

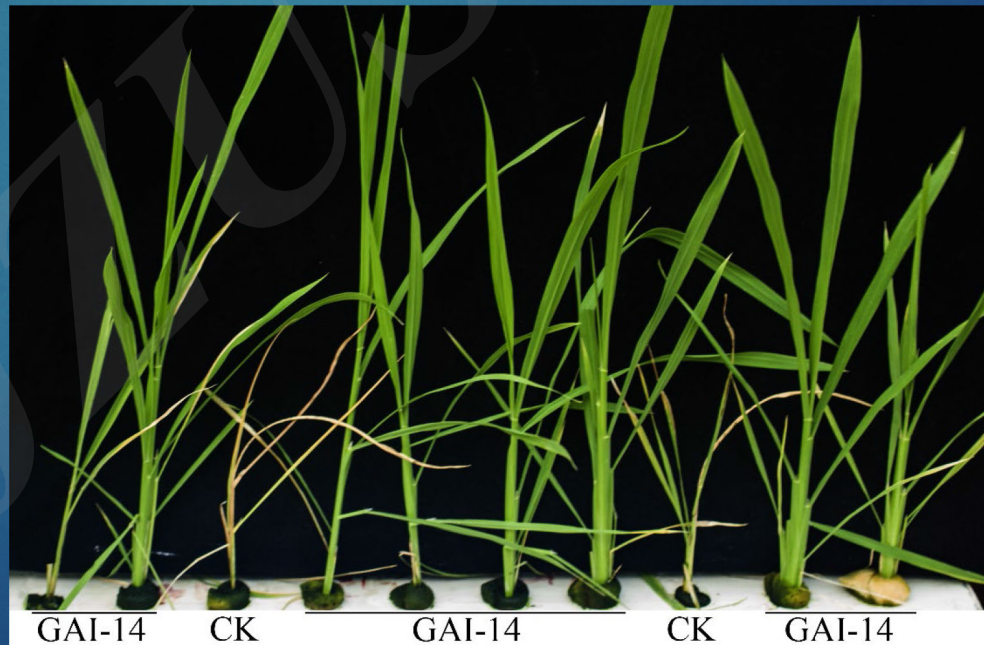
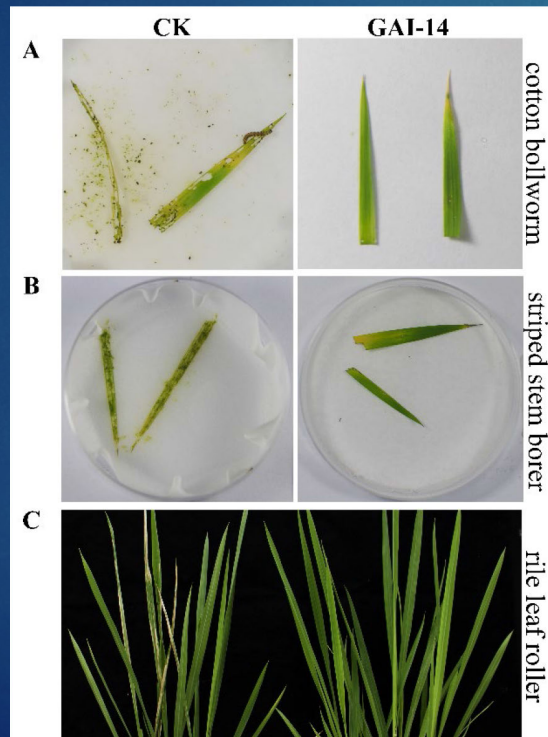
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Generation of insect-resistant and glyphosate-tolerant rice by introduction of a T-DNA containing two Bt insecticidal genes and an EPSPS gene

Key words: Transgenic rice, Bt, Bt resistance management, EPSPS

Research Summary

- ▶ Transgenic rice lines were created to carry two Bt insecticidal genes, *Cry1Ac* and *Cry1Ig*, and an *EPSPS* gene (G10) in a single T-DNA by *Agrobacterium*-mediated transformation.
- ▶ The transgenic rice is highly resistant to rice lepidopteran pests and tolerant to glyphosate.



Innovation point

- ▶ The *Cry1Ig* was a newly discovered Bt insecticidal gene, which showed great potential to be utilized Bt crops.
- ▶ *Cry1I* may have different mode of action from *Cry1Ac*. Thus the stacking of *Cry1Ig* and *Cry1Ac* could not only enhance the insecticidal activity, but also delay the development of Bt resistance.
- ▶ The *G10* gene was used as the selection marker gene, which conferred the transgenic rice glyphosate-tolerance.