

Annual Report

2008-09



Department of Agricultural Research and Education
Ministry of Agriculture
Government of India

Indian Council of Agricultural Research
New Delhi



Foreword

The year 2007-08 has been very good for agriculture with a record harvest of 230.67 million tonnes of food grains with remarkable gains in rice, maize, groundnut and cotton. This inspiring accomplishment was possible owing to farmers' efforts using appropriate technologies, periodic advisories and availing timely supply of inputs, and well planned research programmes, ably executed by scientists of our National Agricultural Research System (NARS).

The crop research and development activities of the Indian Council of Agricultural Research during the year are – preparation of soil-erosion maps for resource conservation planning; enrichment of the National Gene Bank with about 13,850 accessions of orthodox seed species; production of 7,162.40 tonnes of breeders seeds of centrally released field crop varieties and 2,788.10 tonnes of state-released crop varieties; release of 117 superior varieties of field and horticultural crops for commercial cultivation; identification of seven varieties of wheat resistant to stem rust race Ug99 and a high sugar-yielding cane variety, Birendra, having tolerance to waterlogging and top borer; a singular innovation in Bt-cotton by indigenously transforming an open-pollinated variety Bikaneri Narma, enabling the farmers to use their own farm-saved seed year after year; release of regular-bearing mango variety Arunika having attractive colour; revelation of wedge grafting technique for rapid multiplication of guava; development of field kits for ascertaining soil sodicity and quality of bio-fertilizers; and preparation of liquid bio-fertilizers with enhanced shelf-life.

Research and development activities for livestock resulted in better genetic resistance of SDL-IC broilers than Aseel and Kadaknath against H5N 1 infection; enhanced fibre digestibility of poor-quality crops residues; reduced methane production from enteric fermentation due to use of tree leaves; and increased milk production and fat and SNF (solids-not-fat) percentage by ragi supplementation to dairy cows, with a net increase in income of about Rs 19/cow/day under field condition. The mega Seed Project on Pig was launched with 4 co-operating centres. A status of freedom from contagious bovine pleuropneumonia infection in cattle and buffalo was obtained from OIE (Office International des Epizooties). Improved diagnosis of foot-and-mouth disease in suspected clinical samples by multiple PCR (m-PCR); preparation of biofilm vaccine against pasteurellosis; and development of web-based interactive expert system on animal diseases of the country are the other significant achievements. In fisheries major achievements are: molecular protocol to assess the impact of pollution on freshwater fishes; culture of tiger shrimp in inland ground saline waters as a new avenue in inland aquaculture; initiation of marker to marker linkage study in rohu—the first attempt of its kind in Indian fish species; breakthrough in early carp breeding enabled farmers to utilize at least five more months as the growing period; hatching and larval rearing of crucifix crab, *Charybdis feriatus*.

These technologies are being propagated through a network of 562 Krishi Vigyan Kendras (KVK). A total of 35,533 trainings were organized benefiting 966,142 farmers/farm women and 187,304 rural youth for skill upgradation. The Directorate of Information and Publications of Agriculture has developed on-line global visibility by using latest information and communication technologies.

Some of the major structural reforms in research management include establishment of DNA bank cutting across plant and animal kingdom; and provision for the foreign fellowship for higher agricultural education. The Government has accorded approval of 78 new KVKs including 50 additional KVKs in large districts; and establishment of integrated farming system research modules at 31 centres with stepped up investments to diversify the functioning of KVK.

The Council took specific steps to improve the national agricultural education, and seven new Agricultural Universities were accredited. One hundred eleven awardees under twelve different categories were conferred awards, among these were 13 women scientists. The National Agricultural Innovation Project has made good progress in approving 112 subprojects at a total outlay of Rs 658 crore.

Policy issues were decided for Guidelines for management of ICAR services and contracts, IPR clearance of collaborative research projects, and Business Planning and Development.

To share our experiences and co-operation in agricultural research and education, work plans were signed with the Islamic Republic of Iran and Republic of Ecuador.

We as a nation are trying to feed our millions with dignity. Our cultivable area is limited but the growing population will continue to escalate the food requirement. Only alternative before us is to improve resource use efficiency and agricultural productivity. To this end state-of-the-art technologies are required. The policy environment and support in agricultural research and education is now conducive and I am sure our NARS will take full advantage to improve the state of agriculture and agricultural community in the country.

It is hoped that policy planners, researchers, students and all stakeholders will find this information of *DARE/ICAR Annual Report 2008-09* useful in further improvement and development of agriculture.



(SHARAD PAWAR)
President
ICAR Society

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Indian Council of Agricultural Research

President, ICAR Society and Union Minister of Agriculture	: Shri Sharad Pawar
Minister of State for Agriculture	: Shri Kanti Lal Bhuria
Secretary (DARE) and Director-General (ICAR)	: Dr Mangala Rai
Additional Secretary (DARE) and Secretary (ICAR)	: Shri A K Upadhyay
Additional Secretary (DARE) and Financial Adviser (ICAR)	: Shri B A Coutinho (up to 5.11.2008) Shri Chaman Kumar (since 6.11.2008)



The Mandate of the Indian Council of Agricultural Research

- (i) To plan, undertake, aid, promote and coordinate education, research and its application in agriculture, agroforestry, animal husbandry, fisheries, home science and allied sciences.
- (ii) To act as a clearing house of research and general information relating to agriculture, animal husbandry, home science and allied sciences, and fisheries through its publications and information system; and instituting and promoting transfer of technology programmes.
- (iii) To provide, undertake and promote consultancy services in the fields of education, research, training and dissemination of information in agriculture, agroforestry, animal husbandry, fisheries, home science and allied sciences.
- (iv) To look into the problems relating to broader areas of rural development concerning agriculture, including post-harvest technology by developing co-operative programmes with other organizations such as the Indian Council of Social Science Research, Council of Scientific and Industrial Research, Bhabha Atomic Research Centre and the universities.
- (v) To do other things considered necessary to attain the objectives of the Society.

