

## Seeding change

**A BREAKTHROUGH in GM plant technology has been announced by researchers in Australia, in a move that could transform the GM crops industry.**

It is thought that the identification of alternatives to the heavily patented *Agrobacterium* microbe could help shift the stalemate between pro- and anti-GM campaigners in Europe and across the world.

The past decade has seen a bitter dispute between biotech advocates and an assortment of consumer groups and environmentalists. Among the principle objections of many anti-GM campaigners has been the domination of the technology by big firms, raising suspicions as to the direction and application of research.



**New growth: GM debate needs to move forward**

The ownership of GM plant technology is currently concentrated within two large companies, Monsanto and Syngenta. Licences are required to make commercial use of their techniques, effectively limiting the ability of poorer nations, smaller companies and independent researchers to get involved in GM.

Now researchers at CAMBIA – a not-for-profit international research organisation affiliated to Charles Stuart University, Australia – have demonstrated that alternatives to *Agrobacterium* are just as effective in manipulating the genetic makeup of several important crop types.

What's more, the researchers are pioneering an 'open source' approach to their findings, in the hope that they will stimulate a more equitable, less centralised approach to developing GM.

Steve Hughes, on the board of directors at CAMBIA and head of the ESRC's Egenis Centre for Genomics in Society in Exeter, argues that the terms of the debate are moving on while the biotech industry and anti-GM lobby are locked in stalemate.

Professor Hughes said: "Both, in my opinion, are fighting a war with old tools. It's stalled for that reason. There isn't a constructive discourse."

The emergence of alternative routes for research and development might not itself be enough to kick-start a public debate on more rational terms. However, it is hoped that a more transparent approach, less identifiable with big business interests, will persuade many sceptics to take a fresh look at the merits of GM.

“It can’t guarantee total freedom to operate yet,” warns Hughes. “There may be a need for other ‘invent-arounds’ before it can be guaranteed that one could use it in the commercial sense. But because it’s being made an analogue of open-source, as far as we can do that with material inventions rather than software, anybody can start working with it now without any hindrance, other than agreeing to share their own improvements.”

Any further technical obstacles would, he believes, present smaller challenges than that of ‘inventing around’ the Agrobacterium microbe. “I think it will start changing the landscape immediately, because it will change people’s thinking ... We were trapped down this avenue with Agrobacterium and this has shown that there is another potential route ... I think it will awaken people to the idea that large companies being able to block access to technologies is over.”

The GM discovery forms part of a suite of innovations being promoted by CAMBIA as part of its BIOS project – Biological Innovation for Open Society. This aims to apply the open source philosophy to a wide variety of research, creating a body of knowledge that is freely available to those in the biological ‘inventive community’ worldwide.

The project also includes the ‘Patent Lens’ resource that researchers can use to scan easily for existing patents, aiming to “restore transparency and preserve the critical focus on societal value”.

***‘Gene transfer to plants by diverse species of bacteria’ (Wim Broothaerts et al) was published in Nature, 10 February 2005.***

Useful websites

**CAMBIA**

<http://www.cambia.org/>

**BIOS**

<http://www.bios.net/daisy/bios/15>

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