

# 11. Seeds

## 11.1 SCOPE OF COMMODITY

Within the context of this project, it is not possible to cover all seed types. Based on discussions with MAF, it was agreed that the focus should be on seeds used for sowing as opposed to seeds for remultiplication, bird seed, germ plasma and seed for testing. According to Statistics New Zealand import statistics, approximately 1.9 million kilograms of seed for sowing is imported annually.<sup>21</sup>

The main categories of seed for sowing that are the focus for this project are:

- maize;
- cereals (excluding maize) such as wheat;
- herbage - legumes & brassicas (e.g. cabbage);
- pulses (e.g. peas, beans and lentils);
- other vegetable seed; and
- grasses.

Table 18 Import Data for Imported Seeds

	Import Data
Value of risk goods per annum (seed for sowing) (\$NZ, CIF)	\$22.1 million <sup>22</sup>
Volume of risk goods (seed for sowing) per annum	1,912 tonnes

Source: Statistics New Zealand Import Statistics, year to June 2004.

## 11.2 IMPORT HEALTH STANDARD

The IHS for seed for sowing contains generic entry requirements together with requirements that are specific to a large range of seed types. In broad terms, in order to import a seed into New Zealand, the seed must have an international phytosanitary certificate (IPC). There is a range of requirements that needs to be satisfied in order to obtain this. Specifically, the seeds must:

- be clean;
- be appropriately labelled; and
- be subject to MAF inspection (based on sampling).

<sup>21</sup> Statistics New Zealand import data, CIF, Year Ended June 2004.

<sup>22</sup> Statistics New Zealand data will not necessarily pick up all seed imports by value as some are nil-rated because they are not for resale.

Beyond these generic requirements, however, there is a myriad of detailed requirements according to seed type which can involve additional declarations and, hence, compliance activities in order to obtain the appropriate declarations (these are declarations asserting the seed to be free of various diseases and quarantine declarations).

## 11.3 BIOSECURITY REQUIREMENTS PRE-ENTRY

Biosecurity requirements play a role in decisions made by importers regarding which seeds to import. Importers of seeds generally look to the overseas supplier to take responsibility for understanding and complying with New Zealand's biosecurity regulatory requirements. This is not straightforward. Suppliers are often selling into world market and New Zealand is a relatively small customer. Where IHS requirements are complex/costly to comply with, then from a suppliers' perspective, New Zealand can be perceived as being a difficult market to sell into. There is a risk that suppliers will choose not to sell to the New Zealand market, meaning biosecurity regulation can constrain the flow of goods in this industry.

New Zealand based importers of seed seek to work with overseas suppliers to ensure that they understand New Zealand's biosecurity requirements. Although not amenable to ready quantification, industry consider that a significant part of the importers' time is spent working with overseas suppliers firstly to encourage them to invest in understanding New Zealand's biosecurity requirements and secondly to make sure that they are aware of, and fully understand, the requirements.

### 11.3.1 International Phytosanitary Certificates (IPCs)

A supplier of seeds must obtain an IPC in order to send seeds to New Zealand. The certification requires various activities, including:

- field inspection - disease and crop inspection which is undertaken pre-harvest;
- sampling;
- testing (lab diagnosis);
- treatment:
  - fumigation; or
  - fungicide; and
- re-treatment if suppliers' methods are not acceptable to MAF.

New Zealand importers noted that they felt the requirements to obtain an IPC would impose significant additional costs on the supplier, and as a result, on them as customer. Suppliers incur these costs in the first instance and build them into the overall invoice submitted to New Zealand importers. Because invoices do not separate out the costs associated with the various activities outlined above, there is no ready way of establishing the costs of each. However, an IPC is required for supplying seeds to many other countries in the world. As such, the activities required are likely to be undertaken by the supplier regardless of his intention to export to New Zealand. With this in mind, many of the costs borne in order to obtain the IPC certification (as distinct from costs specific only to MAF's IHS) cannot be attributed to New Zealand's biosecurity regulation. As such, they can be excluded from the analysis.

It should be noted that additional compliance costs are incurred if the seed has been genetically modified. According to industry participants, these costs can be significant. However, the compliance activities in this regard are not part of requirements under the Biosecurity Act and, therefore, are outside the brief of this project. In similar vein, if a seed is imported and there is no import health standard (i.e. it is an unrecognised species), then the importer has to go through process under HSNO legislation to determine whether or not it is permissible to import the seed to New Zealand. Industry participants have indicated that the compliance costs this gives rise to are significant (but not quantified). Applications under the HSNO legislation are outside the scope of this project and, accordingly, this issue has not been investigated further.

### 11.3.2 Transportation to New Zealand

Seeds must be transported to New Zealand in leak-proof and covered receptacles and containers. In general, industry considers that there is only negligible compliance cost in this regard as the product would need to be shipped this in any event.

## 11.4 BIOSECURITY REQUIREMENTS AT BORDER

There are relatively few compliance requirements at border because most seed product is taken from the ship/aircraft and then transported to a transitional facility. Accordingly, it has been assumed that the compliance costs at border are negligible.

It should be noted that the vast majority of seed for sowing is transported to New Zealand by sea. There are no material differences in compliance activities between sea and air cargo, except that because the consignment types are vastly different between the

two modes, the samples taken from each mode are likely to be different. Transportation by air tends to involve seeds for testing or for re-multiplication and so tend to be limited volumes. Seeds for sowing typically are transported by sea and involve much larger volumes.

## 11.5 BIOSECURITY REQUIREMENTS POST-ENTRY, PRE-CLEARANCE (OFF-PORT TRANSITIONAL FACILITIES)

### 11.5.1 Transitional Facilities

Most of the major seed importers have their own transitional facilities but there are also third party providers of such facilities. According to MAF, there are 427 approved facilities for seed and stored product, and 16 approved facilities for seed treatment.

Transitional facilities for seed and stored product do not exist only because of biosecurity requirements. The facilities are in effect storage facilities that are required in any event, but which have added features because of biosecurity requirements.

The key requirements for transitional facilities include:

- designated area;
- separated from other activities by wall or minimum distance;
- secure (locked);
- must be sprayed (once every 3 months);
- lighting must meet minimum standard;
- accredited people to unload containers (and must be re-trained every two years); and
- facility audited by MQS twice a year.

In addition, the importer must either have, or make arrangements with a third party for:

- treatment (typically fungicide); and
- incineration (or other means of disposal) of packaging.

Lease costs for facilities are in the order of \$65 per square metre per annum. MAF estimates that dedicated biosecurity areas would average 10sqm per facility, enough for two buckets of seed to be laid out. The total cost of the facility itself is estimated to be in the range of \$306,000 - \$320,000. This estimate includes equipment costs, which represent a further 10-15 percent of lease costs. The estimate excludes administration costs, which have been captured elsewhere in this report.

Consistent with the requirements on all transitional facilities, only MAF accredited personnel can be involved in unloading seed from containers and performing inspections. We do not have any information to suggest that the times for unloading seed or the particular requirements for staff at seed facilities impose greater costs on this industry than are experienced by other importers. The costs of training transitional facility staff and the costs of inspecting and unloading containers have been addressed elsewhere in this report.

### 11.5.2 Inspections (Sampling)

Once seeds are unloaded from their container (or packaging), samples are taken by MAF personnel. Sampling is used to identify any seed that is not of the same type as the rest of the consignment and to check for cleanliness. Sampling is usually completed within a couple of days of seed arriving at the transitional facility. The cost of this is a MAF fee, so it has been excluded from the analysis.

The container / packing within which the seeds were brought to New Zealand is also inspected. This may require disposal of packing via incineration or deep burial. The cost of this activity is captured in Chapter 16, *Containers and "risk" Packaging*.

Because the cost of sampling is essentially a MAF fee, a sampling cost has not been included in the total estimate. The costs of delays have not been quantified. However, industry participants have raised three main concerns in relation to MAF sampling of seeds:

- there is no difference in sample size according to consignment size. This means that in a large consignment a small proportion of seed is sampled whereas for small consignment, the sample proportion is much higher (100 percent in some instances). Industry have questioned whether this amounts to unnecessary levels of sampling in some instances (although we have not established whether the size of sample has much, if any, bearing on sampling costs);
- seed samples can be sent off for identification and cleanliness tests notwithstanding that testing based on internationally recognised standards have been used prior to shipment (e.g. standards developed by the International Seed Testing Association). Industry's concern is that MAF is not acknowledging the testing that is undertaken in accordance with international standards even though they are equivalent, in industry's view, to standards applied by MAF. The implication is that this leads to unnecessary lab testing and diagnosis; and
- the experience of MAF inspection personnel is critical to efficient identification. Inexperienced personnel can result in samples being sent for

diagnosis in instances when more experienced personnel could avoid the need for this.

If nothing is found as a result of the sampling, then the consignment of seed is cleared for entry to the New Zealand market. If, however, something is detected, then various steps are taken that can include:

- sending the sample to a lab for diagnosis;
- treatments including some or all of:
  - fungicide treatment; and/or
  - cleaning and dressing; and/or
  - fumigation treatment (for live insects).

### 11.5.3 Identification

The time taken to undertake a lab test to identify a seed can take a couple of weeks (reasonably common) or a month or longer (much less common).

Between 25 percent and 30 percent of samples taken are sent away for tests. The cost of the test depends on the size of the consignment and ranges from \$50 per test per consignment to \$200 for multiple tests conducted on larger consignments. As the cost of this essentially amounts to a MAF fee, we have excluded it from the analysis.

### 11.5.4 Treatments

Treatments before any contaminated seed is cleared include fungicide, fumigation and dressing / sifting. Treatment costs include the cost of chemicals, unpacking and re-packing the seeds, and associated equipment and personnel costs. Treatment costs have been assumed to lie in the range of \$0.40 - \$1.00 per kilogram.

Originally, a wide array of figures has been reported for treatment costs as part of the project ranging from \$0.40 per kilogram to over \$2.00 per kilogram. For the purposes of analysis, the range has been modified to focus on the major types of seed for sowing. All of the seed categories noted above have to be treated upon arrival except for herbage and some varieties of vegetable seed.

According to MAF database figures, consignments containing 289,000 kgs of seed for sowing in the year to June 2005 had a treatment authority against them.<sup>23</sup> Based on these figures, we estimate that seed

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<sup>23</sup> Note that the figures obtained related to the year ended June 2005. The basis for data is therefore inconsistent with other figures used throughout this report that related to the year ended June 2004.

treatments cost in the vicinity of \$115,000 - \$289,000 per annum.

### Seed cleaning

An important point to note is that there are only two cleaning facilities in the South Island (Methven and Lincoln). These facilities involve specialist machines. The specialist nature of the machines means that there are reasonably high barriers to entry to the seed cleaning market.

There are only two facilities, there can be delays while awaiting cleaning. While seed is awaiting cleaning, it is securely stored within the transitional facility. Delays can have variety of impacts. At one level, delays simply increase the need for additional storage capacity at transitional facilities. In a few cases where capacity is already stretched, this can involve hiring a container to store seeds.

At another level, delays can have ramifications for market access. There are relatively narrow time windows within which seeds can be brought into New Zealand and enter into the market (given the seasonal nature of the industry). Thus, delays, even if only a few weeks, can mean the difference between being able to sell into the market and having no market to sell to. In some cases seed can be held over to next season, re-exported or in worst case scenario (rare), destroyed.

The costs associated with delays (including in relation to seed cleaning) have not been quantified at any level of detail, but at a rough estimate, industry have indicated that in worst case scenario, around 0.5 percent of stock sent for cleaning might be delayed to the point where the entire value of the stock is lost which on the basis of import (CIF) values would imply costs of around \$17,000 per annum.<sup>24</sup>

### 11.5.5 Packaging

Disposal of packaging/containers is considered to be negligible cost by industry.

## 11.6 SUMMARY OF COMPLIANCE COSTS

The table below summarises the estimated compliance costs for seeds, as defined and limited for the purposes of the analysis.

**Table 19 Estimated Compliance Costs for Seeds**

Compliance Activity	Estimated Annual Cost \$NZ
Certification and administration - Pre-border	Unknown (but material)
Transitional facilities – Post-border	\$0.31 - \$0.32 million
Inspections, diagnosis, identification – Post-border	Excluded – MAF fee
Cleaning and treatment, including product losses due to delays – Post-entry	\$0.13 - \$0.31 million
<b>Total</b>	<b>\$0.44 - \$0.61 million</b>

*Source: PwC, based on data from MAF, Statistics New Zealand, Agriquality, Federated Farmers, Corson Seeds, Wrightson Seeds, Canterbury Seed Company, NZ Agriseeds and Premier Seeds.*

<sup>24</sup> This figure is potentially understated because it does not take into account the costs incurred, over and above CIF values, once seed is landed in New Zealand and which are not recoverable if seed is not sold into the market.