

Sino-Japanese Cooperative Research for the Breeding of Cold Tolerant, Blast-Resistant Varieties with High Quality and High Yield.

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Rice-growing area amounts to 1,070,000 ha in Yunnan. The yield in 1984-1986 averaged 4.4/ha. Since the climate and varieties vary greatly with the altitude in the province, breeding work at present aims at the high-yielding areas located between 1,500-2,000m above the sea level. This is the main keng-rice (japonica) region of the province which is further divided into two subregions, namely, 1) the zone where both hsienkeng (indica-japonica) types were grown but where the tillering type keng rice of better quality has been substituted since the 1960s. The main constraints there are blast and lodging; 2) highland keng region between 1,800-2,000m where most of the varieties are of the panicle type with low temperature and blast being the main constraints to achieve stable high yield.

As the local varieties of Yunnan are all of the panicle type and Japanese varieties are all of the tillering type, the immediate goal is to breed intermediate type cultivars. In the course of breeding, germplasm evaluated for cold tolerance and blast resistance is used as parent material in the crosses. In the early generation, promising lines with desirable agronomic characters are screened simultaneously for cold tolerance and blast resistance to ensure the accumulation of various favorable genes in the selected lines. As a result, several new varieties have been developed and are now under test in localities in Yunnan and neighboring provinces.