A Review :

MAGIC : A magical genetic resource for multiple trait enhancements in rice

■ **Pratibha Bisen, Richa Singh and Pooja Goswami**

SUMMARY : MAGIC is the multi-parent advanced generation inter-cross. It is a simple extension of the advance inter cross. The MAGIC is an alternative resource for the genetic dissection of complex traits. The development of MAGIC population initiated by using the two major ecotypes: indica and japonica. Japonica rice grains are short, roundish, spikelet's are awnless to long awned and having 0-20 per cent amylose content in grain. Whereas counterpart indica rice grains are long to short selender grain, awnless spikelets and 23-31 per cent amylose content observed in grain. In rice, developed 4 multi-parent populations: indica MAGIC (8 indica parents); MAGIC plus (8 indica parents with two additional rounds of 8-way F_1 inter-crossing); japonica MAGIC (8 japonica parents); and Global MAGIC (16 parents – 8 indica and 8 japonica). The parents used in creating these populations are improved varieties with desirable traits for biotic and abiotic stress tolerance, yield and grain quality. The purpose is to fine map QTLs for multiple traits and to directly and indirectly use the highly recombined lines in breeding programmes.

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