

Importing Irradiated Fresh Produce into New Zealand

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KNs History

- **Previous: NZ Ministry Of Agriculture**
 - Incl. Bilateral trade negotiations and plant import standards development. ISPM developments.
 - Specific to irradiation: Inter-departmental working groups developing legislative and policy frameworks to facilitate the future use of irradiation as a treatment option for fresh produce
- **Current: CEO, NZ FPIA**
 - (incl. specific project involvement in the commercial implementation of irradiation treatments)

Presentation Topics

- Irradiation History in New Zealand
- Legislative Framework
- Current Approvals
- General Consumer Trends
- What Fresh Produce NZ Consumers Buy
- How does Irradiation for Fresh Produce “Fit”
- The Mango Story
- Labelling Issues
- Thoughts on The Future

Irradiation History - NZ

- **Prior to 1983: Basic research**
 - Including insect sterilization
- **1983: Codex General Standard for Food Irradiation adopted**
 - Increased interest within government agencies
- **1985: New Zealand becomes “Nuclear free”**
- **Awareness and opposition to ‘radiation’ issues increase**

History (continued)

- 1987: Government policy effectively banned the sale of irradiated foods in NZ
- early 1990's: The USA requested access of papaya from Hawaii using irradiation as a phytosanitary treatment option.
- 1994: Ethylene dibromide (EDB) banned.
- 1996: Australia and New Zealand established Food Standards Australia New Zealand (FSANZ) to set joint standards in the area of food composition and labelling

History (continued)

- September 1999: FSANZ gazetted Standard 1.5.3: Irradiation of Food
- 2003: 9 tropical fruits approved for phytosanitary applications (incl. mangoes, litchi)
- 2004: First “trial” consignments of irradiated mangoes imported from Australia
- 2013: Dimethoate dip treatment banned for some edible peel products (affected tomato & capsicum exports to New Zealand)

Current Legislation

- **Three over-arching pieces of legislation in NZ relevant to irradiation for phytosanitary purposes:**
 - **The Food Act: Human health**
 - **The Biosecurity Act: Plant health and phytosanitary measures**
 - **The Hazardous Substances New Organisms Act:**
 - Deliberate introduction of new live organisms**

FSANZ Standard 1.5.3 (1)

■ The FSANZ Standard:

- Prohibits the irradiation of food (or ingredients or components of food) unless a specific permission is given.
- Allows for specified foods to be exempted.
- Sets out conditions under which specific exemptions may be granted

Example:

To fulfil a technological need for phytosanitary treatment purposes

In Summary: Importation of Irradiated Produce is Allowed if;

- They are:
 - On the exempted list (FSANZ standard 1.5.3);
and,
 - Treated and labelled in accordance with the FSANZ standard; *and*,
- They meet the requirements of the Biosecurity Act 1993 and the relevant import health standard (e.g. the IHS for Australia mangoes)

FSANZ Standard 1.5.3 (4)

- Presently, there are exemptions for –
 - 25 fruits or vegetables for a phytosanitary purpose (150 to 1000Gy)



FSANZ Approvals: Fresh Produce

Market Access Using Irradiation

Chemical Free Phytosanitary Treatment

Produce **currently approved** for Irradiation includes:

Approved in 2003

- Mango
- Lychee
- Rambutan
- Custard Apple
- Mangosteen
- Papaya
- Bread Fruit
- Persimmon
- Longan
- Carambola

Approved in 2013

- Tomato
- Capsicum

Approved in 2015

- Table Grape
- Nectarine
- Apple
- Cherry
- Rock Melon
- Peach
- Strawberry
- Honeydew
- Plum
- Zucchini
- Apricot

Produce for FSANZ **future approval** includes:

- Blueberry
- Raspberry



The approval of irradiation for these commodities will provide a safe and effective option to maintain market access for all Australian states using ICA-55 and export to New Zealand.

Timeline:

Phytosanitary Approvals to NZ

- **2003: Australia: Mango** (trail shipments began)
- **2007: Australia: Papaya** (small volumes only)
- **2007: Litchi** (small commercial programme)
- **2006: Hawaiian Papaya** (no shipments)
- **2014: Thailand: Litchi, longan** (no shipments)
- **2013: Australia: Capsicum** (commercial volumes)
- **2013: Australia: Tomatoes** (commercial volumes)
- **2013: Vietnam: mango** (Small trial shipment only)
- **2016?: Australia: Grapes** (*Large scale exports possible*)

Snapshot: Importation of Irradiation Commodities from Australia

- **Mango** (started slowly. Now 1.8 million fruit per season)
- **Litchi** (50 tonnes. Ongoing import programme)
- **Tomatoes** (450 tonnes): 3rd season in 2015
- **Capsicums** (50 tonnes) 3rd season in 2015

Figures are approximate

What do NZ consumers buy?

- For a small country, we eat a lot of fresh produce
- Imports cover out of season products (e.g. tomatoes), products we can't grow in NZ (e.g. bananas, mangoes) or specialist products (e.g. okra, eggplants)
- Changes in population dynamics (e.g. Pacific Islands and Asian migrants) has created demand for non-traditional products
- Evolution of large supermarket chains (x2 major chains) drives demand
- Many produce lines are now available all year round (less “seasonality”)

Examples of imported fresh produce

- Bananas (Philippines, Ecuador, Mexico)
- Grapes (Australia, Chile, Mexico USA, Peru, Italy)
- Mangoes (Australia, Mexico, Peru, Ecuador, India)
- Papaya (Philippines, Fiji)
- Citrus (USA, Australia, Spain)
- Taro (Fiji, Tonga)
- Stonefruit (USA, Chile)
- Pears (Australia, China, USA)
- Tomatoes (Australia)
- Capsicums (Australia, Holland)
- Others: Indonesia, Vietnam, Thailand, New Caledonia etc

How does Irradiation fit?

- A viable alternative in the treatment “toolbox”
- Loss of historic treatments (e.g. EDB and Dimethoate) impact on real trade
- Limitations of other treatments (e.g. heat and cold)
- New distributions of important pests (e.g. Queensland Fruit Fly) puts pressure on current options
- Increasing consumer acceptance: If the price is right (e.g. mid-winter imported tomatoes) or the eating experience is right (e.g. R2E2 mangoes), consumers will purchase (and repeat purchase)
- Commercially viable, sustainable & cost-effective

The Mango Story

- **Australia Mangoes: Imports started in 2004-2005**
- **Heat treatment not an option. Other options (e.g. PFA) not viable or phased-out (e.g. EDB, dimethoate)**
- **A decade of steady growth from small trial shipments (10 tonnes) to the completed 2015-2016 season of 1.8 million+ fruit (around 1500 tonnes)**
- **Consumer choice: Higher quality Australian mangoes or lower quality South American mangoes**
- **Consumer price points: Two distinct price points (typically in the range of \$1.50-\$3 per fruit vs \$5-6⁺).**
- **After initial hesitation (2003/2004), both major supermarket chains in NZ have significant programmes for selling irradiated mangoes**

Labelling options: Flexible

Fresh Produce



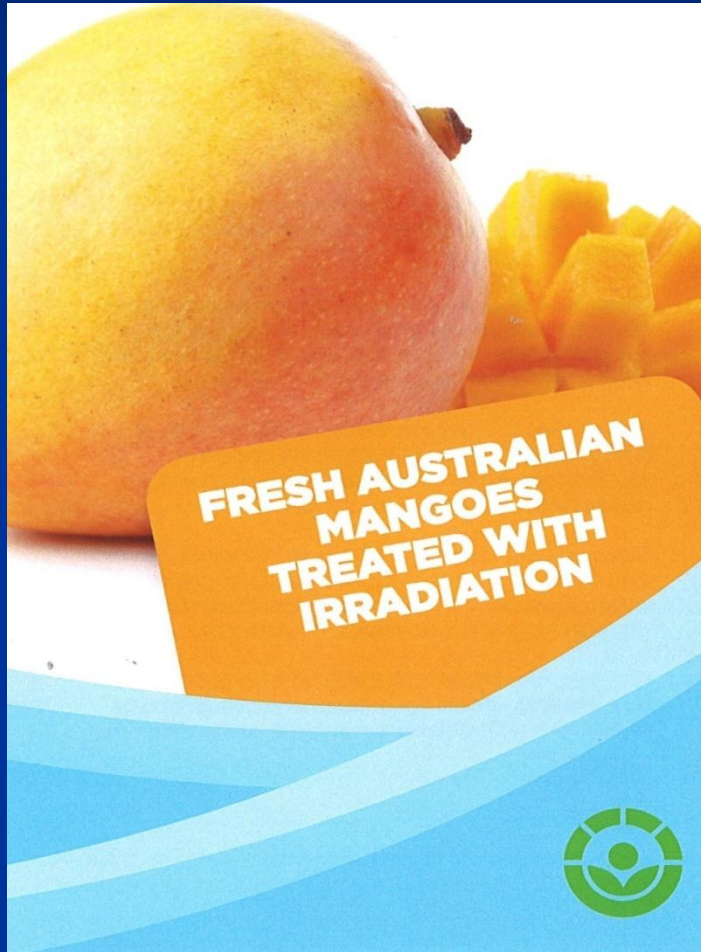
Irradiated to Protect the Environment



**IRRADIATED TO PROTECT
THE NEW ZEALAND
ENVIRONMENT**

Labelling options were changed from being prescriptive in the standard (viz. the radura “warning” sign with specific wording) to allow flexibility in both the design and the wording used. OK, if labelling factual and not mis-leading

Mango Labelling



FRESH AUSTRALIAN MANGOES TREATED WITH IRRADIATION

Australians now have an alternative to fruit treated with chemical insecticides like Dimethoate and Methyl Bromide.

These fresh Australian mangoes have been treated with irradiation to eliminate insects and satisfy quarantine requirements to prevent the spread of insect pests, like fruit fly and mango seed weevil.

The process of irradiating these mangoes is safe and chemical-free. It involves treating the mangoes with ionising energy to eliminate insect pests while maintaining the quality of the mangoes.

This treatment option is used around the world including the United States and for all Australian mangoes sold in New Zealand. It is approved by the World Health Organisation and the Australian Government.

For more information, visit the Food Standards Australia New Zealand website (www.foodstandards.gov.au) or the Better Health Channel (www.betterhealth.vic.gov.au)



Point of Sale

Irradiated Tomatoes & Capsicums

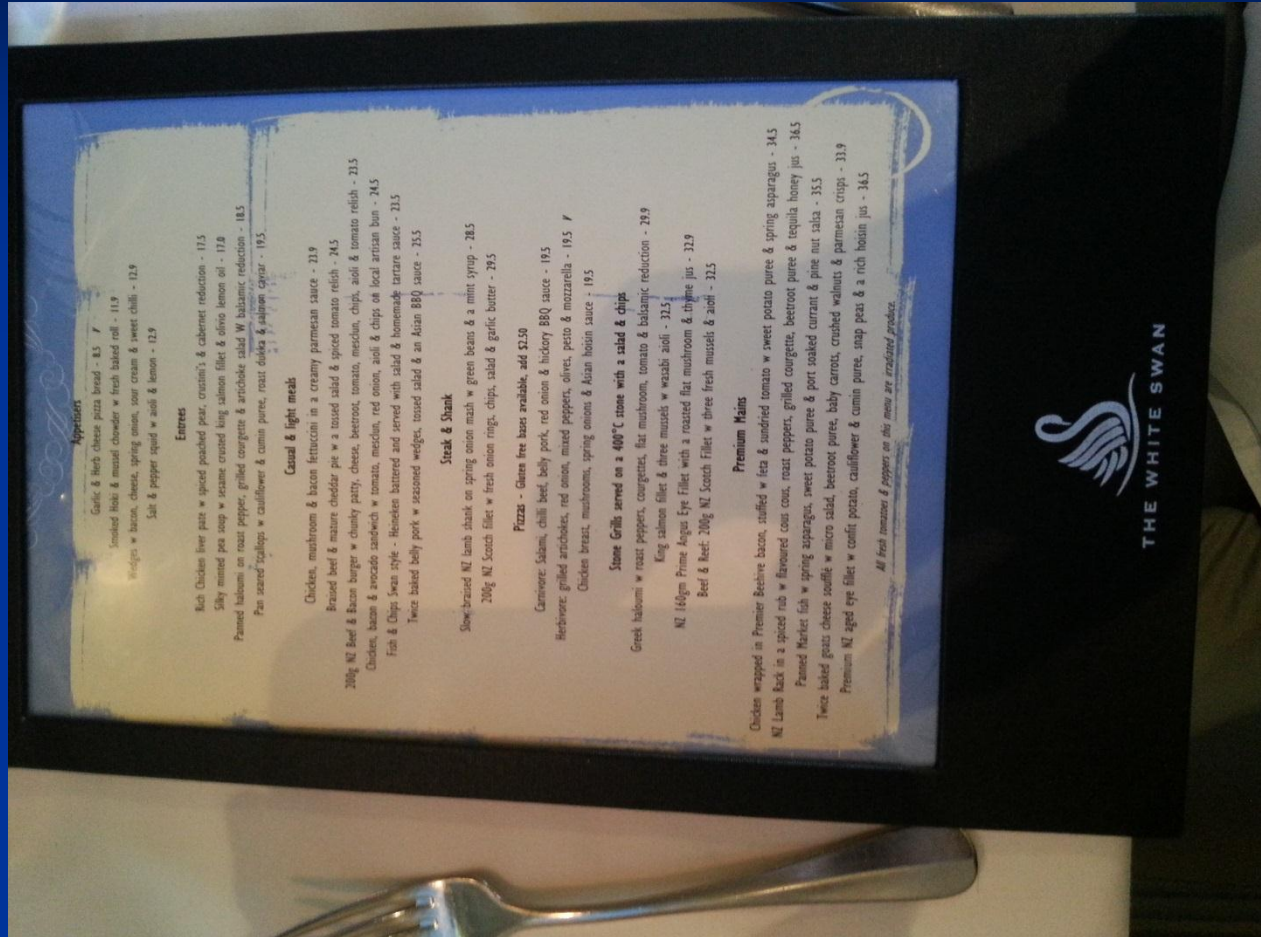


Angry Tomatoes or Labelling gone wrong?



Note: Price point of imported “iritated” tomatoes cf. NZ hot house grown

Restaurant menu



“All fresh tomatoes and peppers on this menu are irradiated produce”

The future?

- More products coming on stream with FSANZ approvals (26++)
- Higher volumes expected for current pathways
- Irradiation: Market access or Market Improvement? (eg. Existing market access approvals using irradiation as “equivalent” treatment option: *The principle of Equivalence*) Examples: Grapes and cherries
- Pre-export *as well as* an on-arrival irradiation treatment options are now emerging
- Removal of mandatory labelling requirements (refer *Labelling Logic*)

Report: “Labelling Logic”

- Comprehensive review of food labelling law and policy (led by Dr Neal Blewett)
- **Report Noted:** *Foods treated with irradiation have been in the food chain for 30+ years (at least a generation) with no human health issues associated with consumption.*

Report: “Labelling Logic”

Irradiation Issues

- **Report Noted:** *There is a significant body of evidence demonstrating that food processed using irradiation is both safe and nutritionally adequate*
- **Report Noted:** *FSANZ to review the mandatory labelling requirement & consider other approaches to communicate the safety and benefits of irradiation to consumers.*
- **Recommendation 34:** *That the requirement for mandatory labelling of irradiated food be reviewed*
(Note: This review has now been formally triggered)

Thank you!!

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