

describe the cross and institutional origin, but it should not pretend to know exactly which component of the final phenotype came from which parent, or claim a molecular explanation that has not been documented in the available source.

Even so, some modest inferences are reasonable. Because the variety was ultimately approved as a conventional early indica rice with a short growth duration, relatively short stature, stronger tillering, and decent grain filling, the breeders were almost certainly selecting toward a practical combination of earliness and production stability rather than toward premium grain quality alone. The resulting trait package supports that interpretation. Zhongzu 100 does not look like a quality-specialty cultivar. It looks like a production-oriented early-rice line shaped by the demands of provincial testing and field promotion. That kind of selection logic is consistent with the broader orientation of applied rice breeding in southern China, where the target is often a workable balance rather than a single highly optimized trait (Peng et al., 2009).

The breeding process should therefore be framed carefully in publication writing. A defensible description would be that Zhongzu 100 was developed through conventional crossing and selection, then evaluated through Zhejiang provincial early-indica regional and production trials, after which it entered seed multiplication and demonstration through a company-led extension system. What cannot be responsibly stated, because the current materials do not show it, is any detailed marker-assisted selection scheme, genomic selection pipeline, or parent-specific trait decomposition. Restraint here is not a weakness; it is exactly what keeps the manuscript aligned with academic integrity.

#### **2.4 Variety approval and promotion history of Zhongzu 100**

The approval history of Zhongzu 100 is one of the strongest parts of its documentary record. The official approval number given in the company dossier is Zheshendao 2020003, and the variety is identified as suitable for early-rice planting in Zhejiang Province. This is not a trivial point. Provincial approval means the variety has moved beyond internal selection and has already been tested against at least one recognized local benchmark, in this case Zhongzao 39. The approval opinion is also quite specific: Zhongzu 100 is described as a mid-maturing conventional early indica rice with neat and uniform field growth, comparatively short plants, luxuriant growth, stronger tillering, green-stem yellow-ripening behavior in the later stage, good color conversion, and good yield potential, while also being moderately susceptible to blast and highly susceptible to bacterial leaf blight.

Promotion history is more unevenly documented, but still meaningful. The dossier states that the company maintains a stable seed base and that seed is sold not only within Zhejiang but also into Jiangxi, Fujian, Anhui, and Guangxi. It also reports that in 2025 Zhongzu 100 was recognized as a Super Rice variety by the Ministry of Agriculture and Rural Affairs. Because that recognition was not independently verified from an official government database during this review, the most accurate wording is to say that it is reported in the company dossier. Even with that caveat, the reported sequence-provincial approval, seed-base construction, interprovincial marketing, and super-rice recognition-suggests a cultivar that has moved from local testing into a more visible commercialization stage.

This sequence also hints at how Zhongzu 100 should be understood at present. It is not yet a heavily studied “model variety” in the literature. Instead, it is a recently promoted production cultivar whose public profile is being built through registration data, company extension, and market circulation. That status shapes the rest of this paper. The evidence for Zhongzu 100 is strongest when discussing agronomic registration traits and actual production performance in Zhejiang; it is weaker when making broader claims about long-term national adaptation or disease durability across many rice ecologies. A credible evaluation has to keep that difference in view.

### **3 Major Agronomic Characteristics of Zhongzu 100**

The core agronomic profile of Zhongzu 100 is summarized in Table 1. Because the current evidence base is still concentrated in official registration and company materials, the table intentionally presents only traceable indicators rather than speculative traits.