

The New GMO Apples – Meet the “Nonbrowning” Arctic Fuji, Granny, and Golden Delicious

Okanagan Specialty Fruits has won approval for its third GM apple, the non-browning Arctic Fuji, also known as the “botox” apple. The U.S. deregulation process for the first two, the Arctic Granny and the Arctic Golden apple, took five years, but the Fuji was approved in a mere eight months. Next, the company plans to seek approval for another GM apple, the Arctic Gala.

Okanagan uses gene silencing biotechnology, “...to turn down the expression of PPO,” which virtually eliminates the production of the enzyme polyphenol oxidase (PPO), the enzyme that causes the browning in fruit when apples are sliced, bitten, or bruised.

When Will GM Apples Be Available?

If you live in the Western United States, the Arctic apples may be available in a store near you. The company is said to have prototype packaging with an Arctic label and a QR code ready for test marketing in January or February of 2017.

Neal Carter, a bioresource engineer in British Columbia, founded Okanagan Specialty Fruits in 1996, in Summerland, British Columbia.

It's awesome to think we're going to be able to do additional Arctic apples and do them this quickly from a regulatory point of view – it's faster, it cuts down on costs, it's how we like it,” – Neal Carter, FreshFruitPortal.com.

In the past, flavor-altering chemical additives were typically

used to retard browning by the “fresh-sliced” apple processing industry. Carter believes this is what makes Arctic apples a better choice.

On our packaging also we speak to the fact it's preservative free; the fact that Arctic apples will go to market without a preservative treatment like an antioxidant being used with less chemicals being used to treat the apple, more of that apple flavor instead of the antioxidant calcium ascorbate flavor.”

Carter, the creator of the GM apples, is confident the product will “sell itself.” If it doesn't, we're confident they'll do their best to force GM apples onto the consumers.

What's the Concern?

GM apples are highly controversial. Neither farmers nor consumers seem to want anything to do with GM apples. There have been protests and petitions, media coverage has been mostly negative, and many negative comments have been posted on the company's website. Even McDonald's, Wendy's, and Gerber have pledged not to use them.

Despite the controversy, Arctic apples received FDA approval in January 2015 without any independent safety tests or trials.

This whole thing is just another big experiment on humans for no good reason,” – Ronnie Cummins, president of Organic Consumers Association.

“Silencing” the genes that make apples turn brown when exposed to oxygen could have safety issues that will only be realized by hungry consumers. Regular apples turn dark brown when they are bad, as the enzymes do their job. Companies that pre-slice and package apples for other businesses (think sales to

airlines, prisons, restaurants, buffets, salad bars, schools, biotech conferences, etc.) are the target market. Pre-sliced apples are often recalled for contamination and other safety reasons. There's a concern that consumers won't be aware of contamination or know if the apple they are eating is rotten if it can't turn brown.

Some have speculated (in online comments) that this kind of gene modification seems much safer than the type Monsanto has become known for that makes plants resistant to massive amounts of Roundup, but "RNA interference," may have unintended consequences:

This technology uses RNA to silence a target gene, but mounting evidence has shown that meddling with the genes could have unintended effects within the plant and also on organisms that eat the plant. [...] The silenced gene is also heavily involved in a plant's natural defense against pests and pathogens, which could lead to trees that are less healthy than non-GMO apples and rely on more chemical treatments to ward off pests and disease." – Wenonah Hauter, executive director Food & Water Watch

It's not just consumers and consumer advocates voicing their concerns. There is concern that the new unlabeled GMO apples may damage the apple industry's image. The apple is a very trusted, iconic image. Many top apple industry executives and orchard owners have spoken out against GM apples.

Food companies and restaurants, apple growers and growers associations, and consumers don't want GMO apples. Yet this company is introducing them," – Ken Roseboro

And then there's the well-known fear, especially from organic farmers, that genetically modified crops could spread and invade areas where they are not wanted. In response, scientists are working on developing techniques intended to

keep GM crops contained (suicide genes). Many of the top apple industry players have already come out against them. They include the Northwest Horticultural Council, which represents Washington apple growers responsible for more than 60% of the U.S. crop, the U.S. Apple Association, and the British Columbia Fruit Growers Association.

As usual, this product only benefits the biotech industry and big food processing companies,” – The Center for Food Safety

How Can We Avoid Them

According to the agriculture publication, CapitalPress.com, about 1,000 to 1,200, 40-pound boxes of the Arctic Golden GMO apples will be sliced, packaged, and sold in grocery stores in the Western United States in January.

The company will require growers to label the apples as the “Arctic variety,” to be seen as apples are purchased, but no mandatory labeling identifying them as genetically modified will be required. It seems, at least initially, the Artics will be easy to spot. Of course, it may only be a matter of time before GM apples are in all non-organic apple sauce, baby food, apple juice, and other processed apple foods. Or, maybe they will go the way of the Flavr Savr Tomato.

The easiest way to avoid any GMOs is to always buy organic. Also, look for the Non-GMO Project Verified logo.



Avoid pre-sliced apples, which we should do regardless of GM concerns. Obviously, avoid the “Arctic” label. And keep up with GMOs. Things change quickly.

Conclusion

AlterNet summed it up best:

After decades of promises from the biotech industry that genetically engineered (GE) food would feed the world, cure the sick, reduce agricultural dependence on toxic chemicals, and save countless crops from imminent collapse, the U.S. Department of Agriculture approved a product they think will solve a problem humans have struggled with for centuries... an apple that doesn't brown when you slice it. Seriously; we couldn't make this stuff up.”

<https://www.youtube.com/watch?v=SvyGIvNWh1g>

Related Reading:

- *GMO Science – Understanding How GMOs Are Created, and What Prominent Scientists Are Saying*
- *Understanding and Detoxifying Genetically Modified Foods*
- *Scientists Against GMOs – Hear From Those Who Have Done the Research*
- *Doctors Against GMOs – Hear From Those Who Have Done the Research*
- *The Difference Between Heirlooms, Hybrids, and GMOs*

Sources:

- *Arctic Apples coming to supermarkets, despite anti-GMO opposition – Agriculture Blog, Lubbock Avalanche Journal*
- *USDA approves genetically modified Fuji apple – Capital Press*
- *The New GMO Apple Is a Health Hazard, but the USDA Approved It Anyway – AlterNet*

- *Arctic Fuji apple gains approval despite anti-GMO opposition – Food Safety news*
- *How'd We "Make" a Nonbrowning Apple? – Artic Apple*