



Questions & Answers on licence application DIR 218 – commercial release of a tomato genetically modified for purple fruit colour

What is this application for?

All Aussie Avocados Pty Ltd (trading as All Aussie Farmers) is seeking approval from the Gene Technology Regulator (the Regulator) for the commercial release of a genetically modified tomato, the GM Purple Tomato.

The purpose of the application is to allow cultivation of the GM Purple Tomato Australia-wide.

At this stage, it is proposed to be grown in commercial greenhouses. The GM tomato and its products would enter general commerce, including use in human food. The release would be subject to restrictions in some Australian States and Territories for marketing or biosecurity reasons.

Can the GM Purple Tomato be sold as food?

Not at this time. Permission for GM Purple Tomato and its products to be sold as food for human consumption requires a separate application to Food Standards Australia New Zealand (FSANZ). FSANZ also sets the requirements for GM food labelling in Australia.

FSANZ is currently assessing the safety of the GM Purple Tomato and its products under application [A1333](#).

How is the GM Purple Tomato different from non-GM tomatoes?

The GM Purple Tomato has been modified to produce natural purple/blue pigments called anthocyanins in the fruit while it is ripening. These are the same type of pigments that are produced in some non-GM purple tomatoes and a wide variety of other foods, such as blueberries and eggplants.

The introduced genes, *Delila* and *Rosea1*, were sourced from garden snapdragon (*Antirrhinum majus*), an edible flowering plant. These 2 genes act to switch on anthocyanin production, and they only work in the fruit of the GM Purple Tomato when it is ripening.

You can easily tell the ripe fruit of the GM Purple Tomato from non-GM purple tomato varieties:

The effect of the introduced *Delila* and *Rosea1* genes is that a large amount of **purple/blue pigment** is present in the fruit.

This makes **both the skin and flesh** of the fruit **purple** in the **GM Purple Tomato**.



This looks different to **purple non-GM** tomato fruit in which **purple/blue pigments** are mainly **in the skin** (see fruit of the non-GM tomato *Indigo Rose*).

In ripe fruit, the **skin** is **purple** and the **flesh is red** (although some varieties may have a darker tinge in parts of the flesh).



If ripe tomato fruit has **purple skin and purple flesh**, then it is the **GM Purple Tomato**. Currently, there is no non-GM tomato fruit that looks like this.

What are the benefits of the GM Purple Tomato?

The applicant has stated that the increased anthocyanins in the GM Purple Tomato could have health-promoting effects.

Claimed **benefits** are **outside the scope** of the Gene Technology legislation. The Regulator's responsibility is to identify and manage risk as a result of gene technology.

Why does the GM Purple Tomato contain an antibiotic resistance gene?

The GM Purple Tomato also contains an antibiotic resistance marker gene, *nptII*. This gene comes from naturally-occurring bacteria that is widespread in the environment and in the digestive tracts of people and animals. Plant cells that contain the *nptII* gene are resistant to certain antibiotics, so during initial development in the laboratory this gene can be used to select only the plant cells that are GM. The *nptII* gene has been used in many GM foods that are approved for sale in Australia and overseas. It is not known to be toxic or allergenic to people or animals, and there has been no evidence that the *nptII* gene has transferred from GM plants into bacteria.

Has the GM Purple Tomato been approved anywhere else in the world?

In 2023, the GM Purple Tomato was approved for use in human food in the United States (US). Since 2024, the fruit has been sold in US grocery stores and seeds have also been available to home gardeners.

Would there be risks to people or the environment from this release?

The Regulator has prepared a consultation Risk Assessment and Risk Management Plan (RARMP). The RARMP finds that the proposed commercial release of this GM Purple Tomato poses negligible risk to the health and safety of people or the environment. Licence conditions were drafted which would ensure ongoing oversight of the release, if a licence were issued. The proposed licence conditions are in Chapter 4 of the RARMP.

How can I comment on this application?

Please read the consultation RARMP and a summary of the RARMP for application DIR 218 which are available on the [OGTR website](#), the [consultation hub](#) or via an email request to ogtr@health.gov.au.

Please submit your written comments on any risks to the health and safety of people or to the environment from the proposed release via the [consultation hub](#) or an email to ogtr@health.gov.au.

Please don't comment on issues such as **food safety and labelling**, **agricultural chemical use**, **benefits**, and **marketability and trade implications** as these are **not** in the scope of the *Gene Technology Act 2000*. These are the responsibility of state and territory governments, industry bodies or other agencies and authorities.

This consultation closes on 3 November 2025.

What are the next steps in the decision-making process?

All submissions received will be considered and the RARMP finalised. A de-identified summary of all submissions and how they were considered will be included in the appendices to the final RARMP. The finalised RARMP will inform the Regulator on whether or not to issue a licence for this application.
