

Gene bank named after Paroda

By G. Venkataramani

CHENNAI, JAN.3. Holding the priceless resource of plant genetic material in public trust and managing them for the well-being of the future generations is a noble task, and the gene banks of international agricultural research centres come in for special praise for they are the custodians of the precious genetic resources.

"Genetic variation, once considered unlimited, is fast eroding as modern varieties replace traditional cultivars over large areas, and natural habitats are destroyed. Therefore, there is an urgent need to conserve the nature's genetic diversity, created in farmer's fields over millennia, complemented by the diversity present in wild relatives of crops," says William Dar, Director-General of the International Crops Research Institute for the Semi-Arid Tropics (ICRISAT), Hyderabad.

Dr. Dar says that genetic variation must be conserved, both to combat new pests and diseases that emerge from time to time, and to produce better-adapted varieties in changing environments. The

ICRISAT is a pioneer in genetic conservation, and its well-established gene bank now serves as a world repository for the collection of germplasm of its five mandate crops: sorghum, pearl millet, chickpea, pigeonpea, groundnut, and six small millets.

With over 114,000 germplasm accessions, assembled from 130 countries, through donations and expeditions, the ICRISAT gene bank is the largest and the most sophisticated among the international gene banks, according to Dr. Dar.

Collecting germplasm also provides rich opportunities for cooperation between the ICRISAT and national programmes. Collection is always done jointly with national programme scientists and often with international organisations.

The samples are initially characterised and regenerated in the source country and useful germplasm is acquired under Material Acquisition Agreements.

All germplasm that finds their way into the ICRISAT gene bank are examined by the Indian national plant

quarantine system before they are released.

Safety measures

The ICRISAT gene bank is designed to withstand natural disasters. For further safety, long-term conservation collection is duplicated in other gene banks.

For example, the entire pigeonpea germplasm is now being prepared for long-term base conservation in the gene bank of the National Bureau of Plant Genetic Resources (NBPGR) of the Indian Council of Agricultural Research (ICAR), New Delhi.

Similarly, duplicates of large portions of chickpea germplasm are conserved at the International Centre for Agricultural Research in the Dry Areas (ICARDA), Aleppo, Syria, and about 56 per cent of the sorghum germplasm is duplicated at the National Seed Storage Laboratory, Fort Collins, Colorado, the U.S.

This unique, state-of-the-art facility was recently named "Rajendra S. Paroda Gene bank" when the ICRISAT was celebrating its 30th anniversary.

"It is a singularly appropriate way of recognising

the outstanding contributions of Dr. R.S. Paroda, former Director-General of the ICAR. As director of the NBPGR, Dr. Paroda was a principal partner in establishing this important resource.

Later, as Director-General of the ICAR, Dr. Paroda played a crucial role in strengthening this advanced facility," says Dr. Dar.

Dr. Paroda, an accomplished geneticist and plant breeder, has made significant contributions in the fields of genetic resources conservation, including training, policy planning and networking at the national, regional and global level.

He is the architect of the Indian National gene bank, one of the largest and most modern national facilities for *ex situ* conservation, currently holding about 0.2 million accessions.

His active role in conserving the genetic resources in the Asia-Pacific region is well recognised, and he is actively engaged in promoting genetic resources centres and plant genetic resource programme in Central Asia and Caucasus, Dr. Dar says.

| RAJENDRA S PARODA GENE BANK | | | | | | |
|-----------------------------|------------|-----------|--------------|--------|--------|---------|
| 12 DECEMBER 2002 | | | | | | |
| CROP | ASSEMBLY | | DISTRIBUTION | | | |
| | ACCESSIONS | COUNTRIES | ICRISAT | ICAR | NBPGR | COUNTRY |
| SORGHUM | 36774 | 91 | 208593 | 125638 | 121237 | 103 |
| PEARL MILLET | 21465 | 50 | 41710 | 58655 | 29889 | 77 |
| CHICKPEA | 17258 | 44 | 166556 | 64622 | 52813 | 82 |
| PIGEONPEA | 13548 | 74 | 70916 | 44632 | 20224 | 107 |
| GROUNDNUT | 15419 | 93 | 73140 | 43086 | 47817 | 92 |
| SMALL MILLETS | 9254 | 46 | 390 | 32602 | 17960 | 55 |
| TOTAL | 113718 | | 559305 | 369235 | 289740 | |

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