



Australian Government
Department of Agriculture,
Fisheries and Forestry

Irradiation insights

Boosting opportunities for fresh produce trade among India, South-East Asia and Australia



About irradiation

Many countries can access fresh produce year-round thanks to technology that helps grow, transport and store food. But for trade to occur, produce may need to be treated to help manage the risk of pests that can harm crops.

Traditional pest treatments include using chemicals, gases or different temperatures. The treatment is chosen based on the type of pest and produce, and the requirements of the importing country. An alternative treatment is irradiation, technically known as phytosanitary irradiation. The treatment works by making insects sterile, preventing their spread.

Irradiation treatment is performed at offsite facilities after produce has been harvested. Irradiation is a wave of energy that passes through the packaging and produce, much like an X-ray or a microwave, without affecting the quality of the produce. The safety, convenience and reliability of irradiation is opening more opportunities to safely export plant produce across South-East Asia, India, Australia and beyond.

A trusted pest treatment to increase trade

Irradiation is used in more than 60 countries to treat plant produce. It is regulated under a set of international guidelines, so countries can be confident that the irradiated produce they import and export has been treated correctly and is safe for both people and the environment.



A single treatment for a range of produce and pests

The treatment is effective for a broad range of plant produce and pests, including fruit fly. The entire process is fast and free from heat and chemicals, which maintains the quality of produce and helps it get into markets faster.

No extra equipment or processes are needed at the growing source – produce is simply packaged and sent to a central facility for treatment before it is distributed. Produce is conveniently treated on pallets in its final packaging before export. The amount of irradiation that is given is based on the type and amount of produce, and the pest being treated, to make sure the treatment meets the requirements of the importing country.

A safe and sustainable way to meet biosecurity trade requirements

Irradiation is a safe and sustainable way to provide different regions with fresh produce that they may not be able to grow in their own climates. The technology is helping unlock more opportunities for strong and safe 2-way trade among India, South-East Asia and Australia.

In Australia, irradiation facilities are so highly regulated that they can sterilise medical equipment as well as safely treat plant produce. Australia supports the safe 2-way trade of irradiated produce, with many countries already accepting high-quality irradiated Australian produce. Australia also accepts irradiated produce from other countries, to make sure people have access to quality, fresh produce all year round while protecting crops and environments from unwanted pests.

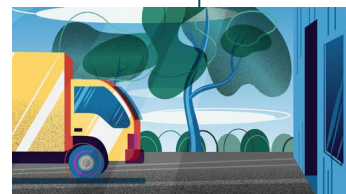


How it works

Irradiation technology has been researched and refined for decades to ensure that irradiation doses effectively treat pests without affecting the quality and safety of produce. There are 3 types of irradiation commonly used for biosecurity treatments: Gamma, X-ray and e-Beam. Produce is simply packaged at the farm and sent to an irradiation facility.

1

Facilities have separate entry and exit points to keep treated produce safe from any pests arriving in an untreated delivery.



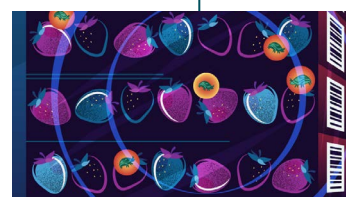
2

Packages are registered to record their treatment details and track them throughout the process.



3

A wave of energy passes through the pallet, treating any pests that may be on or inside the produce and its packaging. The amount of irradiation that is given is based on the type and amount of produce, and the pest being treated. It also considers any other treatments that have been done or will be done, such as more irradiation at the destination.



4

When all the energy has left the package, the treatment is complete. The package is wrapped in a pest-proof barrier to reduce the risk of untreated pests entering the package after treatment.



5

A verification certificate is included to tell biosecurity inspectors in the importing country that the produce has been treated in line with their requirements.



6

The consignment is loaded for distribution in a secure environment to avoid any pests entering from the outside environment.



How to start using irradiation

Adding irradiation treatment to produce supply chains is a quick and easy way to increase trade opportunities.

International guidelines and treatment standards are in place to make sure everyone uses irradiation correctly. The guidelines, along with the increase in uptake of irradiation around the world, is helping to build strong 2-way trade between countries, providing economic and food security benefits for all.

The *Guidelines for the use of irradiation as a phytosanitary measure* are regularly reviewed and updated to make sure phytosanitary irradiation remains a safe and reliable treatment. The latest guidelines can be downloaded from the International Plant Protection Convention website at www.ippc.int/en/core-activities/standards-setting/ispms

For more information about irradiation treatments for plant produce – including videos and fact sheets for plant producers and biosecurity officials across Australia, India and South-East Asia – see the Australian Government’s plant protection website at agriculture.gov.au/plant-protection

To start using irradiation, contact your national plant protection organisation.

