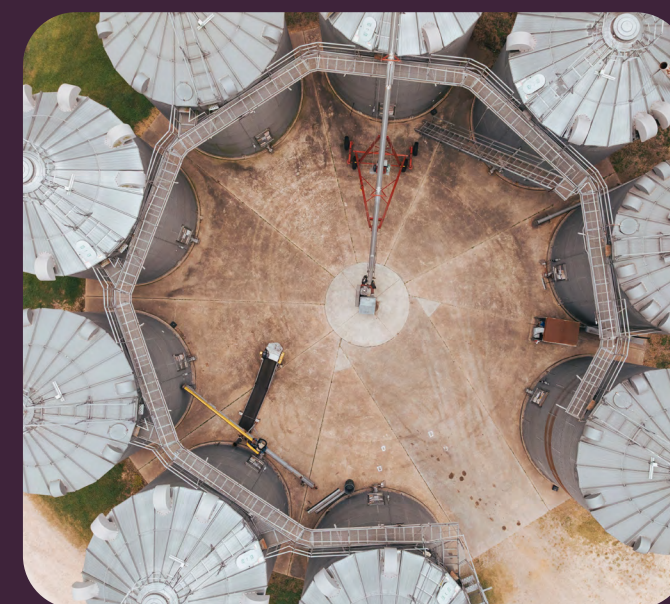


HYBRID RICE (R)EVOLUTION

How RiceTec is championing sustainable rice agriculture, one field at a time



Providing 20 percent of the world's dietary energy, rice is a vital part of the global food supply. Half of the world's population consumes rice daily, making it a crucial crop across diverse cultures and regions. With over 40,000 varieties, rice is grown in most countries and its cultivation spans around 165 million hectares, yielding more than 500 million metric tons annually.

While sustainability has been a key topic in rice farming for some time, its true potential has not yet been realized. At the forefront of sustainable rice innovation, RiceTec, a pioneering technology company, introduced

the first commercial hybrid rice in the US in 2000. While hybrid rice originated in China, RiceTec was the first to bring this game-changing technology to Western markets.

"Rice is one of the world's four major crops - alongside soy, corn, and wheat - but has historically received relatively little technological innovation compared to the others," opens Karsten Neuffer, who served as RiceTec's CEO at the time of the interview. "It's a fascinating crop with deep cultural roots and diverse cultivation practices. Beyond its central role as a world food staple, rice is used in religious rituals, fermented drinks, biodegradable packaging, and even construction materials."

Hybrid innovation

RiceTec has always had a clear mission to lead innovation for sustainable rice agriculture. As a science-based company, it's committed to creating more value for farmers, consumers, and the planet. "After pioneering hybrid rice in the US 25 years ago, RiceTec subsequently expanded into different geographies, first entering Brazil and then establishing a presence in India 15 years ago," Karsten explains. With R&D facilities and seed production across these key regions, the company now exports hybrid rice seeds to rice farmers around the globe, including Europe, South and Central America, Southeast Asia,

and, in smaller quantities, Africa. "RiceTec has a strong global presence and a unique market position. Wherever rice is grown, there's a good chance RiceTec hybrids are being used," he continues.

For anyone unfamiliar with the agricultural market, we asked Karsten to elaborate on hybrid rice seeds and their benefits. "Simply put, hybrid seeds are created by cross-pollinating two different parent plants," he expands. "This process results in 'hybrid vigor,' meaning the plants grow stronger, yield more, and adapt better to tough conditions like drought or extreme temperatures." For farmers, this translates into higher yields per

acre, more consistent harvests, and greater resilience to climate stress, which helps reduce risk and improve profitability.

“RiceTec has an innovative portfolio of hybrid rice seeds, each delivering higher productivity for farmers and addressing their agronomic needs such as herbicide tolerance, disease resistance, grain quality, and stress adaptability,” Karsten explains. “Rice is highly localized, with consumer preferences varying widely across regions. RiceTec hybrids are bred to meet both farmers’ requirements but also align with consumer tastes. It’s this balance of agronomic performance and market appeal that drives this innovation.”

Strategic solutions

Over the last 30 years, RiceTec has brought several innovations to market. “In India, the FullPage® Rice Cropping Solution was launched - a herbicide tolerant hybrid



rice seed that improves yields, controls weeds, and offers early-season disease and insect protection,” Karsten continues. “By controlling weeds, farmers can use different planting systems to use less water, resulting in higher yield with lower water consumption.” These improvements not only enhance productivity but also free up time and resources, making rice farming more manageable and profitable.

Additionally, RiceTec has historically focused on long grain rice, but recently launched medium-grain hybrid rice seeds in the US. “This strategic move allows RiceTec to meet growing demand in domestic and specialty markets while offering farmers a resilient, high-yielding alternative that performs well under diverse growing conditions,” Karsten says.

To fully appreciate the impact of hybrid rice seeds, we must first explore the



sustainability challenges associated with traditional rice farming. Many of the world's rice farmers, especially in Asia, still rely on transplanting, a method where seedlings are grown in nurseries and then moved to flooded fields. This process demands long hours of physical labor, placing a heavy burden on agricultural workers, many of whom are women. It's also highly water-intensive, consuming nearly 30 percent of the world's available fresh water. Flooded rice fields create conditions that release methane, a powerful greenhouse gas (GHG), making traditional rice farming one of the largest contributors of GHG emissions in agriculture.

RiceTec's hybrid technologies offer a smarter path forward by reducing methane emissions and supporting less water-intensive planting systems. These innovations help farmers meet sustainability



goals without sacrificing yield or grain quality. Studies show hybrid rice emits less methane than traditional varieties. RiceTec's climate-smart hybrids also support direct-seeded rice (DSR), a modern method that reduces labor and water use. Their strong performance under environmental stress makes them ideal for today's unpredictable climate. Together, hybrid seeds and DSR empower farmers to increase yields, boost efficiency, lower costs, and grow more sustainably and more profitably.

Security and sustainability

RiceTec's vision for the future is shaped by the unique dynamics of each country, as Karsten explains: "Every nation needs to balance food security and food sustainability. Food security is crucial for countries striving to establish a reliable, self-sufficient food supply. At the same time,

sustainable production is not only required by the global food chain and consumers, but also increasingly important for farmers looking to improve their practices using technologies that enable mechanization, reduce water use, and lower carbon emissions," he says. "Both goals are critical, but the path forward depends on local needs, resources, and long-term agricultural strategies. Regardless of the approach, widespread adoption of hybrid rice plays a key role in the solution."

Karsten continues: "To drive adoption, two elements are essential: a company like RiceTec that is innovation focused and passionate about sustainable rice agriculture, plus strong support across the entire ecosystem." A single company can not achieve this alone; the entire value chain must be engaged to support this vision. To do this, RiceTec collaborates with universities, industry partners, rice mills, food companies, and government agencies to build broad-based support. The company also actively pursues licensing opportunities to make its technology more accessible to farmers worldwide and accelerate global adoption.

As the world faces mounting challenges in food security, environmental sustainability, and resource conservation, RiceTec stands at the intersection of innovation and impact. With every seed planted, farmers are not just growing rice, they're cultivating a future that's more productive, sustainable, and resilient.

The hybrid rice (r)evolution is more than a technological breakthrough; it's a movement powered by science, shaped by global collaboration, and driven by the passion of growers worldwide. ■

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