

# What's in a name? For GMOs and Organics a whole lot of nonsense

By ACSH Staff — May 29, 2015



Here's a question for our Dispatch readers: When is a GMO not a

GMO? A proper science answer would go something like this: all agriculture (and really all life) has been genetically modified at some point either by humans or another species (e.g. bacteria or virus) so therefore everything is a GMO.

However, the world is not run through proper science, it's run through politics and concerns, and this makes having a legal definition of GMOs difficult. Here in America, if a gene could have been introduced into a plant in nature, it can still be considered organic even if the process of getting that gene into the plant is highly scientific. A number of products that you are eating (and ironically they can be called organic) are created by a method that would horrify you far more than what may concern you about GMOs.

ACSH's Dr. Josh Bloom explains: New breeds or strains of... everything are created when DNA is altered sufficiently to create something with different properties. Prior to GM technology here is how it was often done: Seeds were subjected to carcinogenic chemicals, such as ethyl methanesulfonate a chemical that puts the fear of god into chemists who need to use it in the lab.

He continues, Carcinogens work by damaging (and thus changing) DNA so that it no longer functions as it is supposed to. This may be very bad for humans, but it accomplishes exactly what it is supposed to accomplish with the seeds. Mutated DNA gives rise to new species.

If that sounds bad, the other method probably sounds worse. Dr. Bloom explains, Another way to damage DNA is by exposing it to nuclear radiation. Just like with the chemical method, it has been used since the 1930s. You have most likely eaten products created by these natural techniques. The list of crops created in these ways is [extensive](#): [1] grapefruits, oranges, apples, cherries, pears, grapes. Are they dangerous? No once the new seeds have been manufactured, there is not one bit of chemical or radiation present.



ACSH's Nicholas Staropoli says, Given what you just read, does the GM process, which accomplishes the same thing, although more precisely and faster, sound so bad?

It all boils down to this: plants created through the process of mutagenesis are considered non-GMO because the changes to the organism's DNA are endogenous. However, using precision technology to introduce an exogenous gene from another plant mysteriously turns it into a GMO. Does this make sense to anyone?

It is this loose, inconsistent, and arbitrary definition that some researchers now want to exploit when making new genetically engineered crops and thereby avoiding the fraught term GMO. Scientists working at the University of Copenhagen argue that, by the American definition, if they used CRISPR (a new and highly specific gene editing technique) to add previously-lost ancestral traits back into the modern version of the plant, it should not be labeled a GMO. In fact they have their own name for the product: *rewilding*. They even want to give the process a fancy name: *precision breeding*.

Dr. Bloom calls the use of this terminology: Precision Bull####.

Here's one example, the current crop of rice plants that are grown in Southeast Asia were improved through this technique. An ancestral rice plant was found in the wild that had poor crop yields but was incredibly tolerant to flooding. Through the long, inaccurate and tedious process of cross breeding the current crops acquired the genes for the flood tolerance from the ancestral line.

The researchers argue that precision breeding does not qualify as a GMO under the American standard: since the gene was in the plant's genome in the wild at some point, reintroducing it (by whatever means) might still be compatible with the rather arbitrary definition of organic.

In the future precision breeding could be a useful tool to rewild wheat, which is unsuitable for selective breeding because it has 3 genomes. Precision breeding could be used to remove genes from all three genomes that make the plant susceptible to the highly-destructive fungal infestation, wheat rust.

However, this sort of rebranding for GMOs does not sit well with people on both sides of the GMO

aisle. Brise Tencer, the executive director of the Organic Farming Research Foundation in Santa Cruz, California says They take a term that sounds really wonderful, but genetic engineering is genetic engineering is genetic engineering.

ACSH s Dr. Gil Ross had this comment: Listen, I get the perceived need to win the public s acceptance of GMO technology as used in agriculture. It s sad that this is thought to be necessary to convince consumers that the products of biotechnology GMO food are equivalent in safety and nutrition to traditionally-grown crops in the lab and the field, and the empirical observations over the past 20 years confirm that. But this approach of rewilding is a bunch of semantic malarkey as far as I m concerned, a flight from science that will not convince anyone. Clearly, there is no need from a health or science point of view to squeeze such products into a non-GMO or organic pigeonhole, and from the POV of the know-nothing or corrupt anti-GMO crowd, I doubt it will pass their smell test either, for what that s worth. These people have an agenda that has nothing to do with logic, so balancing semantic angels on pinheads will not suffice for them. Nor for me either, albeit for entirely different reasons."

And Dr. Bloom equates this nonsense with automobiles: The Model T Ford the first real car is a car. So is a Prius. Should we put warning labels on the Prius? It is quite different and is made using modern technology. Call it a Genetically Modified Ottomobile (a GMO?).

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