

# NEW GM SUPER-FRUIT: HIGH ANTIOXIDANT PURPLE TOMATOES



Scientists have now created a genetically-modified (GM) purple tomato variant that has purple flesh and 3 times more antioxidants than normal tomatoes.



## WHY ARE THEY PURPLE?

The purple colour comes from naturally-occurring pigments called **anthocyanins**. They can be found in fruits and vegetables. Anthocyanins have antioxidant properties to remove harmful oxygen molecules in your body. They also have multiple health benefit claims. Depending on their pH, they may appear red, purple, blue, or black.



Butelli et al., (2008)

**Most tomato cultivars do not naturally produce anthocyanins in the fruit! That's why they are normally red in colour.**

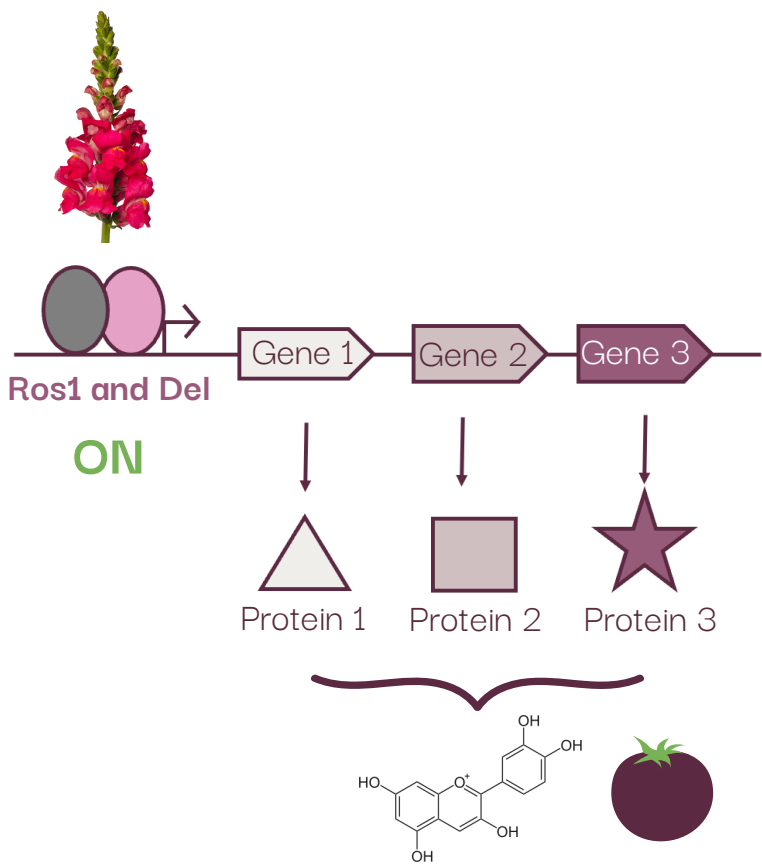


However, tomatoes have the necessary combination of genes to produce anthocyanin. **But, the genes are not 'turned on'**. So, no anthocyanin production proteins are made, hence no anthocyanin is produced.

## HOW DID THEY TURN THE TOMATO PURPLE?

Scientists "borrowed" two genes from the snapdragon flower called **Rosea1 (Ros1)** and **Delila (Del)**. These genes are important in pigmentation in plants.

These genes make the *ros1* and *del* protein and they work together to **'activate' the anthocyanin genes** to make proteins necessary to kick start the production line for anthocyanins.



## ARE THEY SAFE TO EAT?

Yes. Norfolk Plant Sciences has done robust safety assessments and are working with government agencies to bring this to market.

## DO THEY TASTE DIFFERENT TO NORMAL TOMATOES?

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