

China's rice strategy moves beyond paddy field

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Zhongnongda rice combines drought tolerance, waterlogging resilience and high yield as partners establish joint research institute and commercialisation pipeline



China Agricultural University (CAU) and Winall Hi-tech Seed Co., Ltd. have signed a strategic cooperation agreement aimed at accelerating the commercialisation and wider adoption of new upland rice varieties, as China looks to expand rice production beyond conventional paddy fields.

The partnership covers strategic cooperation in the upland rice industry, the transfer of new dryland rice varieties and joint work on breeding, demonstration and promotion. The two organisations also inaugurated the CAU–Winall Hi-tech Upland Rice Research Institute in Beijing.

At the centre of the agreement is CAU's "Zhongnongda" series of upland rice, developed over more than a decade by a team led by Professor Li Zichao of CAU's College of Agronomy. The breeding programme used CAU's Hainan crop breeding base to accelerate the advancement of breeding generations.

The new varieties are designed to bridge characteristics traditionally associated with paddy and upland rice. According to CAU, they combine drought resistance, waterlogging tolerance, yield stability, high yield, grain quality and ease of cultivation—a combination that has led the university to describe upland rice as an "amphibious crop."

That adaptability could widen the geographical range in which rice can be cultivated. Unlike conventional rice production, which depends on suitable paddy conditions, the Zhongnongda varieties are intended for both relatively dry environments and low-lying areas vulnerable to waterlogging.

Their potential lies in what CAU describes as a dual land-use advantage: the varieties can be cultivated without competing with other upland crops for land or with conventional rice for paddy fields. This makes them particularly relevant to arid regions and areas prone to excessive rainfall and waterlogging.

As part of the agreement, CAU has exclusively transferred “Zhongnongda 4” and “Zhongnongda 5” to Winall Hi-tech for market promotion.

Both varieties have completed the relevant approval processes for new upland rice varieties in Yunnan, Tianjin and Henan. They are characterised by high yield, high quality, strong drought resistance and broad adaptability, according to the source.

Field demonstrations have already been conducted across several contrasting production environments, including the Huang-Huai-Hai region, the North China Plain, mountainous areas of Yunnan and Aksu Prefecture in Xinjiang.

The agreement goes beyond the commercial transfer of two varieties. Winall Hi-tech has also launched a dedicated cooperation project to provide long-term support to CAU’s upland rice breeding team.

The initiative will focus on developing new upland rice varieties alongside a supporting technical system for upland cultivation, creating a pipeline that links breeding research with field demonstration and commercial deployment.

The establishment of the joint research institute provides an institutional platform for that effort, bringing university breeding expertise and commercial seed-sector capabilities into a single development and promotion framework. The Zhongnongda programme is positioning upland rice not simply as an alternative to paddy rice, but as a crop capable of occupying production spaces where conventional rice and upland crops face different land and water constraints.