Broadening Genetic Diversity of Cultivated Rice through Interspecific Hybridization within Genus *Oryzeae*

I. Evaluation of Agronomic Characteristics of Introduced Wild Rice Species*¹*

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Summary

In order to broaden genetic (including cytoplasmic) diversity of Formosan cultivated rice through interspecific hybridization within Genus *Oryzeae*, 25 wild rice accessions belonging to nine *Oryza* species were introduced to the Institute from International Rice Research Institute in 1989. The purpose of this report was to present some important information as the wild rice germplasm should be included in the future rice breeding programs. Under the environmental conditions of Taichung area, all of the wild rice accessions come out with awn varied in length, stigma outgrowing, secondary branching light and panicle shattering absolutely high. They were also characterized by a marked auricle on the leaves and purple stigma in the spikelets with an exception of *O. australiensis* which was auricleless and white stigma. In general, significant differences in growth habits and morphological characteristics were found among the species; and intraspecific differences were also observed for the characteristics except flowering time, panicle axis angle, panicle exertion, panicle type, awn color, and seed coat color. Variation due to crop season on growth duration, culm length, tiller number, and panicle length were evident, especially for culm length and tiller number. A total of 13 out of the 25 accessions failed to head in the first crop season. The rest, headed in the first crop season, had culm length and tiller number significantly high than those in the second crop season. A wide range of flowering time, from 6 am to 4 pm varied with entries under Taichung environmental conditions, was observed for the entries. Therefore, reasonable pollination schedule has to be arranged depending on the entries used. Based on the chromosome makeup, the introduced wild rice entries can be classified as diploids and/or tetraploids. However, it is difficult to identify their ploidy based on the morphological features.

Key words: Genus *Oryzeae*, Interspecific hybridization, Cultivated rice, Genetic diversity, Wild rice.

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