CRISPR poses challenges to regulators of traditional crop biotech

The GLP aggregated and excerpted this blog/article to reflect the diversity of news, opinion and analysis.

The genome editing technique CRISPR-Cas9 has taken the biology world by storm. CRISPR-Cas9 engineered crops are very close to being on the market. But regulators will have to determine if they are a GMO, a question that is harder to answer than many may realize.

To begin with, GMO is really not a science term, it is a regulatory definition, a legal distinction. All organisms have had their genetically modified in some fashion, for as long as we have had agriculture.

Up until recently, using CRISPR-Cas9 automatically requires the legal GMO designation in America, because the Cas9 gene and fragments of the *Agrobacterium's* genome can end up in the final crop.

But researchers in Korea are working hard at using CRISPR-Cas9 without incurring the manufactured GMO stigma. If the fully assembled CRISPR-Cas9 system is introduced into the cell without using the target cell's genome the crop would fall into a regulatory gray area.

Yes this is a legal loophole, then again the definition of GMO is legal and not scientific.

This wouldn't be the first time that crops had circumvented the GMO designation by using alternative means. Some examples of this include blue grass made with a gene gun and plums that were the offspring of GMOs.

Other wrinkles: What if CRISPR-Cas9 is used to delete a gene? Or if ancestral traits, lost due to the randomness of artificial selection, are reintroduced?

It's easy to see how examples like this do not fit the traditional view of what a GMO is, and even more reason for policy-makers to use an evidence-basis for decision-making, and not cater to press releases.

Read full, original post: CRISPR May Redefine What it Means To Be GMO