


### genetic engineering and sugarcane — regulation and release of GM sugarcane

an update from the Cooperative Research Centre for Sugar Industry Innovation through Biotechnology (CRC SIIB)



*GE has been put forward as a way to feed burgeoning world populations and as a technique to help crops adapt to climate change. The Cooperative Research Centre for Sugar Industry Innovation through Biotechnology (CRC SIIB) is working with government authorities to assess the safe release of any GE plants in the future.*

#### Regulation and release of GM crops for the future

Sugarcane usually reproduces vegetatively – but that is not always the case. It can also reproduce from seed. Researchers are trying to find out whether, if a genetically modified (GM) sugarcane variety is planted next to non-GM crops or wild sugarcane, it will accidentally pollinate them or introduce its genes through a stray vegetative bud.

The job of assessing the likelihood of GM plants spreading and possible impacts on human health falls to the government regulator, the Office of the Gene Technology Regulator. OGTR decides whether or not to introduce a GM variety.

To supply part of the data needed by OGTR, researchers are working out what conditions lead to germination and establishment of sugarcane plants.

They have found that sugarcane seed germinates best at 36°C in the laboratory. However, in sugarcane growing areas, temperatures are lower, so germination is also lower. Researchers expect germinating conditions to be poorer again in sugarcane fields because there, the seeds dry out, are eaten or if they do germinate, have to compete with other plants suggesting that successful spread of GM seed is unlikely.

While more research is underway, results to date have been discussed with the OGTR and contribute to the pool of information they are using to ensure the safe release of approved plants for field trials.

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