Reaping a bounty

DCM Shriram's Bioseed business has a presence across the entire seeds value chain

With its extensive and growing presence across the entire agri value chain and chlor-vinyl industry, New Delhi-based integrated business conglomerate DCM Shriram Ltd (DSL) has had an enduring partnership with India's farmlands. When the company, managed by the late DCM founder Lala Shri Ram's great grandsons, Ajay, Vikram and Ajit Shriram, acquired Iowa-based Bioseed Genetics International Inc in 2002 to form Shriram Bioseed Genetics India Ltd, it created further value in the agricultural spectrum. Shriram Bioseed, together with DSL's other affiliated subsidiaries, Bioseed Research India Pvt Ltd and Shriram Bioseed Ventures Ltd, has end to end integration with presence across the entire seeds value chain spanning research, production, processing, extension activities and marketing.

Bioseed today has six breeding and 16 testing stations in India. Its research laboratory at the International Crop Research Institute for Semi Arid Tropics (ICRISAT) at Patancheru, outside Hyderabad, in Telangana, is one of the most advanced of its kind and has had pathbreaking achievements in the field of hybrid and transgenic seeds, and molecular breeding. It has an employee strength of 200.

As it expanded, Bioseed strengthened its operations in Vietnam and the Philippines and extended its coverage to Indonesia, Thailand, Bangladesh, Laos, Cambodia, Nepal and China. Apart from being present in both field and vegetable crops in India, the company is present in corn in the Philippines, Vietnam and Indonesia. The focus is also on agri-extension activities that involve close interaction with the farming community. Bioseed also became a member of Agribusiness Incubator @ ICRISAT in 2004 to avail of technical and

infrastructure support to commercialise Bt technology and to develop protocols for the transformation of pigeon pea. In three years, it received approval for its first Bt cotton hybrid. Bioseed revenue stood at ₹469.8 crore in 2016-17, with PBIT (Profit Before Interest and Tax) at ₹14.7 crore. The overseas business contributes 10 per cent of the revenue.

Paresh Verma, president, Bioseed South-East Asia, & research director, Bioseed Research, located at Kavuri Hills, near ICRISAT, says that more than 60 doctorates and Masters of Science in Agriculture form the backbone of the company's research cell, their mandate being to produce hybrid seeds of superior genetics. They work with more than 8,000 germplasm resources (living tissue from which new plants can be grown), and the systems and procedures they follow and enforce are constantly monitored by independent bodies.

"The Bioseed laboratory has produced path-breaking results in the fields of hybrid and transgenic seeds, and genetically modified (GM) crops, sowing new trends in farming prosperity," says Verma. "Time and again, Bioseed has shown that biotechnology research has the potential to raise crop immunity against pests, diseases and droughts, without any side-effects, and each of its breakthroughs increases agricultural output."

Bioseed Genetics provides agricultural biotechnology services and a range of hybrid and transgenic seeds, GM field crops of Bt cotton, corn, paddy, pearl millet (*bajra*), sorghum (*jowar*), sunflower and pigeon pea, and vegetable crops like tomato, chilly, okra, brinjal and gourd, says Sharad Sharma, president (Bioseed South Asia), Shriram Bioseed Genetics, co-located in Kavuri Hills. According to him, Bioseed today owns a vast pool of germplasm, among the richest in the world, and is one of the few biotechnology companies with expertise across the board, as in Research and Development (R&D), field and lab testing, data review, production, farm management and farmer interaction. Its gene pool has had one of the highest success rates in all of Asia.

All Bioseed production facilities are governed by quality protocols and guidelines prescribed by the International Seed Testing Association, founded in Switzerland in 1924. "The company's pan-Asian spread allows cross-fertilisation of ideas," mentions Verma. "With the mission to empower farmers with high-yielding solutions of the future, from the right hybrids to better cultivation techniques, it provides unique biotechnology-based solutions for the benefit of countries with similar climatic and soil conditions."

Verma says India's seed industry has undergone pathbreaking changes since the time of government monopoly on seed research that had thwarted private investment. Hybrids and varieties were developed solely in state agriculture universities and the Indian Council of Agricultural Research (ICAR). Regulated seed production and sale, and restricted trade and access to germplasm, the key resource in R&D, caused much volatility in seed quality and prices.

Stable market

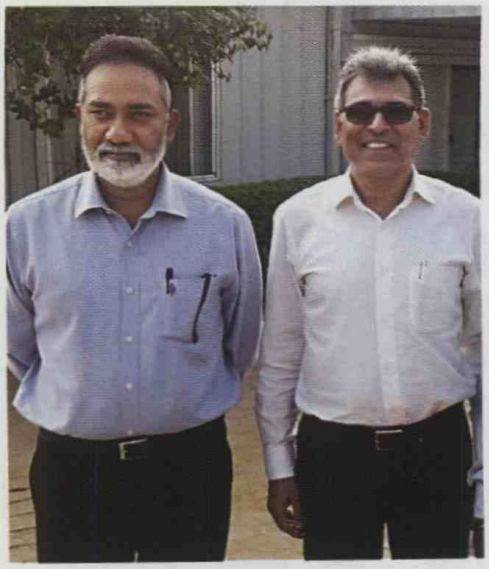
The Seed Policy of 1987, however, opened up the seed industry, much ahead of the rest of the economy,

Verma recalls. It allowed 100 per cent FDI and free exchange of germplasm, and liberalised trade regulations, eliciting private sector investment in research. The FDI move also drew in multinationals like Pioneer, and subsequently Monsanto. Crops started getting produced by the end of the maiden private sector research cycles of 5-6 years. "Thus, all the maize, cotton, sunflower and vegetables today come from the hybrid seed industry, while 80 per cent of rice seeds sold too comes from the private sector," he points out. While the public seed sector today comprises National Seed Corporation, State Farm Corporation of India and 13 state seed corporations, there are around 150 national and multinational seed companies in the private sector.

Bioseed tied up with Monsanto in 2010 for commercialising GM corn when the Philippines seed market shifted rapidly to GM corn, while Bioseed's presence was in conventional hybrid seed. "It is a long haul business as the climate is quite complex in these countries," explains Vikram Shriram, vice-chairman & managing director, DCM Shriram. "We are starting to make inroads in these markets."

The company has been conducting advanced stage trials in Vietnam and Indonesia and has R&D centres in Vietnam and the Philippines for developing products suitable to the local climatic conditions. Only 10 per cent of Bioseed's turnover is from its business in the Philippines, Vietnam and Indonesia where its mainstay is corn, while most of it accrues from its India operations. Its 'Bioseed' brand Bt cotton contributes over 60 per cent to its topline and has a nine per cent market share in India. Bioseed, is focused on strengthening conventional breeding as well as biotechnology-related initiatives.

DSL was spun out of a four-way reconstitution in 1990 of the Shri Ram family's businesses that had their origin in the textile mill of their patriarch, Lala Shri Ram, 109 years ago. It currently has two types of businesses. The agri-rural business is served by a rural retail chain and spans sugar, basic nutrients like urea,



Verma & Sharma: understanding markets

DAP (di-ammonium phosphate), MOP (muriate of potash) and SSP (single super phosphate) fertilisers, speciality nutrients like water soluble and micro nutrients, plant growth regulators and soil nutrient enhancers, hybrid, transgenic and open-pollinated (OP) seeds, GM crops, and insecticides, herbicides and fungicides. Its chlor-vinyl business produces caustic soda, calcium carbide, chlorine, vinyl resins, vinyl compounds and cement.

Bioseed supports its product line through a network of dealers, agronomic professionals, farm management specialists and product development teams, and its agronomists build close farmer interactions in identifying the root of each agricultural problem in each climatic zone. The problem could be a pest or disease, or some soil or climatic characteristic, and the solution would lie in building crop resistance to it. "Such interactions in India and overseas have led to a deep understanding of each target market," notes Verma. "Farmers have turned to Bioseed agronomists for advice on seed selection and supplies, and for guidance on the use of fertilisers and pesticides."

Ratnam Sammireddy, a seasoned cotton farmer from Nagaram village in Andhra Pradesh's Warangal district, planted Bioseed Bt cotton *Chiranjeevi* over three-fourths of an acre of light soil, in rows less than a metre apart. He was pleased by the results. "As it rained little and ground water was low, Bioseed advised me to irrigate every alternate row, by which I saved water that allowed me to introduce another dose of irrigation after 25 days," he notes. "What a difference this made – ultimately, I harvested 12 quintals and expect another three quintals shortly, the best being that I can get an additional price of ₹20 per quintal for fibre quality." Sucking pest incidence too was low, despite a high prevalence of jassids and thrips (sucking pests) in the area. He says he intends to plant four acres next year.

Crippled by debt following his father's suicide in 1996, Mothi Reddy migrated to Warangal from his village Kantathmakur in Andhra Pradesh, but returned 12 years later when he heard of the 'magic seed', *Chiranjeevi BG2*. He was told that yields went up manifold and he decided to plant the seed in a part of his six-acre farm. "I now reap 12-15 quintals an acre, more than double than what my father got and such a yield translates into 30 per cent profits that have helped me renovate my house and send my son to an engineering college," he exults.

Corn is a major crop in Karnataka and several of its hybrids are available. But rather than experiment, M.V. Omakarappa, who has a 22-acre farm in Medduganhalli village in Davangere district, turned to Bioseed agronomists. They recommended Bioseed *Rajkumar*, the spacing – 60 by 20 cm – and the manures to be used in the cropping period. "*Rajkumar* is the only hybrid that makes efficient use of manures and soil nutrients and the only one with non-lodging characteristics in adverse conditions of heavy rain and winds," says Omakarappa. "The output was equally impressive, with a uniform cob size, complete sheath coverage, more grain weight and healthy colour."

Jalinder Deobe Knade of Kalamb village in Pune district, was elated by the disease-free profitable harvests he got after switching to the cabbage hybrid, *Bio Jubilee*. "Last year, I had lost my entire crop to disease, but this year with *Bio Jubilee* my net income has increased manifold," he points out.

◆ SAROSH BANA

feedback@businessindiagroup.com