

Category	: International Rice Research Conference
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Keyword 1	: Hybrid rice
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Title of Entry	: Current Research on Hybrid Rice: Towards a Rice Secure Philippines
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Abstract	: Hybrid rice has been introduced in the Philippines in 1994 with the introduction of a released variety PSB Rc26H or Magat followed by PSB Rc72H or Mestizo 1 in 1997. Since then, hybrid rice has been used by many farmers throughout the country. PSA (2016) reported that in 2015, hybrid rice has been planted in 308,254 hectares producing 2,075,473 metric tons with average yield of 5.2 tha <sup>-1</sup> . Originating in China, this technology enables the utilization of inherent superiority of hybrid progenies over both parents and promises a 15-20% yield advantage compared to conventional inbred varieties under the same input levels (Virmani et al., 1997; Ying et al., 2014). It is based on the phenomenon called “heterosis” or hybrid vigor in the F1 progeny produced from mating two parental genotypes. The demand for more rice in the Philippines is at stake due rising population that may reach 138 million in 2040 and with per capita consumption of 112.3 kg/year, hybrid rice cultivation can help the country rice secure in the future. PhilRice has been working both on three-line in Nueva Ecija and two-line system in Los Banos for the development of high yielding hybrid rice varieties adapted to local conditions. Its researches are focused on the development of parentals, induced mutagenesis, phenotype and genotype characterization of parentals and hybrids, performance tests, and seed production of experimental hybrids. PhilRice also collaborates with IRRI through the Hybrid Rice Development Consortium (HRDC), state universities and colleges, and local government units in the branch stations. The major challenge of public hybrids is the availability of seeds other than stability and wide adaptability. This great challenge owing to the high location-specificity of hybrids can be achieved by capitalizing on new superior inbred lines as parent line coupled with a well-managed selection protocol in developing CMS, B and R lines in the case of CMS-based

system. The targets of this work are to develop high yielding two- and three-line hybrids, resistant to major pests and diseases, good grain quality, and lodging resistant; to develop associated crop management systems and technologies that will optimize the expression of heterosis.

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