GMO...
Potatoes

What is a genetically modified organism?

A genetically modified organism (GMO) is an animal, plant, or microbe whose DNA has been altered using genetic engineering techniques.

Why would you modify a potato?

Resist pests and disease

Fewer potatoes are lost to pests and disease during the growing process creating a higher yield - also need less pesticides and fungicides

Reduce browning and bruising

Reduce browning and bruising that can occur during packaging, transportation, and storage

Produce less acrylamide

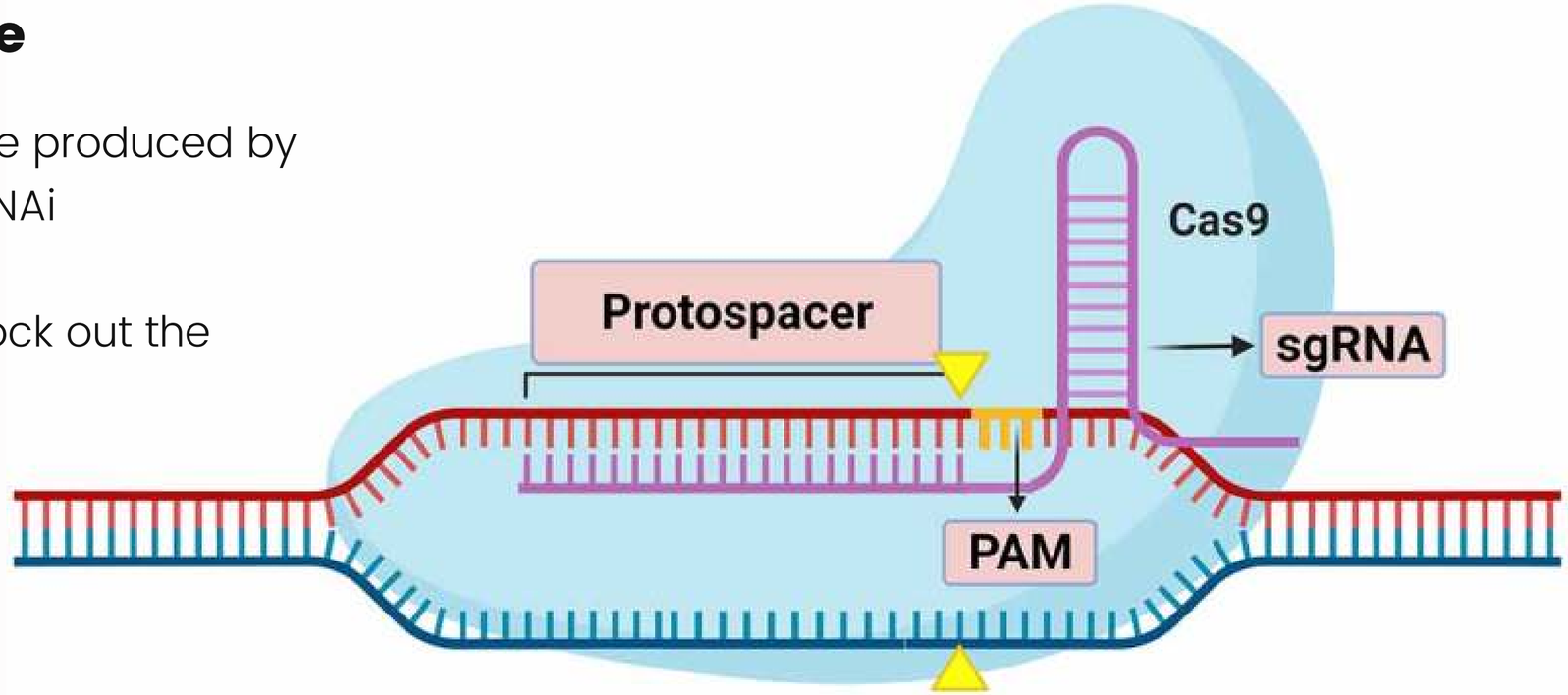
Acrylamide is a chemical with a potential link to cancer when exposed to high heat

How are potatoes genetically modified?

Silencing the GBSSI gene

First: amylose-free potatoes were produced by silencing the GBSSI gene using RNAi

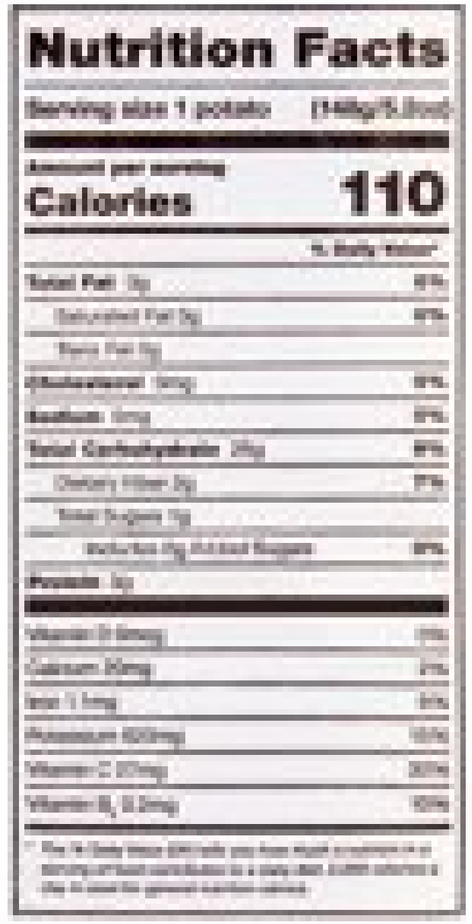
Now: CRISPR/Cas9 is used to knock out the GBSSI gene



Products potatoes are used in:

From Walmart.com

Plain Potatoes



Products potatoes are used in:

From Walmart.com

Potato Chips

Products potatoes are used in:

From Walmart.com

French Fries

INGREDIENTS: POTATOES, VEGETABLE OIL (CONTAINS ONE OR MORE OF THE FOLLOWING OILS: CANOLA, SOYBEAN, COTTONSEED, SUNFLOWER, CORN). CONTAINS 2% OR LESS OF ANNATTO EXTRACT (COLOR), CARAMEL COLOR, SALT, SODIUM ACID PYROPHOSPHATE ADDED TO MAINTAIN COLOR.

Summarizing the Label

Branding

The Lays and Great Value brands are prominent while the Russett Potatoes (plain potato example) was not

- Would suggest the plain potato brand to be more porminent
    - Brand is Simply Perfect

Claims

None of the products described have any claims on their packaging

- Would not propose any changes

Positive Features

- Bright colored packaging
- Picture of the finished product or it spruced up - makes it look very appealing
- Size/amount of food in the package
    - Examples: 2LBS or 8LBS

Negative Features

- No hard packaging - fragile foods (chips)
- Thin plastic - can tear easily
- Plain potato bag has a tie on it instead of sealed - allows for easy theft

Work Cited

Strong, R., & Proctor, K. (2022, May 26). The 9 most common GMO foods from potatoes to apples. Insider. Retrieved March 21, 2023, from https://www.insider.com/guides/health/diet-nutrition/gmo-foods

Center for Food Safety and Applied Nutrition. (n.d.). GMO crops, animal food, and beyond. U.S. Food and Drug Administration. Retrieved March 21, 2023, from https://www.fda.gov/food/agricultural-biotechnology/gmo-crops-animal-food-and-beyond

Genetically modified organisms. Education. (n.d.). Retrieved March 21, 2023, from https://education.nationalgeographic.org/resource/genetically-modified-organisms/

Del Mar Martínez-Prada, M., Curtin, S. J., & Gutiérrez-González, J. J. (2021, January 2). Potato improvement through genetic engineering. GM crops & food. Retrieved March 21, 2023, from https://www.ncbi.nlm.nih.gov/pmc/articles/PMC9208627/#cit0074

Jumbo Russet Potatoes, 8 lb bag. Walmart.com. (n.d.). Retrieved March 21, 2023, from https://www.walmart.com/ip/Jumbo-Russet-Potatoes-8-lb-Bag/10447838?athcpid=10447838&athpgid=AthenaItempage&athcgid=null&athznid=si&athieid=v0&athstid=CS004&athguid=TiWiGjqEXwKoUhx7gv3KollMX_G0y93r966U&athancid=null&athena=true

Lay's classic potato chips, 8 oz bag. Walmart.com. (n.d.). Retrieved March 21, 2023, from https://www.walmart.com/ip/Lay-s-Classic-Potato-Chips-8-oz-Bag/33282303?athbdg=L1200

Great value regular cut French fried potatoes, 32 oz (frozen). Walmart.com. (n.d.). Retrieved March 21, 2023, from https://www.walmart.com/ip/Great-Value-Regular-Cut-French-Fried-Potatoes-32-oz-Frozen/10534214?athbdg=L1600