

**Primary Production and Processing
Requirements for High-risk Horticulture
(P1052)**

Submission to FSANZ

March, 2020



1. INTRODUCTION

1.1 Submission terms of reference

Protected Cropping Australia (PCA) welcomes the opportunity to make this submission to the a proposal, *Primary Production and Processing Requirements for High-risk Horticulture (P1052)*.

In May 2019, FSANZ released an Information Paper describing a proposed review of the Australia New Zealand Food Standards Code. Following the comment period, FSANZ released an Administrative Assessment Report outlining a proposal to consider primary production and processing requirements to address food safety for high-risk horticultural products.

This report recognised that the vast majority of horticultural produce in Australia is safe and healthy. However, outbreaks linked to particular produce sectors continue to occur. The ongoing foodborne illness issues and lack of consistent and uniform regulatory measures for horticultural products suggest the current environment, which relies on nonregulatory measures, is not adequate to protect public health and safety and that regulatory measures are required.

In June 2018, the Australia and New Zealand Ministerial Forum on Food Regulation (the Forum) noted the recent increase of foodborne illness outbreaks in Australia and agreed that there is a need to reassess the food safety risk management of five high-risk horticulture sectors: ready to eat, minimally processed fruits and vegetables, fresh leafy green vegetables, melons, berries, and sprouts. Forum Ministers requested that FSANZ identify appropriate regulatory and non-regulatory measures for Australia to manage food safety risks in these sectors.

In response, FSANZ has raised a proposal, *Primary Production and Processing Requirements for High-risk Horticulture (P1052)* to consider the development of a PPP standard for high-risk horticulture as part of a broader review of chapter 3 and 4 of the Food Standards Code.

The scope of this proposal includes primary production and primary processing activities in three sectors:

- leafy vegetables
- melons
- berries

1.2 About PCA

Protected Cropping Australia (PCA) is the peak industry body representing commercial hydroponic and greenhouse growers Australia wide. PCA members also include equipment and installation suppliers, specialist consultants and advisors, researchers and educators.

PCA is committed to improving the business environment in which growers operate, through the value chain and the regulatory environment, and by providing pathways to practical outcomes for members, including continuous improvement in horticultural production systems, marketing and business.

In return, PCA expects that growers will be able to operate in a reasonable business environment, with opportunity for fair competition and equitable sharing of risk. We also expect that other stakeholders involved with the industry will consider the industry's costs of production when making decisions affecting growers.

2. INDUSTRY BACKGROUND

2.1 What is protected cropping?

Protected cropping is defined as the production of horticultural crops within, under, or sheltered by artificial structures to provide or enable modified growing conditions, and protection from pests and adverse weather. Crops are often grown in artificial media rather than directly in the soil, and nutrients are supplied through irrigation systems.

Protected cropping is about control and technology is largely focussed on increasing that control. The level of technology - and hence control - in protected cropping varies and is broadly divided into three categories.

At the high-tech end of the industry, this amounts to almost total control over the plants growing environment, from the root zone through to the atmosphere. The level of control, particularly of the atmosphere, decreases for medium- and low-tech protected cropping structures.

- Low technology consists of netting and polytunnels which are open at each end. Whilst these systems are without any automation or control, the mere act of enclosing some aspect of the crop production system results in changing micro-environments and hence agronomy requirements.
- Medium technology consists of enclosed polyhouses for which the sides can be opened and closed, allowing some degree of control of temperature and humidity.

Polyhouses are usually constructed of a galvanised steel frame with either a single or double layer of polyethylene and can be up to 4.5 metres in height.

- High technology protected cropping consists of constructed glasshouses which can be up to 8.5m high with significant automation of vents, fans, heaters and shade to optimise growing conditions.

They have hydroponic systems that are computer controlled and automated. Sowing, crop management and picking are also partially or fully automated.

2.2 Protected cropping in Australia

The development of protected cropping in Australia has lagged much of the world due to our wide range of growing environments and ability to grow “out-of-season” vegetables under field conditions.

In terms of actual controlled environments, the first stage was moving to low technology plastic film-based structures. The conversion from soil to hydroponics in protective cropping was the next major “upgrade” in many areas.

This was driven by the prevalence of soilborne diseases and poor soil condition under the intensively cropped protective structures. Climate control technology initially involved ventilation and cooling, with naturally ventilated structures and fogging, proving to be very effective in modifying the high temperatures experienced in many regions.

Significant crops include:

- Nursery and floriculture, including nursery stock, floriculture, cut flowers, and other ornamental crops.

- Fruit and vegetables, including fruits or vegetables such as cucumbers, tomatoes, eggplants, and capsicum.
- Leafy greens, including lettuce, herbs, microgreens and Asian greens.
- Berries, including strawberries, blueberries, bramble or cane berries (*Rubus spp*), and currants (*Ribes spp*).
- Herbs, including any plant with leaves, seeds, or flowers which is used for flavouring, food, medicine, or perfume but which does not have significant human food nutrition value.
- Cannabis, including protected cropping or hydroponic production of medicinal cannabis and hemp products.
- Aquaponics, including the hydroponic production of any plant in a system whereby the waste produced by farmed fish or other aquatic creatures supplies part of a nutrient profile for plants.

Recent industry expansion has largely been based on development of high technology protected cropping structures to meet specific market requirements for high volume contracts and quality measures for key fresh product lines such as tomatoes, cucumbers and berries.

There has also been increasing movement in high value crops from open-ground production to netted cropping. Examples include cherries and berries.

2.3 Industry value

The protected cropping industry is the fastest growing food-producing sector in Australia, with annual growth rates averaging more than 60% over the past five years.

In 2017, it was valued at around \$1.5 billion (\$1,589 million) per annum at the farm gate, up from \$486 million in 2014. This is equivalent to around 15% of the total value of vegetable and cut flower production in Australia (RIRDC report HSA-9A).

However, anecdotally, it is understood that around 30% of all Australian farmers now grow crops in some form of soil-less or protected cropping system.

2.4 Employment in the industry

Despite the high levels of automation in more sophisticated glasshouse environments, large-scale protected cropping requires a significant labour force, especially during crop establishment and harvest.

Research carried out overseas estimates that the annual work requirement is 11,293 hours per hectare of high-tech structure (which does not include packing operations or any other activities outside of the greenhouse). Assuming an average worker works 1,610 hours per year, then some 7 workers would be required per hectare of operation.

Much of the labour force requirement is semi- or unskilled and many of the work operations can be repetitive. For example, in a tomato greenhouse plants need to be regularly de-leafed, flowers need to be pollinated by hand and fruit needs to be picked.

Whilst the most modern facilities use automation to facilitate many of these tasks, the bulk of the work still must be performed by people. At the other end of the spectrum, demand for highly skilled growers who manage these large facilities is high and supply of people with suitable skills is low.

The fact that produce is grown all year round in protected cropping systems means that there is less seasonality in the workforce requirements and the physical conditions are less taxing than for field-grown crops. This means many new facilities can source labour locally and, even where seasonal worker labour is employed, often develop long-term relationships with workers and communities.

It is estimated that more than 10,000 people are currently employed directly in protected cropping throughout Australia, with labour requirements for the industry expanding at more than 5% per annum.

2.5 Investment in the industry

Protected cropping structures are capital intensive, with a high level of supporting infrastructure required.

The key advantage of protected cropping is the ability to control the growing environment. This brings with it the ability to optimise climate conditions and plant properties to deliver improved productivity and profitability. For example, in the Netherlands over the last 25 years productivity (kg per m² of glasshouse) has increased by 90% for sweet peppers and 35% for cucumbers.

Capital costs can be anywhere between \$250 and \$750 plus per square metre, depending on the sophistication of the facility and the level of equipment being included. Viable production units are a minimum of 1,500 square metres.

The average return on investment is between 5% and 10%. The potential return on investment for high technology glasshouse vegetable enterprises can be as high as 20-25% per annum.

Whilst growing crops under cover may be more energy and capital intensive than some other farming methods, the ability to increase food security, mitigate weather impacts and minimise environmental impacts are key drivers for investors.

Add to these benefits the ability to ensure traceability and to deliver consistent quality outcomes, and the advantages of controlled environment production far outweigh the up-front investment required.

Protected cropping production systems are also very efficient users of water. Open ground fruit and vegetable production generally uses about 38L of water per dollar of value produced, whereas hydroponically-produced vegetable crops use only 0.6L of water to produce the same value.

This is also attracting investors interested in ensuring food security and minimising the overall environmental footprint. State of the art control systems in high-tech developments means new facilities have a relatively small environmental impact. For example, nutrient loads and run-off are managed on-farm or in closed, recycling systems.

Controlled environment production systems also ensure consistency in both quantity and quality of outputs, which in turn means less food waste.

3. OUR SUBMISSION

3.1 General comments on the proposal

PCA believes the arguments put forward as the rationale for this proposed standard are fundamentally flawed and, as a result, we do not support the introduction of the measures outlined in this proposed standard in any form.

Our reasons for this position are outlined below.

Identifying some products as high-risk could be counter-productive

As a fundamental principle, we consider any proposal to categorise some commodities as high-risk and then only regulating these is unsound on several levels.

Firstly, it creates a perception that these products are inherently riskier than others. This can have a negative effect on consumer perceptions and ultimately consumption – even when there is no basis for such views. The impact of the strawberry contamination incident in 2018 is a prime example of this. This contamination would not have been picked up by regulations such as that proposed. This was, in fact, not a failure of food safety systems in any way – but rather the result of food terrorism.

This is reinforced by the experience in Canada, where a surveillance program was implemented for berries on the basis they were seen as high-risk. After some time, the program determined that there was in fact minimal risk and the additional regulatory burden was not justifiable.

Further, this approach does not manage risk-creators in other product lines. This may create a false sense of security amongst consumers and potentially result in even greater un-monitored risks.

FSANZ has already concluded that a regulatory approach would not be effective

The FSANZ proposal P1015 – Primary Production and Processing Standard for Horticulture (P1015), abandoned in 2014, aimed to examine the hazards associated with horticulture products, existing risk management measures and possible measures that could be introduced into the horticulture sector.

The scope of the project included fresh horticultural produce: fruit, vegetables (including mushrooms and microgreens), herbs and nuts provided for sale in the raw state; and through-chain activities involved in their production from farm through to retail level.

A significant body of work was undertaken during this project to review foodborne illness associated with selected fresh ready-to-eat horticultural produce, as well as a review of then-current food safety systems in place for the sector.

That review assessed nine food safety systems, believed at the time to be the most widely accepted third-party audited systems. The work identified that about 70-80% of horticultural produce for sale in Australia was already produced under a food safety scheme that contained measures to control identified risk factors.

Since then, market pressures will have seen that coverage level increased, with most growers participating in third party audited schemes such as Freshcare and/or HARPs. Whilst no scheme is perfect, these programs have successfully managed food safety risk within the supply chain.

It is acknowledged that some sectors of the industry do not yet have full paddock-to-plate traceability. However, commercial imperatives are increasingly driving wider adoption of food safety accreditation programs. This would indicate that further regulation is unnecessary.

A key finding of the 2014 work was that enforcement of regulatory requirements for horticulture would be challenging due to the horticulture industry consisting of a large proportion of small businesses, the diversity and changeability of commodities and the large geographical spread involved. Given the diverse and unknown nature of some parts of the sector, a “one size fits all” regulatory approach was considered problematic to both develop and deliver.

FSANZ therefore concluded that a regulatory approach did not present the most effective approach to risk mitigation and that a strategy cooperatively developed by industry and state and territory governments to address food safety, without establishing specific requirements in the Code, was preferable.

Nothing has changed since these conclusions; and nothing in the options proposed for the new standard addresses these issues.

The discussion paper is based on incorrect data and assumptions

The information provided in *Supporting document 3: Overview of the melon, berry and leafy vegetable industries in Australia* is not correct in many aspects.

Some examples include:

- Section 3.3.1 states that ‘In Australia most strawberries are grown on the ground in open fields. A small proportion is grown in glasshouses or hydroponically’. Whilst that may have been the case in 2013 (although that is doubtful) it is certainly not the case now. A significant and increasing proportion is now being grown in protected cropping environments, either hydroponically or in some form of soil medium.
- Section 3.3.1.1 makes no reference to strawberry crops produced in controlled environments
- Section 3.3.2 states that ‘In Australia, blueberries are mostly grown in open fields (orchards). Few growers use hydroponic production’. This too is not correct. Hydroponic blueberry production is increasing in Australia.
- Section 3.3.3 states Rubus berries are grown in largescale, open field plantations. The majority of Rubus, especially raspberries, are grown in hydroponic substrate systems under plastic protected cropping. Raspberries are not only grown in southern temperate areas of Australia, but winter production is from subtropical areas such as North Coast NSW and Sunshine Coast of Queensland.
- Section 3.3.3.1 states that ‘Rubus plants are sourced through the Rubus Multiplication Scheme managed by Raspberries and Blackberries Australia.’ There is no Rubus Multiplication Scheme managed by RABA or anyone else.
- Section 3.3.3.2 makes no reference to crops produced in controlled environments.
- Section 4.3 outlines the practices for growing leafy vegetables, with only passing reference to protected cropping growing environments. This too is misleading, as a significant proportion of leafy vegetable production is now carried out in protected cropping facilities. In particular, leafy herbs are now almost exclusively grown under cover of some form. Obviously, then, production systems and practices for these products are significantly different to those for field grown crops.

The background information in *Supporting Document 2: Food safety measures for horticultural produce* notes that, since 2014, there have been several food incidents involving fresh produce in Australia – namely:

- Hepatitis A in frozen berries (2015)
- Salmonella in pre-packed lettuce (2016)
- Salmonella in mung bean sprouts (2016)
- Salmonella in rockmelons (2016)
- Hepatitis A in frozen berries (2017)
- Listeria monocytogenes in rockmelons (2018)
- Hepatitis A in pomegranate arils (2018)

Both examples of Hepatitis A in berries cited were actually caused by imported frozen berries, not Australian fresh produce. Similarly, the incident involving Hepatitis A in pomegranate arils was eventually sourced to imported frozen produce.

Furthermore, the official investigation into a series of deaths linked to listeria on rockmelons in 2018 concluded that the outbreak was largely caused by the weather. The report went on to say that the hygiene and sanitary procedures on the farm involved were ‘on par with or better than most other rockmelon-growing operations across Australia’. Despite this, the investigation concluded that heavy rains and dust storms had covered the farm's paddocks in dust, and ‘significantly increased’ the amount of listeria on the fruit.

In other words, in more than five years, there have actually been only two food safety incidents involving fresh produce in Australia.

In 2017/18 alone, Australians consumed more 3 million tonnes of locally-produced fruit and more than 2 million tonnes of locally-produced vegetables.

Whilst not underestimating the seriousness of these incidents, this is clearly not a situation that warrants heavy-handed regulatory approaches.

Existing food safety standards are effective

The US Centre for Disease Control collects comprehensive data on food-borne disease outbreaks.

In 2017, 841 food-borne disease outbreaks were reported by 50 states, Washington, D.C., and Puerto Rico, resulting in 14,481 illnesses, 827 hospitalizations, 20 deaths, and 14 food recalls.

Even allowing for the population differential, this is a much higher incidence of food-borne disease outbreaks than has been the case in Australia.

This reinforces the effectiveness of Australian food safety accreditation schemes in successfully managing risk in most circumstances. Whilst they may not capture extreme events or system failure, such as the 2018 weather event outlined above, regulation would also be unable to prevent those incidents occurring.

3.2 Our submission

Supporting Paper 2 states that ‘In Australia, there are currently no national regulatory food safety requirements applying to the primary production and processing of horticultural products, except for seed sprouts’.

This is in fact correct – in so far as it goes.

What it does not acknowledge is the existence of strong evidence-based industry schemes, which now cover the vast bulk of production. These include Freshcare, HARPS (Harmonised Australian Retailer Produce Scheme) and GLOBALG.A.P. All are audited by third-party independent assessors.

The implication in the paper that the current systems are inadequate as they do not manage risk in atypical conditions is of significant concern.

No system can eliminate risk entirely; and there is no evidence that the current schemes do not adequately manage the risk in these categories in most situations. Any further efforts to mitigate risk should be focussed on cultural change and education to assist growers and others in the supply chain to better identify when conditions are atypical and enable them to respond accordingly.

No argument is put forward to explain how a regulatory approach could result in better outcomes.

For that reason we support Option 1 – maintaining the status quo.

Having said that, there may be some merit in exploring a light-touch regulatory back-stop model which applies to all horticultural crops.

Light touch regulation applied across all horticultural crops would enable the Australia government to place the same requirements on imported product (frozen and fresh) which, based on the evidence presented in the discussion paper, may actually have an actual impact on reducing risk to the Australian consumer.

Under this approach, suppliers (growers and supply chain participants) who already comply with a third party audited scheme would only need to register which scheme they are covered by. In fact, this information could be obtained from the scheme operator, thus removing any burden at all on compliant growers and suppliers.

Those suppliers not covered by an existing accreditation program would need to demonstrate that they met food safety requirements some other way – which could perhaps include a regulated Standard.

To be effective, this approach would also need to extend to imported product and also frozen produce.

So, if a regulatory standard is to be developed, then it should:

- apply across all horticultural crops
- apply to both Australian grown and imported produce
- recognise existing national accreditation programs
- not place an additional administrative or cost burden on those growers and other supply chain participants who are already accredited under a recognised national scheme
- include some regulatory “back-stop” mechanism to capture those growers and supply chain participants who do not have any scheme or system in place, regardless of commodity or origin.

On that basis, if these provisos were accepted, we could potentially consider supporting an amended Option 2.

3.3 Additional comment

According to the discussion paper, the proposed standard would only apply to food businesses in Australia.

In a world where trade is increasingly globalised, and more food products are being imported into Australia, this is simply not acceptable.

In the first instance, this proposed Standard is being put forward by FSANZ – Food Standards Australia and New Zealand. So any change should, as a very minimum, apply to produce from New Zealand as well as that grown in Australia.

This is even more important recognising that a considerable volume of product labelled as ‘product of NZ’ is actually grown elsewhere and simply re-packed or processed there. This means we have no way of knowing the origin of many of the processed or frozen goods from New Zealand sold in the domestic market.

The information provided in Support Document 2 notes that the level of imports in what have been identified as high-risk categories has increased significantly over recent years; and identifies that the majority of incidents have originated from imported products.

Other countries are increasingly aware of these risks. The consequences of the United Kingdom’s exit from the European Union are becoming clearer - and more frightening - as deadlines loom.

A bill introduced in the UK House of Commons last year proposed strategies to deal with the likely impacts of BREXIT on their highly subsidised agriculture sector. An Inquiry run by the Environment, Food and Rural Affairs Committee ran parallel to the Bill, and focused on several key areas, including future trade deals.

The Inquiry was scathing about a number of aspects of the proposed legislation – including a topic often raised by Australian producers – that of equivalence and level playing fields. And it was certainly not mincing words.

“The government should put its money where its mouth is and accept an amendment to the Agriculture Bill stipulating that food products imported as part of any future trade deal should meet or exceed British standards relating to production, animal welfare and the environment.”

Many here have long been critical of the extraordinarily high food safety, environmental and labour standards Australian producers are required to meet, and our costs of production are much higher than our competition because of these standards.

Yet cheap food products grown in conditions that no government in Australia would tolerate flood into the country every day.

Australian consumers take food safety for granted when we eat locally grown product - and, in the main, our faith is well placed. We can have this confidence because we know our local farmers have to comply with exacting production regulations. The cost of complying with these regulations is also why locally produced foods are more expensive than imported ones.

If we want Australian produce on our shelves, produce that we know is safe, nutritious, and ethically produced, then we must ensure Australian producers can operate on a level playing field.

This doesn’t mean that we have to default to lowest common denominator. Rather, the conditions that are important to us should apply across the board. If they’re not important, then the requirements should be removed for everyone.

Australia has consistently gone it alone in global trade markets, even though many competitors have not played by the rules and maintained higher trade barriers and subsidies. If our governments continue to open the door to imports from cheaper producers, products with fewer restrictions on quality and safety standards, Australian consumers will pay a high price.

We have the right to expect that our governments insist on the highest possible health and safety standards for food, as they do for other products. The country of origin of the food is irrelevant.

You can't buy a car in Australia that doesn't meet Australian safety standards; you can't buy a microwave oven in Australia that doesn't meet Australian safety standards; you can't buy children's clothing that doesn't meet Australian safety standards. Why then can we buy food that doesn't meet Australian safety standards?

On that basis, we would strongly argue that any regulation should reflect the highest possible health and safety standards for food, as they do for other products, and should be consistently applied to both locally produced and imported produce; as they do for other products. It is simply not acceptable for Australian consumers to face continual risks of debilitating diseases - or even death - from imported food products.



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