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Rice knockouts

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There is a pressing need for selective gene targeting techniques that can manipulate the [rice genome](#). In an Advanced Online Publication in [Nature Biotechnology](#), Terada *et al.* describe an efficient procedure for targeted gene disruption by homologous recombination in rice (*Nature Biotechnology* 9 September 2002, DOI:10.1038/nbt737). They decided to target the [Waxy gene](#), which encodes an amylose synthesis enzyme, because it affects rice grain quality and quantity, and because associated phenotypes can be easily measured. They inactivated the *Waxy* gene by insertion of a hygromycin-resistance cassette into intron 1 and used strong positive/negative selection to determine that around 1% of transformants contained a disrupted *Waxy* allele resulting from homologous recombination.

References

1. International Rice Genome Sequencing Project: the effort to completely sequence the rice genome.
2. *Nature Biotechnology*, [<http://www.nature.com/nbt/>]
3. The amylose content in rice endosperm is related to the post-transcriptional regulation of the *waxy* gene.