The basmati success story

India’s annual basmati rice exports have soared from 0.3-0.35 million tonnes to 4.5-4.6 mt in 3 decades. This is testimony to what good public sector breeding and collaboration with industry can achieve.

The first revolution

Till the late 1980s, Indian farmers grew traditional basmati varieties with tall plants (150-160 cm), prone to lodging (bending over when heavy with well-filled grains), and yielding barely 10 quintals per acre. But a new variety, IR64, was released in the late 1980s. It was bred by a team of IARI scientists led by E.A. Siddiqui. It crossed between the traditional basmati variety and a dwarf variety to produce a variety that was shorter (110-120 cm), less prone to lodging, and yielding 20-22 quintals per acre. The variety was released in 1987 and quickly became popular among farmers.

The second revolution

In 2000, the release of Pusa Basmati-1121 (PB-1121) by the Indian Agricultural Research Institute (IARI) in New Delhi, marked a significant breakthrough. The variety was developed through a hybridization program involving traditional basmati varieties and modern high-yielding varieties. PB-1121 had several desirable traits, including high yield potential, good quality, and disease resistance. It was also easier to grow and had a shorter growing season, making it more suitable for diverse regions.

The third revolution

In 2013, the IARI released Pusa Basmati-1858 and Pusa Basmati-1857. These were developed through genetic modifications to improve quality and yield. The varieties were designed to have a longer grain and better texture, making them more suitable for consumers and increasing their market value.