

Non-browning crops not new, modern science just better at making them

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

Those quick to criticize genetic engineering in food were not pleased with the Simplot non-browning potato or the non-browning Arctic Apple. In these cases the enzyme polyphenol oxidase (PPO) is disabled using a genetic engineering approach. Without this enzyme, plant materials do not turn off colors upon exposure to air, keeping postharvest quality high.

. . . . [Criticisms abounded on the web](#), claiming that the new products were dangerous, that PPO was important, and that nobody knows what is going to happen if we eat non-browning produce.

. . . [D]efects in PPO have been of interest for a long time. [One great example is the golden raisin](#). No PPO activity, and plant breeders and consumers celebrated new little dried weird fruits that were clear and golden. . . That was in 1962.

Snowy white noodles come from hard white wheat, varieties that do not produce browning or greying upon processing.

. . . .The genes for PPO are not functioning, nobody really knows why, but it just is that way.

. . . . Wheat breeder Bob Graybosch developed the new line from crosses of forgotten varieties present in the National Small Grains Collection in Idaho. . . . These old lines with low amounts of PPO were bred together, and the resulting lines had almost no PPO activity.

. . . .

So let's get this straight. If you decrease PPO activity using native gene sequences in potato and apple, and then safety test them– that is unacceptable and must be labeled.

But if you decrease PPO activity through random mating, with no idea how the genes are turned off or what mutations cause it in raisins or wheat– that's okay.

Precision and predictability be damned. The Frankenfood Paradox again.

Read full, original post: [Arctic Wheat? More Non-Browning Crops!](#)