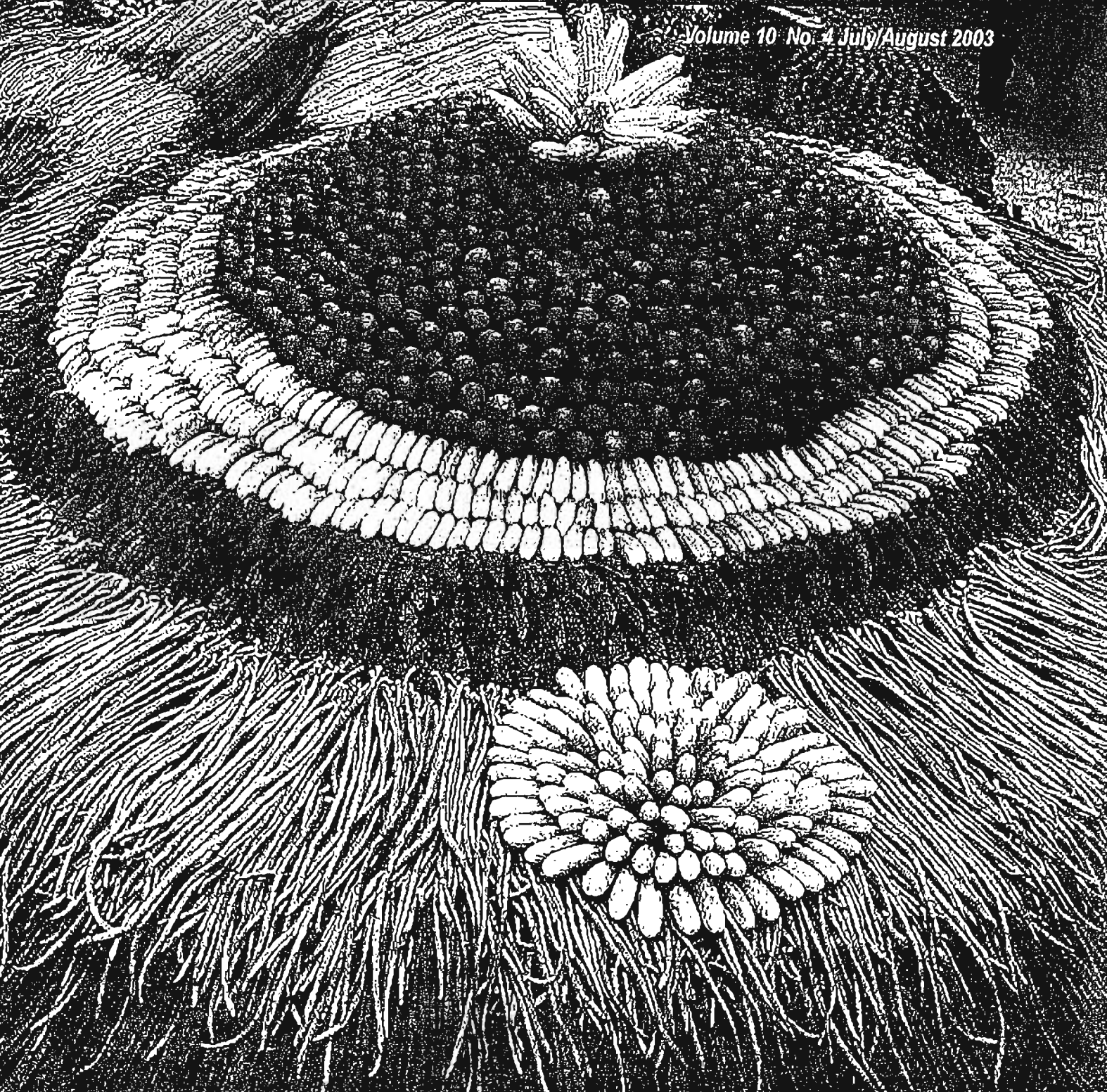


Asian Seed

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ICRISAT strengthens ties with private seed companies

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A private sector sorghum breeder chooses from among the male-sterile lines at ICRISAT for his work.

The relationship between the International Crops Research Institute for the Semi-Arid Tropics (ICRISAT) and private seed companies is a part of the bigger story of the development of the Indian seed industry. As a result of India's Central Seed Act, 1988, public seed sector organisations came to dominate seed production. This policy restricted the development of the private seed industry.

It was not until the enactment in 1988 of the new policy for seed development that the private sector began to grow. At present, the private seed sector dominates seed production and markets in India with a large number of hybrids of important food crops, including pearl millet and sorghum.

The relationship between ICRISAT and private seed companies has evolved over time. In the early years, ICRISAT played a nurturing role to the fledgling seed industry and provided breeding material, often through informal networks. During the early 1990s, private seed companies continued to derive significant economic benefits by exploiting ICRISAT-bred material, supplied freely on specific request. However, ICRISAT's sorghum and pearl millet scientists perceived a likely change, both for technical and institutional reasons.

As the private seed industry grew, it started to develop a significant research capability of its own, particularly in the larger companies. This sector also became a major channel for developing hybrids, based on ICRISAT-bred material, and delivering them to farmers. ICRISAT scientists recognised that the Institute's traditional relationship with public sector breeding programmes, although important, was no longer the sole route to farm-level adoption of the hybrids developed from ICRISAT-bred research products.

This realisation was all the more pertinent as a succession of funding shocks at ICRISAT and other CGIAR centres were accompanied by increased scrutiny of the value and impact of international agricultural research efforts.

ICRISAT scientists also realised that the private seed companies had a better perception of farmers' choices and needs as they were close to the dealers and farmers. The feedback from numerous companies was fed into ICRISAT's research programmes for incorporation into the latter's research agenda. Based on these considerations, ICRISAT scientists realised that a shift was needed from viewing the private sector as a passive recipient of ICRISAT breeding material, to treating it as a research partner - both in terms of a source of funds and complementary expertise, especially in the area of development.

Consortium approach to resource mobilisation

The need for additional funds to address vital research gaps encouraged ICRISAT scientists to take advantage of the interaction between ICRISAT and the private sector, nurtured carefully over the years, and involve them as research partners.

The issues related to ICRISAT's basic principle of keeping its products/technologies as IPGs, the need and opportunity for resource mobilisation from the private sector, and the need of the private sector to maintain "trade secrets" were resolved through a series of confidence-building exercises with private sector scientists and administrators.

In view of the immense economic benefits derived from ICRISAT's research on hybrid parents, the track record of ICRISAT scientists in delivering agreed outputs, and the opportunity for the individual seed companies to exploit the materials to the fullest extent permitted by their research and development (R&D) capabilities, the seed companies came forward to join as partners. ICRISAT therefore initiated the sorghum and pearl millet consortia under which a member in each consortium provides a grant of US\$ 5,000 per year-1 for a five-year period. ICRISAT and the private sector consortia members agree upon project outputs.

The outcome of this initiative was the policy approval by ICRISAT for the formation of the sorghum and pearl millet hybrid parents' research consortia in 2000. The number of companies in the consortia increased from 7 in 2000 to 14 in 2003 for sorghum, and from 9 in 2000 to 16 in 2003 for pearl millet, with 10 companies being common in both consortia. Pigeonpea hybrid parents' research started under a different framework of private sector partnership with the Maharashtra Hybrids Seeds Company Limited (MAHYCO) in 1999. That partnership involved joint planning development and

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implementation. Effective from 2002, a consortium for pigeonpea seed parents was initiated. This consortium approach of research and resource mobilisation was the first of its kind in the entire CGIAR system.

Partnership in research and development

All-India Co-ordinated Programmes are constrained to accept only a limited number of entries from each company for testing in the All-India Trials. However, the private seed companies have larger number of hybrids that they wish to test on a common platform in order to help them assess the relative worth of their hybrids. Private seed companies requested ICRISAT to provide such a platform. ICRISAT now provides a co-ordinated mechanism for testing of sorghum hybrids. It collects the hybrid seed from the seed companies, constitutes the trials to be conducted by each consortium member, collates and analyses the data from each location, and prepares and distributes the reports to each member contributing hybrids for the common trial.

Seed crisis management

During natural calamities, apart from the loss of human life and damage to physical structures, seed are also destroyed. In this respect, one private seed company played a commendable role in collaborating with ICRISAT. Following an earthquake disaster in 2001, ICRISAT produced 300 kg of seed for one of its pearl millet hybrids. The private seed company packed the seed in specially prepared packets, transported it from Hyderabad to Ahmedabad and then de-

livered to a local NGO in Kutch, Gujarat for distribution to the earthquake-affected farmers in Bhuj. Also, on the initiative of ICRISAT, another seed company distributed 350 kg of seed from one of its promising pearl millet hybrids to Kutch farmers. Similarly, when farmers in Bundi district of Rajasthan were looking for forage sorghum hybrid in the drought year of 2002, a private seed company, upon request from ICRISAT, provided them with 250 kg of seed for a sorghum forage hybrid. The seed company transported the seed from the production area in Nizamabad, Andhra Pradesh and delivered it to an NGO in Bundi district, which distributed the seed to the drought-affected farmers. Several such cases exemplify the successful co-ordination between ICRISAT and the private sector for public cause.

On-farm impacts

Several improved cultivars have been developed and marketed to farmers by private companies in Asia, and past ICRISAT-private sector informal partnership work has greatly contributed to hybrid development.

The greatest impact of ICRISAT's research in Asia is in cereals research. For example, in India more than 4 million ha (80 per cent of the total) of monsoon-season sorghum and 1 million ha of summer season sorghum are planted with about 50 private sector-based hybrids, of which 30 are based on ICRISAT-derived parental lines/improved germplasm. These hybrids have made substantial contributions to the enhancement of biodiversity, productivity and yield stability, and have improved the livelihood of poor farmers in dry areas.

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