

Field Notes GM Crops in North America



NAM/CRD

Something's cropped up

The modern day feeding of the 5000

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PERHAPS not an issue worthy of the second coming of Christ, but Genetically Modified (GM) technology has seen a clash of ideas.

There seems to be a turbulent relationship building between scientists and industrialists, over the potential that GM crops have to offer. The former acknowledging GM as an exciting new tool set, and the latter as an opportunity for enlarged profit margins. (1) Nevertheless, the benefits surrounding GM crops stretch much further than just monetary gains and scientific tools. It could potentially be the answer to one of the main challenges facing our world within the next 20-30 years, as we struggle to provide food for a rapidly increasing global population. (2)

It is estimated that by the year 2050 the global population will have reached 9.7 billion (3) and with the vast majority of farmland already in ongoing production. (4) GM crops offer a solution to this feeding frenzy; with modifications the crop

will have the necessary resistance to insect pests, diseases, frost and drought. (6) Such developments simply result in higher crop yield. So why question such a promising solution to our biggest global issue? Maybe the fact that our future lies in the hands of a crop that US food regulation classifies as 'Generally recognised as safe' should ring some alarm bells. (8)

There have been a series of health, social and ethical questions surrounding GM technology which have perhaps prevented its further development and caused controversy. One example has been the rapid decline in British birds since the 1970's; with more than twenty bird species experiencing a marked decline in population as a by-product of GM herbicide tolerant crops (8). One particular cause for uproar amongst environmentalists has been the threat to the much loved Monarch Butterfly due to pesticides from GM corn, forecast by Cornell University Scientists. (9) However, GM promoters have pushed aside any negativity over the effects of the crops, with the argument that globally GM technology has actually provoked the decline in pesticide use. (2) It has been estimated that yearly pesticide use in the EU would decrease by 1.5 million kg if just 50% of maize, oilseed rape, sugarbeet and cotton were GM. Not only this, but 73,000 tonnes of CO2 could be saved if there were a reduction of 7.5 million hectares sprayed with pesticides. (2) Despite concerns amongst the general public, there is no denying the prominence of GMO's on a global scale. Between 1996-2001 an increase of 9,000 percent in production saw GM crop plantations rise

MCDONALD'S THE MORAL MASTRO?

DID you foresee the fast-food giant McDonald's leading the charge in anti-GM crops?

Perhaps not, especially with the backlash towards the global franchise in the recent Winter Olympics in Sochi. (5)

However after the introduction of GM

potatoes from self-proclaimed 'sustainable agricultural company' Monsanto. McDonald's, along with Wendy's and Frito-Lay rejected the use of GM potato crops with adapted resistances to the Colorado Beetle; principally due to GMO dubious consumers. (7) Who would have thought?

exponentially from 4million acres - 395million acres worldwide. (4) At current, USA stands as the strongest contender to the GM throne, as farmers in North America are extensively using GM crops in their crop cultivation. (8) Revenues for corn, soy and cotton for the US amounted to \$65 billion in 2008, and with such an economic triumph, it could be fair to argue that public perception towards GMO's would be

French farmers eager to integrate GM crops into their yield, and politicians battling against their use. Previously banned in 2008 and 2012, MON810 is currently the only GM corn crop cultivated within Europe resisting a purge of policy aimed at its eradication from European soils. (10) Earlier this month the French Government announced a ban on the plantation of GM maize from the 9th of March, and is thus, working on a law

TO SPLICE OR NOT TO SPLICE

RECENT splicing arguments have allowed patriots of GM technology and ethical consumers to enter the ring on a contentious debate.

The act of extracting particular DNA from one product and inserting it into another has the scientific potential to improve a crops

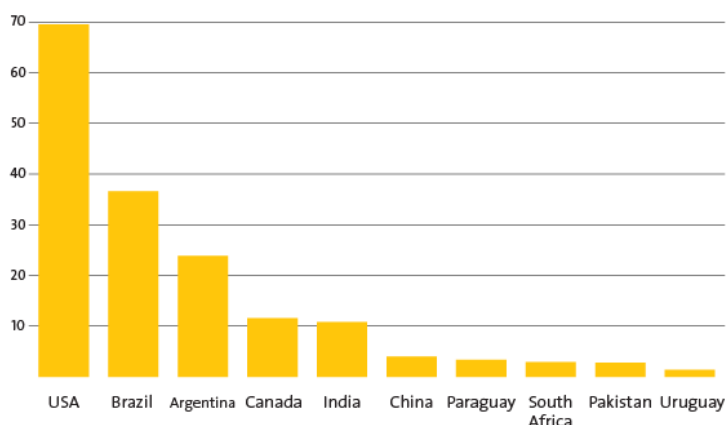
resistance to undesirable factors.

One such exploit of splicing has raised ethical questions due to the organisms involved. Precise genes have been spliced from fish to tomatoes to create a tomato crop able to combat frost. (9) What is morally wrong to some is an exciting prospect for others

particularly the extent of their uncertainty and unease; perhaps provides an accurate example of the global perception up to date. (12) There is no denying the potential GMO's hold, however the ins and outs may yet to have been perfected. ■

The World's Biggest GMO Lovers

Top GMO crop growing countries, in million hectares (2012)



USA top of the pile or holding everyone up?

of a positive nature; however all may not be as it seems. Most noticeably in the states of Hawaii and Washington, public unrest has targeted the use of GM crops, particularly in the latter where a poll on Initiative 522 (a mandate that would require all GM products to carry labels) has unearthed a 90% majority for those in favour of knowing whether or not their food is GM. Although not directly boycotting GMO's altogether, it suggests a scepticism which is reciprocated on the other side of the Atlantic. A recent conflict has emerged between

prohibiting all GMO's. (11) France's push towards a GM free Europe is perhaps an alarm bell towards the unresolved environmental and health concerns surrounding GM foods.

The future of GM technology is seemingly unclear. It remains to be seen that any other technology has experience a public reaction similar to the of GM crops due the ambiguity and dangers it continues to possess. (6) In particular, Britain's firm stance on the use of GM crops, and