

Hybridization Potential Between Cultivated Rice *Oryza sativa* and African Wild Rice *Oryza longistaminata*

Kanya, James Ireri; Amugune, O.N.; Hauser, P.T

URI: <http://erepository.uonbi.ac.ke:8080/xmlui/handle/123456789/36021>

Date: 2012

Abstract:

Hybridization potential between cultivated rice (*Oryza sativa*) and wild rice (*Oryza longistaminata*) was studied in Kenya. At first seeds of the two parents were sown and their growth patterns established. At maturity, F1 hybrid seeds were generated from manual crosses between the two *Oryza* species under greenhouse conditions. The F1 hybrid seeds and seeds of the two parents were sown to compare the hybrids' growth patterns and seed production with those of the parents. Correlations of seed production with other and morphological discrimination of hybrids from the parents were also scored. This study showed that hybridization between the two species can occur resulting in 6% hybrids seeds. On growth patterns, *O. longistaminata* plants grew taller than F1 plants, which grew taller than *O. sativa* plants. The three types of plants continued to grow in height up to maturity, but the gain in height in the hybrid and cultivar plants slowed down upon reaching the flowering stage, after the 10th week. It was also found that seed production in hybrids positively correlated with flag leaf length; while in *O. longistaminata*, seed produced positively correlated with plant height and panicle length. However, in *O. sativa*, number of seeds correlated with panicle exertion. The study also indicates that there were morphological differences (plant height, flag leaf length, panicle exertion and awn length) between the hybrids and the parents suggesting that these traits could be used as markers for identification of the hybrid plants from the parents.