

vegetative cover over the field, reducing the ecological cost of leaving paddy land bare through the winter. Third, it increases the output generated per unit of cultivated land over the yearly cycle.

These advantages are especially important in regions where farmland is limited and where annual productivity depends more on multiple cropping than on land expansion. FAO reporting on land use reinforces this broader point: agricultural sustainability is increasingly a question of how existing cropland is used through time, not merely how much cropland exists. For Qianjiang 661, the implication is practical rather than abstract. If the cultivar can be sown after rice, establish reliably under paddy-derived conditions, and mature in time for the next rice season, then it directly improves winter resource capture on the same land base. This is one reason its promotion value should be interpreted at the system level.

4.4 Performance under different ecological conditions

No responsible review should imply that one cultivar performs identically across all ecological zones unless strong multi-environment evidence exists. For Qianjiang 661, that level of public evidence is not yet widely visible. The strongest application case at present is therefore regional rather than national: Zhejiang and comparable eastern rice areas with humid conditions, established rice-based annual calendars, and a growing need for mechanized winter rapeseed cultivation.

This does not mean the cultivar has no wider potential. It means the present evidence is strongest where the demonstration network is strongest. In applied agronomy, that is a common situation. Enterprise and extension materials often accumulate first in the regions where commercialization begins, and only later does a broader independent evidence base develop. For that reason, the most scientifically careful position is that Qianjiang 661 appears promising under eastern Chinese rice-rapeseed conditions, but broader ecological generalization still requires more systematic public validation (Figure 2).

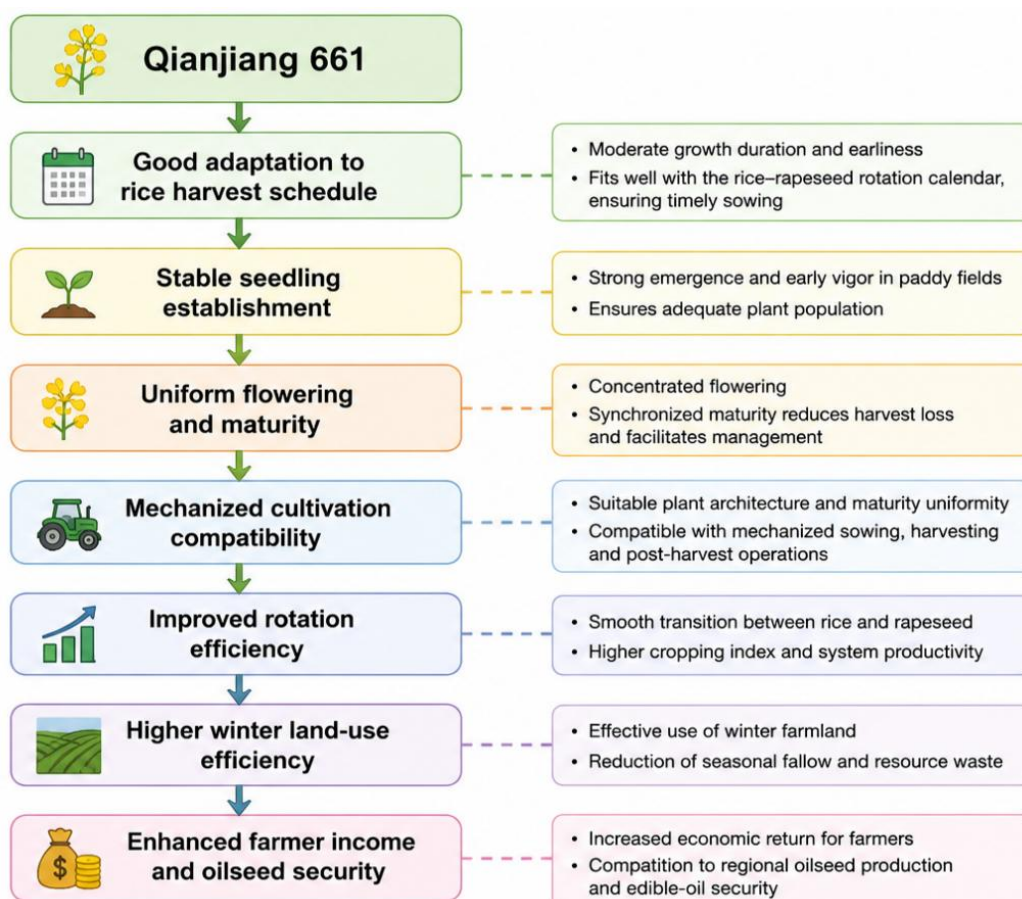


Figure 2 Mechanism by which Qianjiang 661 contributes to rice-rapeseed rotation system performance