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Chinese agrochemical firm acquires plant immunity technology in $7 Mn bet on next-generation biopesticides

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Jiangsu Pesticide Research Institute secures Nanjing Agricultural University's protein-based crop protection technology, aiming to accelerate commercialisation in China's fast-growing biologicals market

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China's push towards sustainable crop protection gained fresh momentum after Jiangsu Pesticide Research Institute Co., Ltd. (JPRI) signed an agreement to acquire a protein-based plant immunity inducer technology from Nanjing Agricultural University for RMB 50 million (approximately $7 million).

The deal, signed on July 16, represents a significant university-to-industry technology transfer in China's rapidly evolving biopesticide sector and underscores growing commercial interest in biological crop protection solutions that reduce dependence on conventional chemical pesticides. Under the agreement, JPRI will lead the product through regulatory registration and commercial deployment in the Chinese market.

A different approach to crop protection

Unlike traditional pesticides that eliminate pests or pathogens directly, the newly acquired technology works by stimulating a plant's natural immune system.

Marketed in China under the trademark "Nannong Youkang," the protein-based plant immunity inducer activates broad-spectrum disease resistance, enabling crops to defend themselves against multiple pathogens over an extended period while reducing the likelihood of resistance development.

The technology also offers environmental advantages by lowering risks to beneficial insects and other non-target organisms, aligning with China's broader transition towards greener agricultural inputs.

From laboratory breakthrough to commercial product

The technology is the result of more than two decades of research by Nanjing Agricultural University's crop disease research team, whose work has appeared in leading scientific journals including Science and Nature. Its commercial significance, however, lies less in the underlying science than in solving one of the industry's biggest manufacturing challenges.

Researchers succeeded in developing an endotoxin-free eukaryotic secretory expression system capable of producing the protein at tonne-scale volumes while significantly improving storage stability and field shelf life—technical hurdles that had previously prevented protein-based immunity inducers from becoming commercially viable. Those advances ultimately laid the foundation for the RMB 50 million licensing agreement.

Promising field performance

Field evaluations across eastern China's soybean-growing regions have produced encouraging results. According to trial data, the product reduced the incidence of major diseases, including root rot and viral infections, by 68.7 per cent, while increasing soybean yields by 17.6 per cent.

In rice cultivation, it lowered chemical pesticide use by 20 per cent, achieved an overall disease control rate of 84.6 per cent, and improved yields by 5.8 per cent compared with conventional crop protection programmes. Researchers say the product can also be integrated with an earlier-developed seed-coating technology, creating a biological crop protection system that supports disease management throughout the crop growth cycle.

A signal for China's biologicals industry

The transaction reflects a broader trend across China's agricultural sector, where public research institutions and private companies are increasingly collaborating to commercialise advanced biological technologies.

As regulators, growers and global food markets place greater emphasis on sustainability, protein-based crop protection products could emerge as an important new category within the biologicals market, offering growers alternatives that combine disease management with lower environmental impact. For Jiangsu Pesticide Research Institute, the acquisition provides access to a differentiated technology platform as competition intensifies in China's rapidly expanding biopesticides industry.