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Food Standards Australia

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As discussed – some comments on the First Assessment Report for Proposal P1004

### **Sprout Production**

I am not quite sure what the difference is between the Status Quo and Self Regulation. Despite significant attempts it has become clear that the sprouting industry (apart from one or two) is not able to self-regulate. While a Food Safety Plan (including best practice) is not a guarantee that there will be no further outbreaks, failure to implement some standards almost secures the likelihood that it will happen – again. Furthermore it is not reasonable to continue to jeopardise that segment of the industry which is implementing risk reduction strategies, in accordance with best practice, by allowing other industry members to ignore the continuing risk.

Regulatory measures, with clearly defined standards of requirements, are the only way to minimise the risk of potential adverse health effects associated with seed sprouts. By ensuring that all sprout producers must meet these standards, as well as be subject to the Food Standards Code, we will better control the risk of future outbreaks.

A suggestion would be to categorise sprouts in accordance with their relative risk. By the nature of the outbreaks both here and internationally it is evidenced that not all sprouts carry the same risks – although we are unsure whether this reflects differences in the seed growing practices or relates to the volume of product sold. The ANZSA guidelines have considered the risk categorisation of sprouts – perhaps this is worth further investigation and discussion by the SDC.

I would also consider that, apart from the requirement for 20 000ppm free available chlorine, the NSWFA requirements are a '*reasonable*' guide for an industry standard. There are a few minor issues that could be strengthened but overall it is reflective of current industry and international best practice. One change which I would recommend is that seed should be tested pre-production regardless of the HACCP status of the seed supplier – by either the producer or the supplier (subject to paragraph below).

It is also important to ensure that pre-production seed sampling and testing is conducted in accordance with Codex and FDA guidelines, i.e., the sampling needs to be statistically valid, the seed sampled is to be **grown out** for 24-48 hours and then a sample of discharge water taken to be tested for Salmonella and E Coli. I do not believe that it is sufficient for a small sample (from 10 tonnes) to be taken and sent to a lab to be tested dry or tested soaked in water for a short time.

It is essential that sprout growers are required to implement and audited HACCP based food safety program. As part of this FSP there must be some verification of process by means of product and discharge water testing. It may be appropriate that the frequency of testing can be related to the categories of relative risks as testing can place significant financial imposts on small business.

I do not believe that the Codex or ISGA recommendations of positive release testing for all crops is practicable or achievable – partly given the lack of easy access to labs by some producers, the lack of in-house rapid testing and the customer and government, preference that all testing must be conducted in accredited labs. The prohibitive cost of this would put most of the industry out of business. Also the short shelf life of the product makes externally positive release testing impossible.

Seed Sanitation, while not a proven 'kill step' is nonetheless a valuable control measure. However, requirements for specific concentrations of specific chemicals are based on guess work at best. It does not take into account variation in the environment, e.g. water quality and PH. It is hoped that the SARDI project will provide some additional information for the industry on seed decontamination within the Aust context which may provide clearer data.

The current NSWFA requirement for 20 000ppm free available chlorine using Calcium Hypochlorite (for Alfalfa seed only) is based on an FDA recommendation dating back to 1999 – when there were no other 'hurdles' in place. There is no clear scientific evidence that these extreme levels of chlorine provide a proven 'kill step'. Furthermore it poses significant OH&S issues for staff. It also restricts the access of the industry to much of the seed available in the market place. Use of this concentration of chlorine has significant impact on the yield of scarified seed often used for sprouting. If the seed producers have a bad year and the seed harvested does not have good germination rates – the seed is often scarified to assist producers. Being unable to access this option places additional cost on sprout producers.

Research that Parilla has been conducting with Ecolab, overseen by the NSWFA, (while in the **very** early stages) suggests that at 20 000ppm, most of the chlorine is not being used. We have found very high residual levels of chlorine (between 15 000 & 18 000ppm) after 10 and 20 minutes of soak time – with agitation at the beginning and end. We have had early indication that other dosing regimes are providing similar reduction in TPC's to that provided by 20 000ppm. While this research is in its infancy it is providing information that is worth further investigation and discussion. We are also looking at Tsunami as an alternative sanitation chemical. In my opinion there is little to be gained by being overly prescriptive in terms of levels seed sanitation. We need to consider the outcomes required.

It seems to me that, given current information, a multiple hurdle approach to risk minimisation is currently the only way forward. It is essential that all producers are implementing these hurdles – and this will, clearly, not happen voluntarily.

## **Seed Production**

Given my experience is primarily in the sprout production area, it is harder for me to comment on this aspect of the chain and the way forward seems a little less clear.

Given that we are reasonable certain that seed is the most likely contaminant in sprout related outbreaks it is clear that this issue needs to be addressed. To my knowledge some seeds, e.g. chick peas, lentils, mustards, peas, Mung beans, etc are grown primarily for human consumption whether in sprouts or other foods whereas alfalfa is grown primarily as a fodder crop with less than 2% being used for the domestic sprouting market – although some would go into the international sprouting market. Perhaps – it is again appropriate to consider seed in accordance with risk categories.

Furthermore it is my understanding that determining what alfalfa seed goes into the sprouting market does not occur until after harvesting – being highly dependent on yield. It therefore seems unlikely to be feasible to regulate the growth aspect of the alfalfa seed chain. However growers should be following GAP and traceability requirement.

Now – in relation to the next step in the seed production chain – cleaners/processors, storage and transport. I believe that some level of regulatory standard is applicable for this segment of the industry – given that the operators (processors/exporters) will be aware of what seed is likely to be offered to the sprouting market both domestically and internationally. Comments from exporters “that we just sell it to other seed brokers and do not know what it will be used for” are less than useful – particularly if they are charging sprouting prices.

I believe that some level of HACCP based FS program could be considered for this segment of the industry –where cleaning procedures are applied in between crops for both cleaning machine and silos – albeit dry cleaning. Also sampling and testing for pathogens prior to sale would be appropriate – if relevant and effective programs were put in place – as per that currently recommended for sprout producers. It is not effective to send 100g of seed from 10 tonne to be soaked by a lab for a couple of hours. Actually applying the testing at this level would be far more cost effective for the industry – but only if the storage of the seed, post cleaning, is free from contamination potential.

Overall – given the overwhelming evidence that seed is the most likely source of contamination leading to food borne outbreaks from sprout consumption it is reasonable to expect that the seed industry needs to be part of the solution. It is worth noting – those as with the sprout producers, there are one or two seed producers/ processors who are already making some changes to assist with the problem. But we need more to follow this path.

We should also consider some requirement for seed or sprout producer to have to report seed which they find has evidence of pathogens – to prevent this seed entering the food chain, either advertently or inadvertently – unless the food manufacturing process can kill any pathogens.

I think that the evidence that the sprouting industry (seeds and sprouts) must be subject to standards and best practice requirements is overwhelming. There have been numerous outbreaks over the past 20 years. There is also evidence to suggest that implementing best practice reduces the risks to consumers. It is my understanding that a number of the recent outbreaks have been associated with seed that has not been subject to pre-production seed screening but also that potential outbreaks have been averted as a result of seed screening.

Sprouts are a great healthy product for a consumer population increasingly concerned with the over processing of the food they consume. Let us try and preserve this clean and healthy image.

