calcarifer*) breeding and culture" was organized by Fish Culture Division, Central Institute of Brackishwater Aquaculture, Chennai, from 20 to 29 August 2008. The training provided hands on exposure to the participants on the seed production under controlled conditions and culture of the brackishwater fish seabass.

To discuss the prospects and development of Asian seabass farming in India in brackishwater marine, and freshwater ecosystems, one-day brainstorming workshop was also organized on 29 August 2008. The keynote addresses were on—Seed production of Asian seabass under controlled conditions, Feed development and intensive culture of Asian seabass in pond based cages.

The discussion that followed the presentations was mainly focused on the availability of quality seed and the cost-effective feed.

Recommendations

- ◆ CIBA will contemplate demonstrations of seabass culture in farms of 1 or 2 ha minimum at three centres; two on the east coast, i.e. Tamil Nadu and Andhra Pradesh, and one in the West Coast, which will be funded by NFDB.
- ◆ Relevant economic viability of different farming systems may also be worked out and suitable protocols with all the technical and economic details may be given as a package to the farmers for adoption.
- ◆ Seed rearing centres can also be strengthened which can work as nursery centres for supply of stockable size fish, so that the culture duration can be reduced.

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Community approach on Pest Management

Ludhiana, 23 July 2008. Farmers training centers (27) have been set up in different villages in cotton belt of the Punjab to update farmers' knowledge on cotton production and protection technology. Emphasis has been laid on integrated pest management (IPM) that led to a decline in the area under non-descript Bt cotton. Season-long training programme will be organized at these centres in view of lack of community approach for the management of pests. Farmers will be educated about recent pest management techniques together with role of community approach in enhancing production. Each IPM

centre will have all necessary literature and infrastructure for training, and trained manpower for monitoring of pest population and creating the needed awareness among farmers.

The earlier studies on the impact of IPM have indicated that a benefit of Rs 5,000/ha can be achieved by adopting this technology. The centers will also offer short term trainings to *panches* and *sarpanches* to create awareness about IPM through community approach. The prudent and judicious use of pesticides through IPM approach will offer long term benefits. Under the IPM programme in the selected districts scouts of same village are being appointed.

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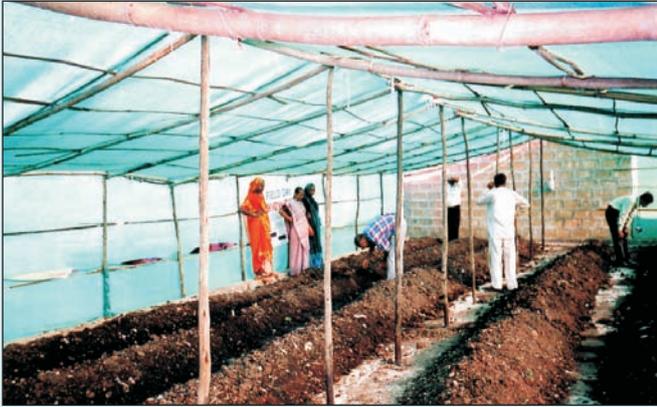
SUCCESSFUL TRANSFER OF TECHNOLOGIES

The KVK, Junagadh Agricultural University, Jamnagar, took steps to popularize several technologies suitable for the zone. Many farmers who adopted these technologies achieved unprecedented success in attaining their goals. For details please contact Dr B B Kabaria (Programme Co-ordinator) and Dr A M Parakhia, Director of Extension Education; e mail: dee@jau.in

Vermicomposting: Income generating activity

JAU, Jamnagar. During 2005–06 Shri Kantibhai Ajudia of Makvana village, Jamnagar, Gujarat, attended vermicompost training and also participated in vocational training of vermicompost at KVK, Junagadh Agricultural University, Jamnagar. He used vermicompost in his own farm and got significant results over chemical fertilizer in field crops. Later, he started a commercial vermicompost unit on his farm and started production of worms as well as compost. He sells additional vermicompost after fulfilling his own farm requirement. Reliance green, ESSAR plantation and Air force garden also benefited by Kantibhai's vermicompost.





He is earning Rs 100,000 and Rs 50,000/year by selling vermicompost and worms, respectively.

Today, Sri Kantibhai is the pride owner of 7.2 ha (45 *bighas*) of agricultural land in which he grows groundnut (4 q/*bigha*), cotton (9 q/*bigha*) and wheat (13 q/*bigha*).

The success story of Sri Kantibhai Ajudia is an eye-opener to present educated youth for adopting vermicompost and scientific farming as a means of livelihood.

Similarly Shri Pratapsingh Jadega also is a progressive and innovative farmer of Bhadva village of Kotda Sangani taluka, Rajkot district. He had attended training programmes on "Organic residues management" as well as "preparation of vermi-compost" under KVK as on campus training programme. He prepared vermi pits for composting after getting the guidance from the scientists of KVK.

At present, he prepares 200 kg of vermicompost per month and by selling it @ Rs 10/kg earns Rs 2,000/month. Neighboring farmers are also approaching him for preparing vermi-compost and some have already started the vermicomposting on their own farm. By preparing the vermicompost, the farmers can improve the health of their soil and can also earn money by adopting this as a secondary business.

Mosambi cultivation fetches better return

KVK, JAU, Targhadia. Rameshbhai Tarpara is a progressive of farmer of village: Nagarpipaliya, taluka: Lodhika, Rajkot

district. He was inspired from KVK, JAU, to cultivate *mosambi*, and learned cultivation technology from Nagpur, and planted the *mosambi* graft in his field. Having received planting materials, he planted 12,000 *mosambi* plants within 3 years. And after 3 years he started to get fruits from the *mosambi* cultivation and provide the motivation for introduction of new crops in non-traditional areas like Lodhika taluka. He assumed to earn net profit of Rs 10 million (Rs 1 Crore) from his field. He also took intercrops between the plants during initial 3 to 4 years and got extra income till main crop started to give production.

Cotton stalk: Good for soil health and sustainability

JAU, Targhadia. Haresh Mohanbhai Sayparia is a progressive farmer of village Rataiya, taluka Lodhika, Rajkot district. He was inspired from demonstration of decomposing of cotton stalk at KVK, JAU, Targhadia, Rajkot. In Saurashtra region most of the cotton growers fire the cotton stalk after completion of season. KVK, Rajkot, motivated farmers to start decomposing of cotton stalk by cutting it into small pieces and then decompose it by using decomposer bacteria like *Cylitic* spp. for maintaining soil health and sustainability.

Mr Sayparia has produced 50 tonnes of high quality organic manure from cotton stalk decomposition between 2006 and 2008. He also used this manure for production of organic produces in his own farm. Now most of the villages of Lodhika Taluka of Rajkot district have adopted this practice through the innovation of this farmer.

Management of groundnut stem rot

JAU, Targhadia. The majority of farmers grow GG20 groundnut with wide spacing of 90 cm, so that agricultural practices can be done easily. They were informed to sow seeds of groundnut by keeping 60 cm row spacing. The seed should be treated with *Trichoderma* culture @ 4 g/kg seeds, and @ 2.5 kg with 50 kg of castor-cake as soil application at 30-40 days after sowing by using seed drill in moist condition for controlling the stem rot.

Mr Bhuptsingh Jadega a progressive farmer of Devalia village has harvested 15.85% higher groundnut pod yield

with the seed treatment and soil application of *Trichoderma* and earned Rs 4,875/ha.

Integrated pest management in cotton

JAU, Jamnagar. Theba village is one of the adopted villages of KVK, Jamnagar. During last year, Mr Mansukhbhai Mungara visited KVK to get advice for the planning of plant-protection schedule for cotton pests as it is attacked by several insect-pests, causing heavy losses. He was first made aware of hazardous effect of toxic insecticides on natural enemies of insect-pests and later he was advised to adopt IPM component with minimum use of insecticides in cotton. During *kharif* of 2007 he adopted some of the IPM component, viz. seed treatment with Imidachloprid 70 ws @ 7.5 g/kg seed; growing castor and marigold plants surrounding cotton field as trap crop; one row of maize after every 10 rows of cotton crop for conservation of chrysoperla and coccinellidae (Lady bird beetle); pheromone traps @ 6 traps/ha for *Helicoverpa armigera*, and 6 traps/ha for *Spodoptera litura*; spraying of 450 LE HNPV during evening; spraying of *Beauveria bassiana* @ 2.5 kg/ha; spraying of neem-based botanical pesticide; and need-base application of safer insecticides like endosulfan @ 0.07% or Phosalone 0.05% for the control of bollworm of cotton.

According to Shri Mansukhbhai Mungara, he was applying 15 to 20 sprays of various insecticides for the control of cotton pests. The total cost of plant protection was approximately Rs18,000 to 20,000/ ha. During *kharif* 2005 he adopted IPM components suggested to him. He required only 5 sprays of endosulfan 0.07% and Phosalone 0.05% alternatively, for satisfactory control of pests and to obtain good yield. Thus, total cost of plant protection along with IPM components was approximately Rs 9,500. Thus, by



adopting IPM in cotton, he saved more than Rs 10,000 during *kharif* of 2007.

Shri Mansukhbhai Mungara obtained Rs 1,000/kg/ha production which was higher than the other farmers who did not adopt the recommended package of practices.

Intercropping system: A sustainable approach in rainfed farming

JAU, Targhadia. The farmers grow groundnut as sole crop in 78% area under arid and semi-arid region in Gujarat. The farmer got better income of Rs 8,250/ha from the intercropping instead of sole groundnut crop. There is also reduction in risk of failure of crop due to water stress or drought.

The groundnut + pigeon pea (3:1) yield was 23.50 q/ha (12.00 q groundnut + 11.50 q pigeonpea) whereas groundnut as sole gave 18.00 q/ha. This method of cultivation gives 30.55% increase in yield and takes care of the risk involved due to uncertainty of rainfall, as well as improve the economic condition of the farmer.

Better return from G. Cot. Hy10 cotton

JAU, Targhadia. The farmers were advised to grow G. Cot. Hy. 10 cotton instead of research varieties of cotton with applying IPM approach. The G. Cot. Hy. 10 gave better yield of 14.40 q/ha than control (10.56 q/ha). IPM helped in improving the environment as a whole, and cost of cultivation as particular. The 36.36% increase in yield of G. Cot. Hy. 10 fetches better return.

Use of small/wrinkled/mixed groundnut seeds improves income

KVK, Targhadia. An off campus training programme was conducted in the Kotda Sangani village on improved cultivation practices for groundnut. It was suggested that small/wrinkled/mixed seeds of groundnut are as good as bold seeds. The farmers were not ready to accept the concept. So an On-farm Testing was conducted on the field of Shri Ravjibhai Bhut with 3 farm treatments, i.e. sowing of small seeds, bold seeds and mixed seeds. The

maximum yield was obtained as 23.76 q/ha from sowing of small seeds as compared to 21.40 q/ha from mixed seeds and 20.50 q/ha from bold seed plot. He saved 25% requirement of seeds and obtained higher yield due to optimum plant population in the area. And earned a profit of Rs 12,000/ha. This has resulted in a saving of around Rs 4.9 million on cost of groundnut seed in groundnut sowing area of 5,878 ha in the Kotda Sangani taluka of Rajkot district in Gujarat.

Adoption of less use of fertilizer and IPM in cotton

JAU, Junagadh. Shri Bhanubhai Dayabhai Kothiya of Bagoya was advised to use ammonium sulphate or other nitrogenous fertilizer as basal dose and to adopt IPM component with minimum use of insecticides in cotton. In *kharif* 2006, he adopted the IPM and used ammonium sulphate as a basal dose and got significant results in yield without DAP and reduced cost of fertilizers. Earlier he invested Rs 18,000 to 20,000/ha but along with IPM component, the total cost was approximately Rs 9,500. Thus by adopting IPM in cotton he saved more than Rs 10,000/ during *kharif* 2006.

Spray pump attached on bicycle

Junagadh. Shri Kanubhai Aambabhai Kathrotiya, a progressive farmer of Chalala, developed a hand made spray pump, which is run by attaching on a bicycle. He fitted the watertank on bicycle carrier which is attached with bicycle frywheel. This spray pump is used in all sowing crops viz. groundnut, cotton etc. This spray pump is better than manually operated

spray pump because it reduces the labour cost; covers more spraying area normally 2 to 3 ha/ day as compared to 1 to 1.5 ha by manually operated spray pump; and preparation cost i.e. Rs 300-400 against Rs 1,200-1,500 incurred in manually operated spray pump; and saves human energy.

Lac cultivation spreads to Andhra Pradesh

Vishakhapatnam. Ten farmers of Paderu Division of Vishakhapatnam district of Andhra Pradesh have earned Rs 5,000 each from lac cultivation within six months. There are abundance of forest species including around 1.5 lakh kusum (*Schleichera oleos*) trees, a host of lac insect. The area is dominated by tribals. Sahayog Community Co-ordination Network, an NGO, BASIX (Ranchi) and Indian Institute of Natural Resins and Gums, Ranchi, came together to introduce lac production in the area for livelihood support for poor tribals. IINRG provided training, technical guidance throughout crop development period and arranging broodlac (lac seed) from Ranchi.

In the first phase 10 farmers of village Laxmipuram, Dabuguda, Jabada and Antabang of Munching put Mandal, inoculated about 200 kg of Kusmi broodlac on 26 kusum trees. They harvested 980 kg of lac, which include 925 kg broodlac and 55 kg of sticklac at the maturity with input : output ratio of 1:5. The broodlac produced during a crop cycle of six months (summer crop) were re-inoculated by the farmers after returning loan of 185 kg broodlac to community co-ordination network. More farmers have got interested and adopted lac cultivation.

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Organisation and Management

Delegation of powers for filing the application for registration of extant varieties

In continuation to Office Order of even number dated 9.10.2006 authorizing the Directors of ICAR Institute/NRCs/

Bureaux/PDs/ZC Units to exercise the powers in regard to all forms of Intellectual Property covered in the ICAR Guidelines on 'Intellectual Property Portfolio Management and Technology Transfer/Commercialization', the Project Co-ordinators are also hereby authorized to prepare and file applications for registration of Extant Varieties of their

respective crops as Authorized Signatories of the Applicant, 'Indian Council Agricultural Research' through Director, NBPGR, New Delhi in accordance with Chapter 6 of the ICAR Guidelines for Intellectual Property Management and Technology Transfer/Commercialization, which are effective in the Council since 2nd October, 2006, vide F.No. 6-2/2001-CDN (A & A) dated 28 July 2008.

Reconstitution of the Committee on ARS

The President, ICAR, is pleased to reconstitute the Committee on Agricultural Research Service under Rule 8 of Agricultural Research Service Rules as under:

- | | |
|-------------------|----------|
| 1. DG, ICAR | Chairman |
| 2. Chairman, ASRB | Member |

- | | |
|--|------------------|
| 3. Secretary, ICAR | Member |
| 4. Director, IARI, New Delhi | Member |
| 5. Dr N. Vijayan Nair
Director, SBI, Coimbatore | Member |
| 6. Joint Secretary (Admn.)
Dept. of Ag. & Co-op,
Krishi Bhavan | Member |
| 7. Dr R.B. Deshmukh
Vice-Chancellor, MPKV, Rahuri | Member |
| 8. Director (Personnel) | Member-Secretary |

The term of the Committee will be for two years with effect from the date of issue of this Office Order vide F No. 14(2)/01 Per-IV dated 1 September 2008.

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ICAR: National Training Programme, 2008 (October-December, 2008)

Institutes (e-mail)	Date	Training programmes	Eligibility
IISR, Calicut (bkmoorthy@spices.res.in)	20-24 October 2008	Agribioinformatics: Tools	Lecturers, Scientists and PG students
NRC for Weed Science, Jabalpur (nrws@sancharnet.in)	20-26 October 2008	Instrumental Training for the ICAR Analysis of Herbicides Residues in the Soil Food Commodity and Water	Scientists, Associates/ Assistant Professors, Students
PDCSR, Modipuram, Meerut msgill@pdcr.ernet.in	3-5 October 2008	Biennial Workshop of AICRP-Cropping Systems	Participation by invitation
PAU, Ludhiana (Technical Co-ordinator)	3-7 November 2008	Refresher Training Course in Apiculture for Extension Personnel	Extension Scientists and Officers
DRR, Hyderabad (pdrrice@drircar.org)	4-8 November 2008	Hybrid Rice Seed Production Technology (Fee: Rs 12000 + ST of 12.36% per participant)	Hybrid Rice Breeders, Private Seed Companies
Dr PDKV, Akola 09822360612	13-24 November 2008	Winter School on Protected ICAR Agriculture in Arid and Semi-arid regions	Assistant Professors in Agriculture Universities and ICAR Institutes
NIRJAFT, Kolkata (nirjaft@vsnl.net)	17-22 November 2008	Jute Chappals, Sandals	Unemployed Youth, NGO's entrepreneurs
NRCWS, Jabalpur (nrcws@sancharnet.in)	17-24 November 2008	National Training on Recent advances in Weed Management	Subject matter specialists from State Departments of Agriculture, Horticulture, Animal Husbandry, Fisheries etc.
SKUAST, Jammu (kalhacs@yahoo.co.in)	17-24 November 2008	Refinement and Promotion of year round cultivation of mushroom for self-employment	State Development Departments of Agriculture, Horticulture, Sericulture, Fisheries
Directorate of Rice Research Hyderabad	18-25 November 2008	Hybrid Rice Production Technology	SMS and Extension Officials from State Departments of Agriculture
Dairy Extension Division NDRI, Karnal	18-25 November 2008	Production of Processing of Hygienic Milk for Sustainable Dairy Development	Officers from State Animal Husbandry and Dairying
CIBA, Chennai	19-28 November 2008	Soil and Water Quality Management in Brackishwater Aquaculture	Scientists, Researchers, Agriculturists
NRCWS, Jabalpur (nrcws@sancharnet.in)	November 2008	National Training on Improved Weed Management Technologies for Sustainable Agriculture	Scientists from ICAR Institutes and SAUs
Agricultural Engineering College and Research Institute, Kumulur	10-19 December 2008	Short course on Farm Mechanization in Paddy Cultivation	Scientists
Indian Institute of Soil Science, Bhopal (pramesh@iiss.ernet.in)	11-18 December 2008	Model Training Course on Efficient use of off-farm resources for sustainable crop production	Concerned Officials from State/Union Territories
PAU, Ludhiana	15 December 2008 to 5 January 2009	Breeding for quality and morphological traits	Assistant and Associate Professors
NIRJAFT, Kolkata (nirjaft@vsnl.net)	15-20 December 2008	High-yielding Water Mushroom Production from Jute Caddis	Unemployed youth, NGOs
CIBA, Chennai (ciba@tn.nic.in)	16-20 December 2008	Aquatic Animal Health Management	Scientists, Researchers, Aquaculturists

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International Training Programme

Training	Venue and e-mail	Training	Venue and e-mail
Bt Resistance Management in insects	IARI, New Delhi director@iari.res.in	Processing of Livestock Products	IVRI, Izatnagar dirivri@ivri.up.nic.in
Integrated Cotton Production Technology	CICR, Nag cicrngp@rediffmail.com	Dairy Production in tropics	NDRI, Karnal e-mail: dir@ndri.res.in
Agro-technology for maximizing sugarcane production	IISR, Lucknow	Extension methodologies for coastal fisheries	CIFT, Cochin cift@ciftmail.org
Protection Technology for sustaining sugarcane productivity	IISR, Lucknow iisrlko@sancharnet.in	Environment and fish health management	CIFRI, Barrackpore cifri@vsnl.com
Breeding sugarcane for use in sugar industrial complex	SBI, Coimbatore vijay52in@yahoo.com	Gender analysis and its application in agricultural research and education	NRCWA, Bhubaneswar nrcwa@ori.nic.in
Molecular Techniques for characterisation and diagnosis of geminivirus	CRIJAF, Kolkata crijaf@wb.nic.in	Sea food quality assurance	TNVASU, Chennai tanuvas@vsnl.com
IPM in rice	DRR, Hyderabad pdrice@drricar.org	Fish Stock assessment in tropical seas	TNVASU, Chennai tanuvas@vsnl.com
Participatory watershed management of livelihood and environmental security	CSWCRTI, Dehra Dun director@cswcrtdn.org	Rural Entrepreneurship Development	IARI, New Delhi director@iari.res.in
Application of Genetic Techniques for improvements of farm animals	NDRI, Karnal dir@ndri.res.in	Improving sustainability through grain legumes in cropping systems	IIPR, Kanpur mali@iipr.ernet.in
Project Management for Research and Development	IARI, New Delhi director@iari.res.in	Protected cultivation in vegetable and ornamental plants	IHR, Bangalore director@ichr.ernet.in
Improving Managerial skills for Extension and Development Personnel 1-15 November 2008	IARI, New Delhi director@iari.res.in	Alternate land-use systems for degraded lands in arid ecosystem	CAZRI, Jodhpur kpvittal@cazri.res.in
Microbial control of insect pests and plant diseases 2-22 November 2008	D O R, Hyderabad	Geo-informatics for land use planning	NBSS & LUP director@nbsslup.ernet.in
Organic farming Technologies for alm-based cropping systems 12-18 November 2008	CPCRI, Kasaragod directorpcpri@gmail.com	Frozen Semen Technology and Artificial insemination	NDRI, Karnal dir@ndri.res.in
Soybean processing and utilization November 2008	CIAE, Bhopal director@ciae.res.in	Quail production for commercial exploitation	CARI, Izatnagar cari_director@rediffmail.com
Web-based education and training	NAARM, Hyderabad director@naarm.ernet.in	Statistical software packages in agriculture	IASRI, Delhi director@iasri.res.in

Personnel

Protocol Activities

- ◆ Dr Mangala Rai (Secretary DARE & DG, ICAR) attended Steering Committee meeting of the ICAR-IWMI at the IWMI Headquarters, Colombo, Sri Lanka from 21 to 22 July 2008. A Work-Plan was signed between ICAR, New Delhi, India and IWMI, Colombo, Sri Lanka on 21 July 2008.
- ◆ Dr Mangala Rai (Secretary DARE & DG, ICAR) visited ACIAR, Canberra, Australia from 31 August to 7 September 2008 to attend Public Advisory Committee Board meeting. A Work Plan was signed between ACIAR,

Canberra, Australia and ICAR, New Delhi, India during this period.

- ◆ Dr Mangala Rai (Secretary DARE & DG, ICAR) visited IRRI, Los Banos, Philippines from 16 to 19 September 2008 to attend IRRI Board of Trustees meeting.

Appointments

- ◆ Dr A E Eknath has joined as Director, CIFA, Bhubaneswar on 1 July 2008.

- ◆ Dr B Venkateshwarlu has joined as Director, CRIDA, Hyderabad on 7 July 2008.
- ◆ Dr G Syda Rao has joined as Director, CMFRI, Cochin on 8 July 2008.
- ◆ Dr M M Anwar has joined as Director, NRC for Seed Spices, Tabiji, Ajmer (Rajasthan) on 9 July 2008.
- ◆ Dr V K Bhatia has joined as Director, IASRI, New Delhi on 13 August 2008.
- ◆ Dr S D Sharma has joined as Principal Scientist at ICAR Hqrs with Addl Charge of ADG (HRD), ICAR on 13 August 2008.
- ◆ Dr V T Shivankar has joined as Director, NRC for Citrus, Nagpur on 18 August 2008.
- ◆ Dr A K Mishra has joined as Project Co-ordinator (Subtropical Fruits), CISH, Lucknow on 21 August 2008.
- ◆ Dr M C Sharma has joined as Director, CIRG, Makhdoom on 22 August 2008.
- ◆ Dr P K Mishra has joined as Project Co-ordinator (Dryland Research), CRIDA, Hyderabad on 26 August 2008.

Retirements

- ◆ Dr N P Singh, Director (CIRG, Makhdoom) has retired on 31 July 2008.
- ◆ Dr Shyam Singh, Director (NRC for Citrus, Nagpur) has retired on 31 July 2008.

- ◆ Dr K Devadasan, Director (CIFT, Cochin) has retired on 31 August 2008.
- ◆ Dr M M Pandey, Director (CIRI, Cuttack) has retired on 30 September 2008.

International

Delegations abroad

- ◆ Dr Viraktamath, Project Director, Directorate of Rice Research, Hyderabad, visited Agriculture Research Centre, Egypt from 25 August to 7 September 2008 for study visit in the field of Rice Hybrids.
- ◆ Dr H P Singh, DDG (Horticulture), ICAR visited University of Georgia, USA from 27 September to 4 October 2008, to deliver a talk on the State of Horticulture Research in India.

Delegations Hosted

- ◆ Dr Mohammed Yussef Ghoneim Mubarak and Dr Reda Mohammed Ali A1 Seyed, Senior Researcher, Agricultural Research Centre, Egypt visited CSSRI, Karnal from 11 to 15 August 2008 in the field of Wheat Drought Salinity and Heat Tolerance under the Work Plan between ICAR and ARC, Egypt.
- ◆ Dr Mohammed Mahmoud Ahmed Mohammed, Senior Researcher, Agricultural Research Centre, Egypt visited CSSRI, Karnal from 11 to 25 August 2008 in the field of Water Quality under the Work Plan between ICAR and ARC, Egypt.

Indian Council of Agricultural Research ICAR Awards, 2008

The Indian Council of Agricultural Research, New Delhi announces the following ICAR Awards:

1. Sardar Patel Outstanding ICAR Institution Award, 2008

In order to recognise the best performance in Agricultural Research and Education, three ICAR Awards of Rs.5,00,000 each will be given to two ICAR Institutes/NRC/Project Directorates and one State Agricultural University.

2. Chaudhary Devi Lal Outstanding All India Coordinated Research Project(AICRP) Award, 2008

In order to recognise the outstanding performance of the All India Coordinated Research Project and its cooperating Centres, one annual award of Rs.1,00,000 is given by the Indian Council of Agricultural Research, New Delhi. All the All India Coordinated Research Projects, which have been in operation for at least 10 years can apply for the award.

3. Jawaharlal Nehru Award for Post-Graduate Agricultural Research, 2008

To promote high quality doctoral thesis research in priority/frontier areas of agriculture and allied sciences. ICAR has instituted 18 awards of Rs.20,000/-each to be given annually

for the outstanding original research work in agriculture and allied sciences. All postgraduate students who have obtained their Ph.D. degree during 2007 in India in agriculture or allied sciences will be eligible to apply. Candidates shall be required to submit the following documents alongwith application form through the Head of the Institute from where the thesis has been obtained: (i) An attested copy of the Ph.D. degree certificate (obtained during 2007 only). (ii) A copy of the thesis submitted by them for the award of doctoral degree. (iii) A certificate from the guide of the candidate for Ph.D. degree stating the extent to which the work is the candidate's own contribution. (iv) Six copies of the application form with complete address for correspondence with telegraphic address and telephone nos. (v) Six copies of the synopses indicating precisely and in concise terms the work done by the candidate and (vi) Any reprint of papers published/presented based on the doctoral thesis.

4. Panjabrao Deshmukh Woman Agricultural Scientist Award, 2008

All women scientists working in ICAR Institutes/State Agricultural Universities are eligible for the award. Two awards of Rs.50,000/- each are to be given annually for

the significant contributions made during their career as agricultural scientists.

5. Vasantrao Naik Award for Research Application in Agriculture, 2008

All scientists or extension workers who have made outstanding contribution in the areas of Water Conservation and Dryland Farming in India shall be eligible for the award. One award of Rs.1,00,000/- is to be given annually for the work done during the preceding five years of the award.

6. Jagjivan Ram Kisan Puruskar, 2008

In order to recognise the outstanding contributions of innovative farmers in agriculture and allied activities, two annual awards of Rs.1,00,000 each are to be given to the practising farmers (he/she), one each in the area of crop production and livestock/poultry/fish farming whose creative approaches and initiatives should result in (i) new knowledge/packages of practices/management strategies/ additional information to the existing one (ii) additional income to the individual farmer/farming community (iii) saving in resources/inputs (iv) prevention of outbreak of diseases and pests and in breaking technology transfer barriers.

Any farmer who has been involving himself/herself in crop production or livestock/poultry/fish farming for at least 10 years, is eligible for consideration. The nominations are invited from the Agriculture Production Commissioners/ District Magistrates/Director or Secretary (Agriculture/Hort./Animal Husbandry/ Fisheries)/Vice- Chancellors of State or Central Agricultural Universities/Directors of ICAR Institutes/Zonal Coordinators of KVKs/NGOs, other organizations connected with plant and animal sciences.

7. N.G. Ranga Farmer Award for Diversified Agriculture, 2008

In order to recognise the outstanding contributions of innovative farmers for diversified agricultural activities, one annual award of Rs. one lakh is to be given to a practising farmer (he/she) whose creative approaches and initiatives should result in (i) new entrepreneurship/enterprises/management strategies/additional information to the existing one in diversification of Indian agriculture (ii) additional income to the individual farmer/farming community.

Any farmer who has been involving himself/herself in diversified rural activities/enterprises such as Horticulture, Animal Husbandry, Fisheries, Rural Artisans/ Handicraft activities for at least 10 years, is eligible for consideration. The nominations are invited from the Agriculture Production Commissioners/ District Magistrates/Director or Secretary (Agriculture/Hort./Animal Husbandry/

Fisheries)/Vice-Chancellors of State or Central Agricultural Universities/Directors of ICAR Institutes/Zonal Coordinators of KVKs/NGOs, other organizations connected with plant and animal sciences.

8. Chaudhary Charan Singh Award for Excellence in Journalism in Agricultural Research and Development, 2008

To recognize excellence in journalism and to create awareness among the farmers and policy makers for the enhancement and promotion of Agricultural Research and Development in the Country, one annual award of Rs. one lakh is to be given to a journalist for his outstanding contributions in Journalism in Agriculture and allied sciences. The contribution made by the journalist would be judged through the publication of articles/success stories in Hindi/English News Papers/Magazines/Journals in India during the preceding three years.

9. Lal Bahadur Shastri Young Scientist Award (Biennium)

All young Scientists/Lecturers, Assistant Professors who have obtained the Ph.D. degree and are below the age of 35 years shall be eligible for the award which will consist of the sanction of a really challenging scheme to be submitted by the candidate and a cash prize of Rs.25,000/, 50 percent of which will be given at the time of the award and the remaining 50 per cent will be released on the successful outcome of the scheme. A total of 10 awards will be given in various disciplines of agricultural and allied sciences once in two years.

10. Hari Om Ashram Trust Award (Biennium)

All Scientists engaged in research in the field of Crop Sciences, Horticulture, Resource Management and Animal Sciences in India shall be eligible for the award. Four awards of the value of Rs.40,000 each are to be given once in two years, for the work done during the preceding five years of the period of the award. If the research work submitted for the award has been carried out by a team of scientists, the number of associates shall be limited to two only.

11. Rafi Ahmed Kidwai Award (Biennium)

All research workers above 40 years of age engaged in research in the field of Agriculture, Animal Husbandry and allied sciences in India shall be eligible for the Award. Nine Awards of Rs.3,00,000 each are to be given once in two years for their significant achievements and contributions in their chosen field as an individual award. Only one associate will be allowed for this award.

The nominations of eligible candidates are invited from the Vice-Chancellors/ Directors of Research/Directors of Extension of State/Central Agricultural Universities,

Deputy Directors General of ICAR and Directors of the ICAR Institutes.

12. National Krishi Vigyan Kendra Award, 2008

All KVKs in the country that have completed five years of operation after the year of their establishment are eligible for the award. Three awards of Rs.1,00,000/- each are to be given every year for the outstanding contribution made by the KVK in the field of research and training. A KVK winning the award will be eligible to apply again after the lapse of five years.

13. Swami Sahajanand Saraswati Extension Scientist/Worker Award (Biennium)

To create incentive for best extension workers in developing extension education programmes, adopting extension methodologies and creative impact of the programme on the farming community especially on the downtrodden, four awards of Rs.25,000 each are to be awarded once in two years. The terminal stages of the extension work submitted for the award, including its impact assessment must have been completed during the five years preceding the year of the award.

General Instructions

The prescribed proforma for applying for these awards may be obtained from the Council upto 30.10.2008 by sending a self addressed stamped envelope or alternatively it can also be downloaded from the Council's website (<http://www.icar.org.in>). Six copies of application with complete documents should be sent to **Dr. J.P. Mishra, Assistant Director General (Coordination), ICAR, Krishi Anusandhan Bhavan-I, Pusa Campus, New Delhi-110 012**, so as to reach him on or before **15.12.2008**. The last date for candidates in the Andaman and Nicobar Islands, Lakshadweep, States/Union Territory in the North Eastern Region, Ladakh Division of J&K State and Sikkim is **31.12.2008**. **The candidates are required to submit six copies of applications/documents in the prescribed proforma only, failing which the application will not be considered.** The Council will retain the award winning applications/theses for record.

Each candidate will be judged on the basis of the originality and the applied value of the investigations as revealed in the documents submitted by him. **In all matters relating to the award, the decision of the Council shall be final and no correspondence on this account will be entertained.**

www.icar.org.in

First Anniversary of ICAR Vichar Manch

11 September 2008. New Delhi. On the occasion of First Anniversary of ICAR Vichar Manch, Dr Mangala Rai DG, ICAR released a compilation of lectures delivered in the ICAR forum in last one year. The ICAR Vichar Manch was started as a forum to learn from the experience of eminent persons in India and abroad who have pursued their specific interests in diverse fields ranging from theology, philosophy, fine arts, music, films, literature etc.

In the lecture series three speakers, viz. Prof Jeffrey D Sachs, Dr Joachim Von Braun and Prof Puspesh Pant delivered their lectures in July, August and September 2008, respectively.

Prof Jeffrey D Sachs, Director of the Earth Institute, spoke on *Feeding the Millions: An Uphill Task*. He was of the view that feeding the world is a giant, compelling and increasingly difficult job. He discussed the food price rise and socio-economic methods to check it. He analyzed the international food scenario and steps being taken to improve the condition.

Dr Joachim Von Braun, Director-General, International Food Policy Research Institute, Washington DC, USA, was the next speaker who spoke on *World Food Crisis*. He discussed the various reasons of this current food crisis. The impact of high food prices, especially of fast increasing food prices on the poor is particularly determined by initial conditions and the capability of poor to adjust to changes in the labour market finances and goods market. The three conclusions for moving forward are – accelerate innovations, engage a broader set of actors and invest in nutritional security.

Prof Pushpesh Pant, Dean, School of International Studies, Jawaharlal Nehru University, New Delhi, a well-known professor, has written articles on current affairs and themes of community interest in newspapers and journals. He spoke on *Bhartiya Krishi: Kal, Aaj aur Kal*. He discussed the agriculture of past, present and the steps to be taken in future to have a prosperous India.

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