Government of **Western Australia**
Department of **Health**

Fruit, Vegetables and Agricultural Chemicals
2017-18 Monitoring Survey

Fruit and vegetables are an important part of a balanced diet. It is recommended that we eat at least two serves of fruit and five serves of vegetables every day, but how do we know they are free from chemicals and safe to eat?

Background

All foods sold in Australia must comply with the requirements of the Australia New Zealand Food Standards Code (the Code). The Code defines 'maximum residue limits' (MRLs) for agricultural chemicals permitted on specific foods and a large safety margin is included in the MRL. Foods that comply with the MRL indicate they have been grown using good agricultural practice. A food cannot legally be sold if it contains an agricultural chemical residue where there is no defined MRL or where the level exceeds the MRL in the Code. The MRLs are determined from a number of factors including:

- how much of the food is eaten in the average diet;
- how toxic the agricultural chemical is; and
- how easily the food absorbs the agricultural chemical.

With over 10,000 agricultural and veterinary products registered for use in Australia, managing the safe use of chemicals and the sale of safe and suitable food involves a number of different government agencies and legislation. In WA, residue monitoring data is shared between the Department of Health (DoH), local government enforcement agencies and Department of Primary Industries and Regional Development (DPIRD).

The WA Food Monitoring Program (WAFMP) conducts regular surveys to investigate agricultural chemical residue levels on fresh fruit and vegetables, the first of which was undertaken in 1988. The DoH currently shares the responsibility of administering the requirements of the Code with the 137 local governments in WA. Local Government environmental health officers collect a wide variety of fruit and vegetables from growers, packers, wholesale and retail markets for this purpose.

Survey Purpose

The survey undertaken in 2017-18 aimed to:

1. Monitor the level of agricultural chemical residues on fresh fruit and vegetables available for sale, for compliance with the MRLs prescribed under Standard 1.4.2 – Maximum Residue Limits of the Code.
2. Work with local government to investigate non-compliance with the MRLs, identify food safety risks and determine appropriate corrective actions.
3. Provide feedback to fruit and vegetable industries.
4. Share residue monitoring data with DPIRD and Pesticides Advisory Committee (PeAC) to coordinate pesticide legislation and policies, and, provide advice to the Australian Government, where necessary.
5. Inform future compliance programs.

Survey Scope

The 2017-18 survey targeted the following:

Businesses	Samples	Chemicals
Major distribution centres and packing sheds	Apples, grapes, peach, plums, strawberries, asparagus, broccoli, capsicum, carrots, cauliflower, cherry tomato, cucumber, herbs, leafy greens, lettuce, peas, potato, tomato	2,4-D, alpha-Endosulfan, Azinphos methyl, beta-Endosulfan, Bifentrin, Captan, Carbaryl, Carbendazim, Chinomethionat (oxythioquinox), Chlorpyrifos, Cypermethrin, Cyprodinil, Diazinon, Dichlorvos, Dicofol, Dimethoate, Diphenylamine, Endrin, Ethephon, Fenamiphos, Fenthion, Fipronil, Flusilazole, Imazalil, Iprodione, Malathion, Metalaxyl, Methamidophos, Methidathion, Methiocarb, Methomyl,Mevinphos, Myclobutanil, Parathion Methyl, Pendimethalin, Permethrin, Phorate, Prochloraz, Propargite, Propiconazole, Spirotetramat, Fluvalinate, Tebuconazole, Tetradifon, Triadimefon, Triforine.

Key Survey Findings

1. Food safety risks associated with agricultural chemical residue levels on fresh fruit and vegetables are low:

- A total of 279 fruit and vegetables were collected from major distribution centres in 2017-18. Samples were analysed by the ChemCentre for residue levels of 46 chemicals.
- 96% (n = 269 fruit & vegetables) of samples analysed were compliant with the MRLs permitted on the food.

2. Food safety risks associated with agricultural chemical residue levels on fresh fruit and vegetables are managed appropriately by industry-based food safety schemes:

- All growers supplying to the major distribution centres operated under quality assurance or food safety programs. Appropriate procedures were in place to deal with non-compliant results.
- 4% (n = 10 vegetables) of samples analysed, across 5 growers were non-compliant. Chemical residue on one broccoli and eight cherry tomato samples exceeded the MRL, while chemical residue was detected on one herb sample where there is no defined MRL.
- The non-compliance rate was lower than previous years' surveillance results (10% average[1]). All non-compliant results were investigated to identify causes and implement corrective actions.

Outcomes

The DoH will continue to manage food safety risks associated with agricultural chemical residues used in horticulture by maintaining the following activities:

- Membership on the Food Regulation Standing Committee to consult on the national assessment of knowledge and evidence gaps related to horticultural food safety, including horticultural supply chains, quality assurance and traceability.
- The WAFMP to continue monitoring compliance by fruit and vegetable growers with the MRLs prescribed under the Code.
- Share residue monitoring data and provide feedback to industry.
- Work with local government enforcement agencies to investigate non-compliance with the MRLs prescribed in the Code to establish food safety risks and the appropriate corrective actions required.
- Work with DPIRD to engage with industry to assist in maintaining good agricultural practice and improve incident response capability.
- Share residue monitoring data with the PeAC to coordinate pesticide legislation and policies.

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Reference: [1]Western Australian Food Monitoring Program: Monitoring Agricultural Chemical Residue Levels in Fresh Fruit and Vegetables