

4. Fruit and Vegetables

4.1 SCOPE OF COMMODITY

The commodities in this group include essentially, all fresh fruit and vegetables. This commodity group is broader in scope than other groups in terms of the nature and scope of MAF Biosecurity compliance requirements, size of importer, size of consignment and country of origin. In particular, fresh products are subject to a wide array of regulatory requirements in the IHS (see discussion below). Additionally, the requirements for inspection and treatment at the border vary considerably according to the type of fruit or vegetable being imported.⁶

The table below illustrates the annual volume and value of fresh fruit and vegetable imports.

Table 4 Volume and Value of Fresh Fruit and Vegetable Imports

	Import Data
Value of risk goods per annum (\$NZ, CIF)	\$213.5 million
Volume of risk goods per annum (tonnes)	152,010 tonnes

Source: Statistics New Zealand import data, year ended June 2004.

4.2 IMPORT HEALTH STANDARD

The IHS for fresh fruit and vegetables contains generic entry requirements together with requirements that are specific to a large range of fruit and vegetables types. In broad terms, in order to import a fruit or vegetable product into New Zealand, the product must:

- have an international phytosanitary certificate (IPC) - there is a range of requirements that need to be satisfied in order to obtain this;
- have undergone various pest-control activities or be sourced from a pest-free area;
- have undergone visual inspection by the country's National Plant Protection Organisation (NPPO); and
- be transported in a manner to prevent possible post inspection/treatment contamination.

⁶ For example, the time taken for an inspection of fruit fly host material arriving by air cargo can vary considerably – a container of plums may only require two boxes to complete the inspection, whereas a container of pawpaw will require many more cartons to reach the sample size required for inspection.

Beyond these generic requirements, however, there is a myriad of detailed requirements according to the product type which can involve additional compliance activities. The requirements vary according to whether the product is, for example, a potential host of fruit-fly⁷, and its country of origin.

The distinction between fruit-fly host products and non fruit-fly host products is not particularly relevant from industry's perspective notwithstanding its importance to MAF in terms of risk. In contrast, the key distinction for industry in terms of cost is more of a function of whether the import process is established or not. In other words, despite the apparent complexity of standards and requirements, industry perception is of relatively straight forward processes for importing fresh fruit and vegetables, particularly when the product is an established product. According to industry, the unit costs of all compliance activities diminish over time as the conditions and treatments become more like business-as-usual activities. For example, an established product like bananas or oranges will have much lower per unit treatment costs than a new product like taro or Californian grapes.

4.3 CASE STUDY

Given of the broad category scope, there are risks in assuming that there is an average compliance cost that can be applied across the board to arrive at a meaningful industry-wide compliance cost estimate. In response to the difficulty in arriving with an average compliance cost we have used a major fruit and vegetable importer⁸ as a case study. This importer imports around 23,000 tonnes of fresh fruit and vegetables annually; we estimate that this is roughly equivalent to 15 percent of the total national imports of these products.⁹ There are 23 different commodities imported, ranging from asparagus to melons to snowpeas to taro. For this importer, the top five largest fresh imports by volume are bananas, oranges, melons, grapes and pears - a profile reflected in the

⁷ In terms of potential risk, it was initially thought that the product category would be further broken down into "non fruit fly hosts" and "fruit fly hosts". Appendix B provides details on the breakdown of the commodity into fruit fly and non fruit fly.

⁸ Confidentiality considerations prevent us from naming the importer.

⁹ Based on a ratio of this importer's fruit and vegetable volumes to total volumes, according Statistics New Zealand import data, year ended June 2004.

national import statistics for fresh fruit and vegetable imports.

4.4 BIOSECURITY REQUIREMENTS PRE-ENTRY

4.4.1 Policy Development

Importers partly absorb the considerable costs of developing new import health standards (for example, to begin importing grapes from a new country). The cost of developing standards is generally considered to be a Crown, rather than industry, expense. Industry noted, however, that this perception failed to appreciate the significant investment they make in the process. The costs to importers during policy development include expenditure on research to supplement MAF risk analyses, time spent liaising with MAF and then, once the standard has been implemented, communicating the biosecurity requirements to suppliers offshore. Therefore, unnecessary or overly frequent changes to standards impose costs on industry.

For example, industry representatives noted a cost escalation in relation to the change in the IHS for Californian grapes in 2002. While the extent of the costs associated with developing IHSs are difficult to quantify within the budget and time constraints for this particular project, they impose a cost burden, and the costs are aggravated if changes to standards are not communicated well or if changes happen too frequently.

In a similar vein to the nursery stock industry group and the biological products industry group, the fruit and vegetables industry expressed frustration with the application of the Hazardous Substances New Organisms Act (HSNO) 1996. The compliance requirements associated with the HSNO Act are not within the scope of this project. Industry feels that the requirements in the Act have interfered with projects to develop new types of treatment (for example, irradiation treatment for mangoes from Australia) and establish new lines of import. In particular, it was noted that inconsistent application of the Act, and a lack of clear delineation between what is a new organism and what is not, imposes considerable indirect and, in industry's view, unjustifiable costs.

On a related note, one of the more interesting costs mentioned by industry is the cost of presenting a good media 'face' in relation to biosecurity issues, requiring the use of lobbyists and media liaison staff. For example, because of media focus on biosecurity issues, consumers are more likely to react strongly to things they perceive as biosecurity pests (e.g. spiders in Californian grapes). So, even if the pest is not a biosecurity risk, the result might nevertheless be a

suspension in trade for up to six months. As this cost does not arise out of requirements in the Biosecurity Act 1993, we do not consider it to be a compliance cost as such, but it is interesting to note how media awareness about biosecurity can result in negative impacts on businesses.

4.4.2 International Phytosanitary Certificate (IPC)

An IPC must accompany all consignments of fresh fruit and vegetables imported into New Zealand. Before an IPC can be issued, the country of origin's NPPO must be satisfied that several activities have been undertaken. This includes either that the product is sourced from a pest-free area, (involving accreditation and monitoring) or some or all of the following activities:

- inspected and/or tested by the NPPO in accordance with appropriate official procedures and found to be free of visibly detectable regulated pests;
- treatments (e.g. heat treatment, cold disinfestation, fumigation and irradiation);
- pre-clearance (for example, for California grapes); and
- special packaging post-harvest.

4.4.3 Administration Costs - Pest Free Areas and Grower Registrations

Pest-free areas are areas for which MAF and/or other agencies agree that there are no relevant pests present.¹⁰ Pest-free areas can be whole countries (for example, Canada), states or parts of states. The areas depend on the commodity being imported, according to requirements for pest-free status outlined in international standards. Therefore, for example, a state can be certified pest-free for grapes but not for apples. There are costs involved in obtaining pest-free status and monitoring, but at present, the bulk of these costs are borne by governments in the country of origin.

As part of a government-to-government program between Australia and New Zealand, Australian growers can register themselves with MAF and/or AQIS in order to show compliance with various biosecurity standards. At the workshop, the participants noted that the grower registrations for the

¹⁰ Pests can be biosecurity regulated pests (such as fruit fly) or other pests (such as black widow spider, for example, which is considered to be a health risk rather than a biosecurity risk)

Australian Vegetable program¹¹ cost them around \$250,000 per annum (across all growers), or around \$5,000 per grower. This cost, while charged to the growers by AQIS, applies specifically to New Zealand requirements and importers feel that this cost would be wholly passed on to them in the form of higher charges by growers. There was no available information about the costs of grower accreditation and monitoring in other countries.

Other compliance costs identified by the case study firm noted were general administration costs of around \$75,000 per annum for growers in Australia, which again, would likely be passed on to importers in New Zealand. This cost only relates to grapes, as these were the only costs that were readily measurable. The cost of off-shore administration for all New Zealand importers has been estimated by assuming the case study firm's costs are proportional to its import share. In total, off-shore administration is estimated to be in the vicinity of \$0.5 million.

Similarly, the treatment and inspection activities and costs involved depend very much on the commodity and the country of origin, and due to a lack of available data from MAF or from importers, are not possible to estimate reliably. The case study firm noted that treatments for Australian vegetables cost it \$200,000 per year, treatments for grapes in California cost \$50,000 per year and treatments for other fruit and vegetables cost \$50,000 per annum. Again applying the assumption that the case study firm experiences off-shore treatment costs in proportion to its import share, estimated total treatments off-shore could be in the vicinity of \$2.0 million dollars.

In addition, the case study importer had worked with exporters to establish fumigation and CO₂/SO₂ or cold sterilization treatment facilities in Australia and California, in response to New Zealand requirements. There was one such facility (for Avocado treatment) in Australia, costing \$100,000 to establish and around eight in the United States, costing around \$1,200,000 in total. The feeling was that the capital cost of these facilities would be recovered in the form of higher charges to New Zealand importers. We have assumed that costs would be recovered over five years, or an equivalent annual cost of \$260,000 to industry.

According to industry, there are additional costs involved in sending MAF staff offshore to inspect treatment facilities and provide approval for processes. This is essentially charged to the importer as a MAF fee, so we have excluded the cost from the analysis.

Comments about off-shore inspections and treatments were that mutual recognition of standards offshore greatly assisted the process of importing to New Zealand. For example, acceptance of standards for hot-water dip for Mexican Mangoes has made it easier to begin to develop a flow of imports from that country.

4.4.4 Packaging

Particular fruit and vegetable products require special packaging to exclude pest inhabitation. The cost of packaging has been estimated by our case study firm to be \$50,000 per annum, or, as applied to industry as a whole, in the vicinity of \$329,000 per annum.

4.5 BIOSECURITY REQUIREMENTS AT BORDER

By volume, the sea cargo pathway accounts for 95 percent of imports of fruit and vegetables. The air cargo pathway is used for smaller volume consignments, and overall accounts for a greater number of consignments. Industry representatives agreed that there are no material compliance cost differences according to whether the product is brought in by sea or by air. It was noted, however, that the 24 hour availability of MAF staff at the air cargo centre greatly facilitated the flow of imports. In contrast, because MAF inspectors have to be booked to look at containers arriving through the sea cargo pathway, there is less scope to be flexible. Vessel arrival times are not reliable, making it difficult for MAF border staff to be immediately available, leading to delays in processing. For this group, efficient processing on a Wednesday is particularly important because Thursday is an important product day. If a Wednesday inspection is missed, then the importer's costs increase: sales may be lost to opposition, or if there is no competing supplier in that particular market, if the product is held up a distributor may not use the importer to source the product again.

Every consignment of fruit and vegetables has to obtain a BACC clearance. Mostly, this consists of MAF border staff doing a document check (i.e. reconciling the invoice against the IPC).

Fruit and vegetables must be transported to transitional facilities from the port of entry in approved curtain-sided trucks. According to industry, this does not impose any additional compliance costs.

¹¹ The program applies to beans, capsicums, zucchini and cucumbers, amongst other products.

4.6 BIOSECURITY REQUIREMENTS POST-ENTRY, PRE-CLEARANCE (TRANSITIONAL FACILITIES)

Transitional facilities are used to inspect fruit and vegetables, inspect the container they arrive in and, in some instances, carry out various treatments. According to MAF, there are 43 approved facilities for fruit and vegetable inspection (inspection facilities at air cargo centres and ports have been excluded from this figure).

4.6.1 Inspection

All consignments of fruit and vegetables arriving by the airfreight pathway are inspected by MAF border staff. MAF estimates that 90 percent of the volume of fruit and vegetables arriving by air come through Auckland Airport, with the other 10 percent coming through Wellington and Christchurch.

Consignments arriving as sea freight are generally inspected at the importers' transitional facilities. All large importers have transitional facilities. Smaller importers have consignments inspected at the port of entry.

The per kilogram cost of inspections for fruit and vegetables has been estimated by industry to be less than \$0.01 per kilogram. When applied to the total volume of fruit and vegetables arriving in New Zealand, this amounts to an annual cost of around \$1.2 million, but as the cost is entirely made up of MAF fees, this cost is not included as part of the compliance cost estimate.

Bananas account for almost half the inspection cost of \$1.2 million. This is a function of the volume of bananas imported relative to other fresh produce and a relatively high MAF inspection rate.

4.6.2 Pest ID

If live organisms are detected in the consignment by MAF border staff, a sample is sent to the National Plant Reference Research Laboratory (NPRRL) for pest identification. According to industry, the time taken for pest identification ranges from 2 hours to 36 hours, and this is, on the whole, an acceptable delay.

The need for diagnostics varies greatly by commodity type. For example, industry estimates that 95 percent of taro consignments and 85 percent of banana imports require pest identification, whereas only 10 percent of zucchini imports do. According to our case study firm, the cost of pest identification is less than \$0.01 per kilogram, across all fruit and vegetable imports. This amounts to an industry-wide cost of

approximately \$1.5 million. We have excluded this cost as it is essentially a MAF fee.

By commodity, pest identification for bananas is significantly more costly than all other fruits or vegetables, which is a function both of the volume of bananas imported and the high rate of diagnosis required. Banana pest identification accounts for around \$1.1 million of the total pest ID cost.¹²

Industry noted that a lack of accuracy in detection of pests is an issue, and consistent with feedback from other industry groups, there are significant concerns about the application of HNSO legislation. Terminology differences between “new organisms” and “unwanted organisms” means that consignments can be held to require further treatment even though the pest is merely “new” rather than “unwanted”. Industry is experiencing additional costs because importers are deciding to fumigate whole consignments as a matter of course instead of going through pest identification. According to industry, this has tripled the direct cost of fumigation treatment in the last five years. Moreover, industry regards treatment as undesirable because of the impacts it has on the integrity and shelf-life of the product. In other words, industry prefers to source fruit and vegetables from pest-free areas, all things being equal.

4.6.3 Treatment

The decision regarding what treatment is required at-border/post-border depends on the pest diagnosis and the characteristics of the commodity. For example, industry estimates that 90 percent of taro and 85 percent of bananas require fumigation. In contrast, there are several commodities that never (or almost never) require treatment. This is a function of where the product is sourced from (e.g. pest free areas), whether it has been treated before shipping and whether it is a fruit-fly host or not. These commodities include beans, avocado, chillies and papaya. In total, and based on detailed case study data, we estimate total fumigation costs to be in the vicinity of \$3.7 million.

4.6.4 Product Destruction

In some instances MAF will order the product to be destroyed (e.g. if fruit fly or weed seeds are found). According to industry, not a lot of product is destroyed as it is more common for treatment to be required instead of destruction. In many instances, the supplier will agree to reshipe the consignment out even through they may not cover their costs of doing so.

¹² Excluded, as the cost is a MAF fee.

4.6.5 Transitional Facilities

According to MAF, the inspection space at each facility would be on average around 20 square metres. This space is used primarily for biosecurity related inspections and depending of course on the volumes of fruit and vegetables imported by the particular importer, is likely to be used consistently throughout the year. Costed at between \$85 - \$95 per sqm, we estimate the total rental value of these inspection spaces at fruit and vegetable facilities to be between \$73,000 and \$82,000.

4.6.6 Administration

According to our case study firm, general administration and overhead costs associated with transitional facilities, and the import process in general, amount to around \$10,000 per annum. This cost includes costs associated with general maintenance of the facility, staffing and ongoing liaison with MAF. On an industry-wide basis, we estimate administration costs to be in the vicinity of \$66,000. This estimate assumes a proportionate relationship between import share and administrative costs.

4.7 SUMMARY OF COMPLIANCE COSTS

The table below summarises the estimates of compliance costs, as described in this chapter. The costs shown are defined and limited for the purposes of our analysis.

Table 5 Estimated Compliance Costs for Fresh Fruit and Vegetables

Compliance Activity	Estimated Annual Cost Year to June 2004 \$NZ
Treatments – pre-border	\$2.0 million
Facilities – pre-border	\$0.6 million
Administration – pre-border (registrations, exporters' costs)	\$0.7 million
Packaging and transport – pre-border	\$0.3 million
Inspections – pre-border, at-border and post-border	Excluded – MAF Fee
Diagnostics (Pest ID) – post-border	Excluded – MAF Fee
Treatments – at-border and post-border	\$3.6 million
Transitional facilities and administration – post-border	\$0.1 million
Total	\$7.1 million*

Source: PwC estimates based on case study developed in conjunction with a major importer. *summing error due to rounding