

Genetically engineered seeds can be patented in the USA

A US Supreme Court ruling on 10 December 2001 validates the patenting of genetically engineered seeds. Pioneer Hi-Bred had taken JEM AG Supply, an Iowa seed company, to court for breaching its patent. Endorsing the US patent and Trademark Office's 1985 decision to issue broad utility patents on plants, the Court ruled that seeds developed by Pioneer (a subsidiary of DuPont) could not be sold to farmers without its explicit agreement. Decades of development in plant genomics were riding on the decision.

Avebe develops new GM potato

Avebe, Netherlands, has made a breakthrough in its research into genetically modified potatoes by developing a new high-starch potato which conforms with the stipulations laid down by the Dutch Cabinet concerning the genetic manipulation of potato varieties – lower energy-intensive production, involving less use of chemicals. The latest potato is intended to provide starch for technical applications and not for consumption (<http://www.avebe.com/>).

Aventis may face legal action

Aventis may face legal action in the UK after it allowed GM plants to grow on a former GM trial site. The GM oilseed rape flowered in Lincolnshire fields used in 2001 farm scale evaluations months after the main crop was harvested. Aventis was asked by the GM Inspectorate to destroy the crops. The government has yet to decide whether it will pursue the matter through the courts. Friends of the Earth is leading calls for Aventis to be prosecuted. The allegation is that the sites were not properly monitored by Aventis, even though the company is legally responsible to do so. Aventis has now ploughed up the plants.

Aventis CropScience wins appeal against Monsanto

Aventis CropScience has announced that the US federal appeals court has upheld an

earlier ruling against Monsanto's subsidiary DeKalb for breach of its patent on glyphosate-resistant maize. The court also ordered DeKalb to pay \$65 M damages to Aventis CropScience and to stop marketing the GA-21 variety of Roundup Ready maize without a licence. Aventis CropScience started legal proceedings against DeKalb in 1999 accusing it of fraudulently obtaining a licence to its glyphosate resistance technology which it then passed on to Monsanto. The appeal court ruling allows Aventis to market its technology to farmers but does not prevent Monsanto from continuing to market Roundup Ready maize through DeKalb and Holdens following the signing of a provisional contract between Aventis CropScience and Monsanto.

BT corn that resists rootworm

Several crop protection products, such as carbamates, organophosphates and pyrethroids, will be hurt by the impending commercial sale in 2002 of *Bacillus thuringiensis* (*Bt*) corn that resists rootworm. North and Latin America and east central Europe are home to the corn rootworm, damage from which has prompted \$1 bn of loss and control costs yearly in the US. Monsanto claims its YieldGard Rootworm is currently being reviewed by the US and Japanese regulatory offices, although the company has already obtained environmental approval from the Japanese Ministry of Agriculture, Forestry, and Fisheries for the product. YieldGard Rootworm enables crops to form resistance to the Western Rootworm, the Northern Rootworm and the Mexican Rootworm (<http://www.monsanto.com/>).

Glyphosate resistance

The worldwide market for herbicide-tolerant, genetically modified crops is at potential risk because of emergence of resistance to glyphosate. Resistance has been experienced in Australia, Malaysia and the USA; the latest example is in ryegrass in South African vineyards where the product has been in use for 23 years.

GM cotton in China

The acreage of *Bt* cotton in China has risen from under 10,000 hectares in 1998 to nearly 1 M hectares in 2001. GM cotton now accounts for 28% of the total Chinese crop compared with 2.2% in 1998. Over the same period, the use of pesticides by Chinese cotton growers has been cut by 80% because of the use of *Bt* cotton.

Thrips resistant chrysanthemums

Researchers at Plant Research International in the Netherlands have successfully introduced protease inhibitor genes into chrysanthemums and rendered them resistant to attack by thrips – a major pest to the crop to which no variety shows natural resistance. (For further information see www.plant.wageningen-ur.nl).

US and EU regulations concerning GM crops

A new report has been published by RIKILT and Plant Research International in the Netherlands listing the differences in US and EU regulations covering transgenic crops. It identifies similarities between the two systems and areas where harmonisation between the two regulatory systems is necessary. See <http://www.rikilt.wageningen-ur.nl/nutraceuticals>.

Agrobacterium tumefaciens sequence

A paper has been published in the journal *Science*, describing the genome sequence of *Agrobacterium tumefaciens* strain C58, a bacterium that can naturally transfer DNA to plant cells. A team led by Dr. Steve Slater from Cereon Genomics, a subsidiary of Monsanto based in Cambridge, MA, collaborated with Dr. Brad Goodner and his research team from the University of Richmond. The article, and another by a group led by Dr. Eugene Nester of the University of Washington, are featured on the cover the December 14th issue of *Science*. The sequence data is available to the public via the NCBI's Entrez Genome Web Server at <http://www.ncbi.nlm.nih.gov/PMGifs/Genomes/micr.html>.

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