

**OUTLINE OF NEW ZEALAND'S USE OF RISK ASSESSMENT
PROCEDURES IN DETERMINING SPS MEASURES**

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Introduction

1. New Zealand has been heavily involved in the development and application of risk analysis procedures used in determining sanitary and phytosanitary standards at both a national and international level. The New Zealand Government has endorsed the use of risk analysis as the basis for establishing New Zealand's sanitary and phytosanitary requirements and that such requirements be consistent with New Zealand's obligations under the WTO:SPS Agreement. Further, the New Zealand Government has accepted that the pursuit of a "zero risk" policy is counterproductive globally and domestically, and in reality is not achievable.

2. Consistent with international risk analysis standards and guidelines, New Zealand considers *risk* (as it relates to trade in animals, plants and their products) as a measure of the probability of introduction of an unwanted organism and/or an undesirable public health event occurring and the consequences of such an introduction or event.

3. New Zealand risk analysis processes include four key components, although there is some variability across disciplines in how these are described (as is the case internationally); *risk identification*, *risk assessment*, *risk management* and *risk communication*. New Zealand considers risk assessment to be an integral component of this wider risk analysis approach which cannot be adequately described in isolation. This paper therefore outlines New Zealand's use of risk analysis procedures in the areas of animal health, plant health and food safety with an emphasis on the risk assessment component.

Animal Health Risk Analysis

4. New Zealand recognizes that risk analysis must deal with situations as they arise, and tolerate the mathematical limitations of the animal disease prevalence estimates or other such data on which it is based. However, New Zealand takes the stance that if there are insufficient data to assess the risk accurately, a conservative decision must be taken.

5. New Zealand's risk identification and assessment procedures for animal and animal product imports involves drawing up a comprehensive list of all the disease-causing agents which could be associated with the species or commodity under consideration, identifying the possible routes by which these could come into contact with susceptible animals in New Zealand, and estimating, as objectively as possible, the probability that an importation would result in the entry of an exotic disease agent and that local livestock would be exposed to that agent. Risk management measures can then be identified and applied to reduce the risk to an acceptable level.

6. The discipline of quantitative risk analysis, as it applies to the importation of animals and animal products, is still in its infancy in New Zealand. Until relatively recently New Zealand has tended to

base decisions almost solely on non-quantitative risk analyses, and these still have a valuable role to play in the routine administration of imports of animal products. Non-quantitative risk analyses can be objective, repeatable and transparent and always take less time, and thus are less expensive, than quantitative analyses.

7. New Zealand has recently applied quantitative risk analysis procedures to assess the risks of introducing exotic fish diseases through imports of headless, eviscerated, wild, ocean-caught Pacific salmon from Canada.

8. The risk of introducing any one of the 23 diseases considered was estimated, using a quantitative computer model, to be less than 1 disease introduction per 10 million tonnes of imports. Based on this and the fact that the entire annual production of British Columbia is less than 100,000 tons, of which New Zealand is expected to import less than 200 tons, the risk analysis concluded that the overall risk, if appropriately certified by the Canadian Government authorities as to origin and grade, is negligible and poses little or no threat to New Zealand's fish population.

9. The benefits of animal and animal product imports often accrue to a relatively small group of people, usually the entrepreneurs, initial importers and distributors of the imported material. The risks, on the other hand, are borne by a much broader group. For these reasons a risk analysis may include a benefits/cost analysis of the proposed importation. However, importation may nevertheless be permitted even in the absence of any demonstrable national benefit.

Plant Pest Risk Analysis

10. Plant Pest Risk Analysis (PRA) is viewed by New Zealand as a vital tool in the decision-making process for determining phytosanitary measures for imports of plant material. New Zealand has therefore strongly supported the initiatives of the Secretariat of the International Plant Protection Convention of FAO to develop international standards for PRA. The use of PRA provides for greater objectivity, consistency, transparency and justification in this decision-making process.

11. Based on the FAO Guidelines for PRA, New Zealand has developed and operates an interim PRA Standard for determining the probability of pest introduction (entry and establishment). Using this standard, New Zealand has carried out and documented more than twenty biological assessments on various pests of quarantine concern to New Zealand. These include a number of fruit fly (Tephritidae) species including Mediterranean fruit fly, Queensland fruit fly, apple maggot, Fijian fruit fly, Pacific Island fruit fly, Mexican fruit fly, melon fruit fly, West Indian fruit fly, cucumber fly, Oriental fruit fly, banana fruit fly and papaya fruit fly; fungal pathogens such as the casual organisms of apple brown rot and Japanese apple rust; and bacterial pathogens such as *Xanthomonas campestris* pv *citri* (citrus canker).

12. The New Zealand PRA standard adopts a quantitative approach to biological risk assessment and requires scientists to estimate probabilities (based on technical information) for a number of conditions which need to be fulfilled if pest introduction is to occur. This enables scientists to calculate the maximum infestation level permissible in any one consignment of imported plant material. Risk management measures can then be developed to ensure this level is not exceeded.

13. New Zealand has also developed a generic computer model for economic impact assessments. Using standard economic techniques such as partial budgeting, scientists and economists can calculate the direct economic impact of pest introductions. The variables considered in this model include such factors as yield loss, additional pest control costs, additional post harvest costs and effect on both domestic and export market prices. Such economic impact assessments are currently being undertaken for a number of fruit fly species using the model.

14. The data from biological assessments and economic impact assessments will be used to develop or review phytosanitary measures so that risk management options used are consistent with the level of risk identified and are technically justifiable and transparent.

Food Safety Risk Assessment

15. New Zealand has been an active participant in international forums on food safety risk analysis, most recently at the FAO/WHO Expert Consultation on the Application of Risk Analysis to Food Standards Issues (March 1995). Risk assessment was defined at that consultation as:

"The scientific evaluation of the probability of occurrence of known or potential adverse health effects resulting from human exposure to foodborne hazards. The process consists of hazard identification, hazard characterisation, exposure assessment and risk characterisation. This includes quantitative risk assessment, which emphasizes reliance on numerical expression of risk, and also qualitative expressions of risk, as well as an indication of the attendant uncertainties ..."

16. Internationally, and within New Zealand, such risk assessment methodologies are most developed with respect to chemical hazards, and least developed with respect to biological hazards. New Zealand, in line with the international thinking and guidelines, is in the formative stages of developing and implementing more formal risk assessment procedures for all health hazards to support the determination of food safety standards and regulations.

17. Risk assessment procedures have been successfully applied by New Zealand in the areas of meat and seafood inspection in support of New Zealand's efforts to seek modification or removal of "historical", but unjustified SPS requirements of countries importing such products from New Zealand. The use of risk assessment and other related and supporting procedures (e.g. HACCP) will play a major and expanding role in New Zealand's efforts to establish that its food production, processing, inspection and certification systems comply with and/or are equivalent to importing countries food safety requirements.