

Senate Community Affairs Committee

ANSWERS TO ESTIMATES QUESTIONS ON NOTICE

HEALTH AND AGEING PORTFOLIO

Supplementary Budget Estimates 17 & 19 October 2012

Question: E12-185

OUTCOME 1: Population Health

Topic: IRRADIATION

Type of Question: Written Question on Notice

Number of pages: 2

Senator: Senator Colbeck

Question:

- a) Has there been any research undertaken into the effects of irradiation on agricultural chemical residues in the specific fruit and vegetables for which irradiation is being considered as a control method for fruit fly?
- b) What does this research show with regard to the effect of irradiation on these agricultural chemicals?
- c) If no research has been undertaken, has the risk of irradiation affecting agricultural chemical residues in specific fruit and vegetables been considered?
- d) What risk does irradiation pose to human health from its potential effect on agricultural chemical residues?
- e) Could a by product of irradiation be other potentially toxic chemical residues?

Answer:

- a) There has been previous research undertaken into the effects of irradiation on agricultural chemical residues by the United States Food and Drug Administration (USFDA) when they approved the irradiation of fruit and vegetables for disinfestation of pests up to a maximum dose of 1 Kilogray.

- b) Due to the minimal agricultural residues present in food and the low doses of irradiation used on fruits and vegetables, there is a limited ability for a by-product of irradiation (referred to as a radiolytic product) to produce toxic chemical pesticide residues in food. The USFDA concluded that the potential toxicity of each radiolytic product from a pesticide residue on foods that are irradiated would be negligible and that such residues do not pose a hazard to health.
- c) This has been addressed in (a) and (b).
- d) Food Standards Australia and New Zealand (FSANZ) agrees with the conclusion from the USFDA that there is negligible risk from consuming irradiated foods that have residues of agricultural chemicals present. FSANZ also notes that residues of agricultural chemicals are kept low by good agricultural practice, in-field management practices and maximum residue limits that are set for each chemical. These practices limit the levels of agricultural residues that are present in irradiated food.
- e) There is no evidence for generation of toxic metabolites at any levels that would give rise to safety concerns for foods that have been approved for irradiation. Although a number of chemical compounds may be generated during irradiation of food, most of these compounds are not unique to irradiated food and are naturally present at low levels in food or are formed through other processing treatments (e.g. thermal processing). FSANZ has undertaken thorough safety assessments on a range of irradiated foods (herbs and spices, herbal infusions, tropical fruits, persimmons, tomatoes and capsicums) and identified no toxicological hazards.