The first GMO was developed 50 years ago this November. Here are 8 key milestones in agriculture and medicine since

Half a century ago, the first genetically modified organism ushered in a new era of biological innovation. To mark this anniversary, here are eight milestone GMOs. Many have had, or are poised to have, a dramatic impact on our lives.

1. Escerichia coli

In November 1973, geneticist Stanley Cohen and colleagues reported that they had built a plasmid, a ring of DNA, that carried a gene from another organism into an E. coli cell— the birth of genetic engineering.

Follow the latest news and policy debates on sustainable agriculture, biomedicine, and other ‘disruptive’ innovations. Subscribe to our newsletter.

SIGN UP

2. Transgenic mice

Mouse models are a go-to for scientists who want to study human disease in a controlled way in the lab. In 1974, biologists Rudolf Jaenisch and Beatrice Mintz laid the groundwork for these models by injecting DNA from simian virus into mouse embryos… Since then, transgenic and knockout mice, where a single gene is broken or removed, have been developed to mimic and study human diseases from Alzheimer’s to alcoholism to depression and cancer.

3. Bt tobacco and more

In 1987, geneticist Mark Vaeck and colleagues reported that they had genetically engineered tobacco to produce Bt toxins. These toxins, made by the bacterium Bacillus thuringiensis, affect only certain insects, including several common agricultural pests.

4. Flavr Savr tomato

The impact of the Flavr Savr tomato, introduced in 1994, is largely symbolic. Its genome was modified to block the production of an enzyme responsible for fruit softening, thus keeping the fruit firm longer. High production and distribution costs ultimately doomed the Flavr Savr, but it was the first genetically engineered crop to be approved by the U.S. Food and Drug Administration and to be commercially sold.
5. Biofortified rice

Golden rice, developed in the late 1990s by a team led by biologists Ingo Potrykus and Peter Beyer, contains genes from a daffodil and a soil bacterium that enable it to produce a precursor to vitamin A.

6. AquAdvantage Salmon

The FDA approved AquAdvantage salmon for human consumption in 2015 — making the salmon the first GMO animal to be OK’d as human food in the United States.

7. American chestnut

Historical efforts to develop a blight-resistant chestnut using traditional breeding haven’t panned out, but the Darling chestnut might be the answer. This genetically engineered tree is more resistant to the fungal blight disease thanks to a wheat gene that breaks down the harmful chemical the pathogen produces.

8. Mosquitoes

Genetically modifying animals that spread disease, including mosquitoes, could save a lot of lives; malaria alone kills hundreds of thousands of people each year. “We’re already using genetically modified mosquitoes for disease control,” says biologist Vanessa Macias of the University of North Texas in Denton.

This is an excerpt. Read the original post here