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## **IMPROVING FOOD SAFETY FOR FRESH HORTICULTURAL PRODUCE CONSULTATION PAPER**

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FSANZ is seeking feedback on what approaches are needed to ensure food safety in fresh horticulture produce.

### **Introduction**

Australians are able to access a large variety of high quality, safe fresh produce. However, microbiological or chemical hazards can sometimes arise and present a risk to consumers. In recent years, a small proportion of fresh produce in Australia has been involved in outbreaks of food borne illness (e.g. listeriosis, salmonellosis). All participants in the supply chain are important contributors to ensure fresh produce is safe and of high quality.

In 2006, an outbreak of *Escherichia. coli* in bagged spinach in the United States of America led to over 200 cases of illness, 104 hospitalisations and the deaths of two elderly women and a small child. Well apart from the personal and financial costs to society, the cost to the bagged spinach industry was substantial. Five months after the incident, the consumption of bagged spinach was still only two-thirds of pre-incident levels. Indeed, even unrelated products (such as bagged salad greens) suffered a drop in retail sales. Regardless of the food safety systems in place on many farms, the entire industry suffered a long-standing loss of reputation.

We know that the horticulture industry in Australia has been quick to implement measures, through audited industry schemes or other systems that address food safety. What we don't know is whether these measures are sufficient to provide a nationally consistent approach to food safety across the entire sector. FSANZ –

Australia's food standard setting body – is now working with industry to establish whether current measures are adequate to ensure the safety of fresh produce or whether the development of national requirements (for example other voluntary schemes or a primary production and processing standard) by us can provide a greater level of assurance. FSANZ's key responsibility is the protection of public health and safety and we do this using the best available scientific evidence while promoting consistency between domestic and international food standards.

FSANZ intends to consult as widely as possible as it progresses its work in this area. We acknowledge that there are a large number of growers, packers, wholesalers and industry bodies as well as other non-industry stakeholders that will wish to contribute. We also acknowledge that for those involved in horticulture, seasonal and other factors may sometimes make this difficult. Establishing communication links with key bodies and networks will be an important part of our work.

At the moment, FSANZ is consolidating its understanding of the food safety hazards in horticultural production and of the control measures and food safety systems now in place. We are looking for preventative, through-chain approaches to manage potential risks.

### **What does FSANZ's work on horticulture involve?**

FSANZ is focussing on fresh horticultural produce including fresh fruits and vegetables, farmed mushrooms and herbs from 'farm to fork'. At a later stage, other products such as grains and nuts may be considered. We propose in this paper an approach to narrow our focus at this stage to higher-risk products. To do this we will need your input.

### **Why is FSANZ undertaking this work?**

Fresh produce has been associated with several outbreaks of foodborne illness. We need to establish whether existing schemes manage these risks well enough or whether other approaches can be used to manage risks.

This work is part of a process of creating nationally-consistent, through-chain approaches for all major primary industries in Australia.

### **Existing food safety schemes**

We know most farmers do the right thing. The majority of growers and processors already have food safety schemes in place on their farms and/or in their processing facilities. We estimate that about 75% of farmers are covered by a scheme such as Freshcare or Woolworths Quality Assured. These existing schemes, which have a certification component, already place a cost burden on producers. This means that farmers who are doing the right thing in ensuring the safety of their fresh produce have higher costs than farmers who do not have a comprehensive food safety scheme. We do not wish to place unnecessary additional financial burdens on farmers and producers who are already complying with a food safety scheme. Instead, we want to make sure all farmers and processors are producing safe produce.

We welcome input on existing food safety guidelines, schemes and programs in terms of:

- Activities that are covered
- Costs associated with implementing and maintaining
- Where you source information/advice regarding food safety risks associated with the production and/or processing of horticultural products.

### **Scope of the proposed work**

It is proposed that our work on fresh horticultural produce would cover:

- fresh fruit and vegetables, including fresh-cuts
- on-farm preparation and production activities through to retail, including processing, transport and distribution.

### **Proposed way forward**

Our approach will look at existing industry schemes and international requirements. We have already gathered a lot of information on the fresh food sector in Australia, as well as foodborne illness associated with fresh produce.

We want the most recent information and additional information on:

- What are the existing schemes and programs that producers currently use
- What residual risks may exist that could be managed through a regulatory framework or through other incentive based voluntary adoption mechanisms
- Whether we have identified the commodities that present the highest risk
- The evidence that a new approach could work well and that the benefits would outweigh the costs.

Before we start the process of deciding on any particular option, FSANZ will be doing work in two areas. Firstly, we'll be looking at what microbiological, chemical and physical risks may be present in fresh produce for sale in Australia. Secondly, we'll be looking at all the food safety systems (including voluntary systems, voluntary and mandatory codes of practice, guidelines, on-farm safety assurance programs, commodity-specific good agricultural/ manufacturing practice (GAP/GMP) programs and state legislation) that are *currently in place*.

This will enable us to decide whether current systems are sufficient to protect consumers, or whether there are gaps that could be addressed through a regulatory or other approach. This process is shown in Figure. We will then set up advisory groups with members from our stakeholder communities. These groups will help us to continue our discussions, provide advice on the appropriate approaches and guide the development of the approach.

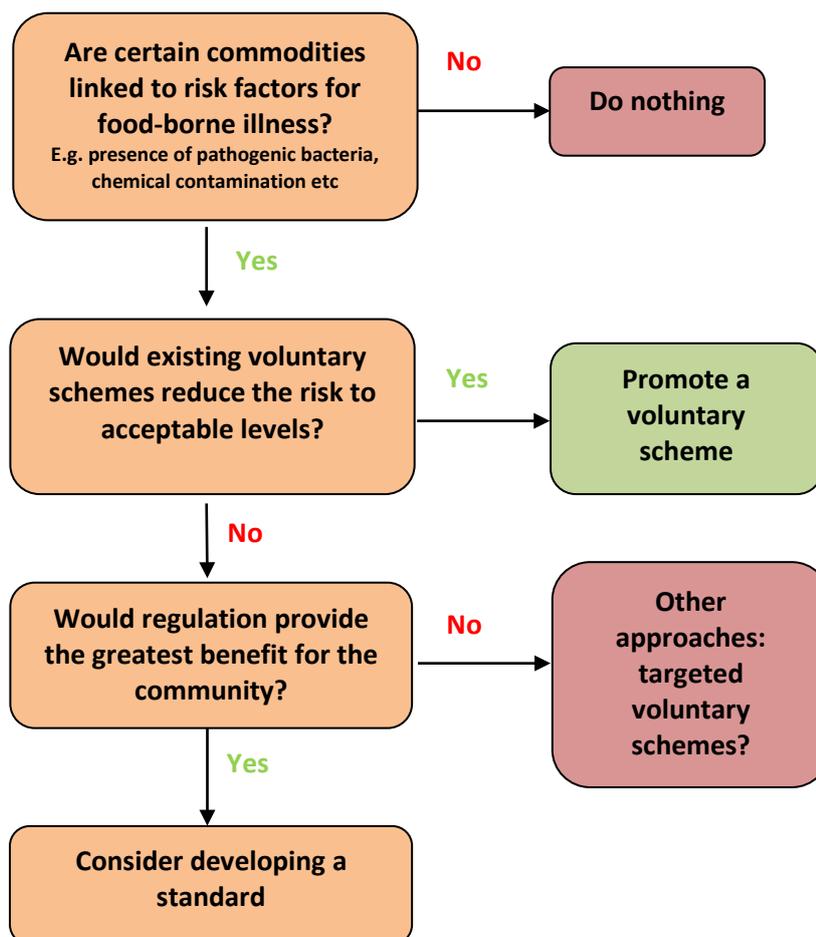


Figure 1: Flow diagram showing FSANZ's approach to assessing and managing risks associated with horticulture.

We will look at where risks occur and the systems in place to manage those risks. If the risks remain unmanaged, we may look at approaches such as targeted voluntary schemes. Development of a standard would only occur if the known risks from particular commodities could not be managed using existing food safety schemes and regulation provides the greatest benefit to society.

## **A potential model**

This section outlines how we might determine what commodities we will look at. Certain activities in farming and processing are known to increase food safety risks. These risk activities include food handling, the use of biological fertilisers, the use of water (especially pre- and post-harvest and during processing) and management of the environment.

Commodities grown using one or more of these risk activities, without ways to reduce the risks (e.g. food safety schemes, cooking, sanitising, peeling, canning) may require additional measures.

For example, some commodities are grown in soil fertilised using manures, are picked by hand, are washed by processors and are often consumed raw (e.g. lettuce, carrots). Other commodities may be grown on bushes and not in the soil (e.g. berries) but involve significant food handling. If these commodities were contaminated (on the farm, by a food handler, by non-potable wash water) the consumer may be at increased risk of food-borne illness.

In more detail, one example of a risk activity is the use of non-composted or insufficiently composted manure. Manures carry high levels of bacteria and viruses, some of which are dangerous for people. Consumption of raw produce that has been contaminated with these bacteria therefore poses a significant risk to consumers.

However, this risk can be reduced to very low levels by composting the manure for at least 9 months. Most food safety schemes require 9-12 months composting time before use on crops. This means that a potentially risky activity (use of manure) can still be carried out as the risk can be managed (composting).

Should we work out which commodities to focus on using risk activities and management of risks? How do you see this working in practice?

## **Evidence of risk**

This section explains why we may focus on fresh fruits and vegetables, especially those eaten raw.

There are a lot of data available from which we can identify food safety risk factors along the production and processing supply chain. Previous risk assessments have been done both in Australia and overseas that indicate key risk factors including:

- whether produce is grown in or near the ground
- whether produce has edible skin
- whether produce is generally eaten uncooked
- the use of fertilisers
- livestock in growing sites
- water quality during production and postharvest
- health and hygiene of workers involved in harvest and post-harvest steps
- transport, handling, other considerations

In addition, several databases have been analysed that identify hazard/commodity associations. Australian data on the outbreaks of foodborne illness associated with horticultural produce indicate that *Salmonella* and noroviruses were suspected or identified as being responsible for the majority of recorded outbreaks. These pathogens were associated with salads and fresh fruits and vegetables<sup>1</sup>.

The primary causes of fifty-two horticultural produce-related recalls<sup>2</sup> were *Salmonella* and *Listeria monocytogenes*. The primary food classes that were recalled were: nuts and seeds (33.3%)<sup>3</sup>, sprouts (13.7%) and fresh/frozen fruit and vegetables (13.7%).

Internationally, certain horticultural commodities have been associated with outbreaks of foodborne illness. Data from the European Union indicated that five food categories accounted for over 80% of all food incidents<sup>4</sup>. These were fresh leafy vegetables (36.4%), spices (19.7%), nuts and seeds (16.7%) and frozen berries (7.6%). Similarly to the Australian OzFoodNet data, the agents responsible for the food safety issues were most commonly *Salmonella* and noroviruses.

There were approximately 82,000,000 cases of foodborne illness in the USA in 2009, of which around 20,000,000 (or 24%) were associated with horticultural produce.

## Conclusions

- The data highlight the potential for fresh produce to be contaminated with pathogenic microorganisms.
- A number of outbreaks of food borne illness, internationally and in Australia, have been associated with the consumption of commodities such as fresh leafy greens, fresh herbs and fresh and frozen fruit.
- There are a number of risk factors that should be managed to mitigate risks

## How we will consult and next steps

We are seeking your input on the information and issues raised in this discussion paper. We will then consider all the views, information and data provided to us. We will start to identify the different activities that pose a risk to horticultural produce, as well as how these risks could be reduced. If it is decided that we need to progress to a standard, we will be writing a detailed report, which will again be released for public comment.

In addition, we will be forming some committees to work on specific tasks. These committees will engage stakeholders from all areas of horticultural production such as farmers, industry bodies, wholesalers, State and Territories as well as other Government departments and consumers.

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<sup>1</sup> OzFoodNet (Australia's food-borne illness surveillance network) data

<sup>2</sup> FSANZ food recalls data

<sup>3</sup> These products were primarily foods based on sesame seeds such as tahini, halva etc. These products are likely to have been manufactured overseas or to have been manufactured from sesame seeds acquired from overseas.

<sup>4</sup> European Union's rapid alert system for food and feed (RASFF) portal is a tool for exchange of information between competent authorities on consignments of food and feed in cases where a **risk to human health has been identified** and measures have been taken, such as withholding, recalling, seizure or rejection of the products concerned.

### International consistency

The evidence, both from Europe and Australia, suggests that fresh fruits and vegetables pose the greatest risk from horticultural produce to humans. It is therefore not surprising that several international bodies have already prepared codes and/or guidelines to address this risk.

The Codex Committee on Food Hygiene (CCFH) has prepared a main document, the *Code of Hygienic Practice for Fresh Fruits and Vegetables*. In addition, the CCFH has gradually introduced specific annexes relating to particular commodities or commodity groups. These annexes cover sprouts, ready-to-eat fresh pre-cut fruits and vegetables and leafy green vegetables including leafy herbs.

The US Food and Drug Administration (USFDA) has published a *Guide to Minimize Microbial Food Safety Hazards of Fresh Fruits and Vegetables*, as well as a *Guide to Minimize Microbial Food Safety Hazards of Fresh-cut Fruits and Vegetables*. In addition, the FDA has produced several draft guidance documents. These include: *Guide to Minimize Microbial Food Safety Hazards of Melons*, *Guide to Minimize Food Safety Hazards of Leafy Greens* and *Guide to Minimize Food Safety Hazards of Tomatoes*.

The Food Safety Authority of Ireland (FSAI) has introduced a *Code of Practice for Food Safety in the Fresh Produce Supply Chain in Ireland*. The Canadian Federation of Agriculture and the Canadian Food Inspection Agency have developed an *On-Farm Food Safety Program*. The Malaysian Department of Agriculture has implemented a *Farm Accreditation Scheme* and the Singapore Agri-Food and Veterinary Authority has developed *Good Agricultural Practice for Vegetable Farming*.

Given the existence and similarity of major food safety codes of practice and guidance documents, an international precedent exists for on-farm food safety management. Furthermore, these documents have focussed on the same food safety risks that occur in Australia. As such, work examining existing on-farm food safety systems for horticulture, focussing in the first instance on high-risk fresh produce, would not only assess the level of risk to the Australian population, but would also see FSANZ complying with its imperatives to maximise the safety of our food.

### Other considerations

#### State/Territory/Commonwealth legislation and guidelines

One consideration will be the role of existing State and Territory legislation. For example, the NSW Government has enacted the Food (Plant Products Food Safety Scheme) Regulation 2005. This provides specific control measures to manage the safe production and supply of seed sprouts, fresh-cut fruit and vegetables and juices. In addition, Queensland has the Food Production (Safety) Regulation (2002), which, although not covering primary production, does lay down regulation for the transport and processing of fresh primary produce.

Furthermore, many guidelines have already been produced covering this sector. One of these is the NSW Food Authority's *Industry Guide for the Development of a Food Safety Program (High Priority Plant Products Industry)*. This guide covers seed sprouts, fresh-cut fruits and vegetables, unpasteurised juice and vegetables in oil.

Furthermore, the Federal Department of Agriculture, Fisheries and Forestry have produced *Guidelines for On-Farm Food Safety for Fresh Produce*.

### **Existing non-Government schemes**

In addition to State and Federal legislation and guidelines, non-Government and industry-produced food safety schemes exist in Australia. Some of these include HACCP, Freshcare, GlobalGAP and supermarket quality and food safety schemes. Some of these schemes are highly prescriptive, and, when adhered to, provide an excellent level of food safety. Sources vary in the uptake of these schemes, with a TQA report concluding that uptake of any one (or more) food safety schemes lying at only 30%, whereas Freshcare estimates this to be more like 75% or greater. In reality, it is likely that within the highly diverse horticulture industry, some sectors will be more compliant with current guidelines than others. Identification of this and accurate uptake figures will be important when considering the scope and form of any work on the horticulture industry.

### **Risk assessments/analysis to be done**

Our risk assessment work will clarify exactly where we need to focus our work. For example, we may look at which fruits and vegetables we should concentrate on, as well as the activities used in their production and how these processes contribute to their risk.

Another important piece of work that should be done is a thorough analysis of the horticulture industry. Data are available from many sources, such as the ABS, HAL, ABARES etc. These data have been sourced and will be analysed, so we can get a better understanding of the nature and diversity of the horticulture industry.

### **Regulatory impact statement/OBPR**

Early talks with the Office of Best Practice Regulation (OBPR) will be necessary. The views of the OBPR about will influence our approach to the problem.