

## Gene-Editing Technology: Monsanto Teams Up With Harvard, MIT Institute to Unleash New Unregulated GMOs...

Clustered regularly interspaced short palindromic repeats (CRISPR)

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The Monsanto Company has been reeling from an image crisis for several years now, one that reached a fever pitch with the first March Against Monsanto in May 2013.

The bad press and constant protests, both in its home country of the United States and especially abroad where GMOs are <u>banned in 38 countries</u>, have continued ever since, leading to company plans to possibly change its name and culminating with a pending, agreed-upon sale to Bayer this year.

But while the company has been universally questioned, criticized and protested against by the general citizenry, it has made inroads in large part because of its close relationships with government and academic institutions, as well as the lack of clear, concise labeling on GMO foods.

And now, Monsanto has partnered about with two of the biggest names in academia: Harvard University and MIT, for a new project that could change the face of agriculture in many unforeseen ways.

Monsanto Teams Up With Harvard, MIT for Controversial CRISPR GMOs

The current regulatory framework for GMO crops has been <u>roundly criticized</u> by watchdog groups and scientists who say that Monsanto's new crops are approved despite a lack of long-term, independent safety testing.

But it's still at least somewhat time-consuming for new crops to make it to market, giving customers and watchdog groups a chance to be vigilant.

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The highly controversial new CRISPR technology for creating genetically engineered crops could change all that, however. Also known as gene-editing, this technology allows scientists to simply "exchange a couple letters in an organism's genetic code (either an A, G, C or T) and replace it with one that is somehow beneficial for a specific purpose," as <u>noted in this article</u> from the website DigitalTrends.com. Regular GMOs swap a plant's genes with those from an entirely different organism.

The new CRISPR technique will allow many more scientists and companies to begin experimenting with changing the genes in our natural food crops (which could be highly profitable in the long run, especially since consumers aren't likely to know that it's being done to their food), and now Harvard and MIT are getting in on a piece of the action.

Monsanto announced recently that it has reached an agreement with the Broad Institute (a biomedical and genomic research institute) of MIT and Harvard University, continuing a trend of corporate infiltration of academia that also included a recent \$6 million dollar donation by Bill Gates to help "de-polarize" the debate on GMOs at another top university, Cornell.

The agreement will help "deliver a wide array of crop improvements in global agriculture," the press release stated, and is considered to be the institute's first agricultural license.

"The license to CRISPR-Cas from the Broad Institute provides access to an exciting tool for our growing body of genome-editing research," said Dr. Tom Adams of Monsanto. "Genome-editing technology is complementary to our ongoing discovery research and provides an incredible resource to further unlock our world-leading germplasm and genome libraries."

But what will be the unintended consequences of this strange new world in biotechnology, and will the citizens even know what types of experiments they may be eating?

Here is what the Green party/European Free Alliance group in the European parliament had to say on CRISPR GMOs according to this article from GMWatch.org. In Europe there is a push to classify them along with regular GMOs which could lead to bans and/or restrictions.

"Gene editing raises similar concerns as [genetic modification] as regards intellectual property rights and the impact on traditional and organic farming models. As such, it would make sense for gene editing to be covered by the same regulatory regime as existing GMOs," they said in a statement. "However, the current EU legislation on GMOs is clearly in need of a major overhaul, notably to significantly improve the risk assessment process and ensure its independence, as well as to take account of the socio-economic impact of GMOs."

Natalie Bennett, the UK Green Party leader, had this to say about the new technology: "The Green party believes that with these new technologies, with their often unknown side effects and impacts, it is important to maintain the precautionary principle. These are genetic modifications using new techniques; they should be treated accordingly.

"It was only last week that researchers writing in the prestigious journal Science expressed grave concerns about one particular use of gene editing technology, the gene drive, while the European Food Safety Authority concluded in 2012 that cisgenesis [another technology for altering plants] should be treated in terms of regulation and oversight as a GM technology, at least initially.

"With new techniques and possibilities being developed every year, now is not the time to allow a wild west of release of organisms without full safety oversight and consumer information."

Untested, Unlabeled CRISPR Technology: Full-Speed Ahead in the U.S.

Unfortunately in the United States and despite the concerns of many others like Bennett, the CRISPR gene-editing experiment continues full-speed ahead.

As of right now there will is no regulation needed for CRISPR-created GMO plants such as a new non-browning mushroom created by a Penn State University scientist in the lab, according to the USDA in this article from the Organic Consumers Association.

The technology is also <u>excluded from the new "GMO labeling law (which many described as toothless to begin with)"</u> so there may come a time when such gene-edited crops flood store shelves without customers even knowing, despite the complete lack of independent, long-term safety testing.

For more on the controversial technology and the new Harvard and MIT agreement, you can click on this link.

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