5. Grains, Cereals, Feeds and Oil Seed Meals

5.1 SCOPE OF COMMODITY

Grains, cereals and oil seed meals are imported to New Zealand as animal feeds or as inputs for milling. Industry representatives noted that the commodities in this product group fall roughly into two categories:

- grains/cereals; and
- feeds and oil-seed meals (and their constituents).

Each of these has different import health standards and attracts different compliance activities. The commodities in these groups are noted in Appendix B.

Table 6 Import Data for Grains, Cereals, and Oil Seed Meals

	Grains and Cereals	Feeds and Oil Seed Meals
Value of risk goods per annum ($NZ, CIF)	$164.6 million	$159.5 million
Volume of risk goods per annum (tonnes)	415,513 tonnes	224,387 tonnes
Countries of origin	Grains and cereals are primarily sourced in Australia. A much smaller amount is imported from Canada.	Oil seed meals and feeds are primarily imported from Australia, South America, the United States and Asia.

Source: PwC based on Statistics New Zealand import data, year ended June 2004. Countries of origin data supplied by MAF.

5.1.1 Exclusions from Scope

Seeds for sowing are addressed elsewhere. Pre-processed flours or cereals for human consumption are not included in the scope of this product category as they are considered to be non-risk goods.

5.1.2 Readers' Note

Costs data in this chapter is summarised at the end of the chapter, because the information we received was in case study format. Therefore, this chapter is dissimilar to other chapters, which address each cost as it occurs within the chapter.

5.2 IMPORT HEALTH STANDARDS

5.2.1 IHS for Grains and Cereals

There are two import health standards applying to imported grains and cereals. The first outlines the phytosanitary requirements applying to grain for processing. An outline of the grain analysis process is specified in the main body of the IHS. A schedule is provided with specific breakdown of other requirements by each grain type. The second standard is complementary. It outlines the grain import system (GIS) requirements post-border.

The following requirements are among the conditions of the IHS:

- the importers must obtain an import permit and phytosanitary certificate for each grain type and country of origin;
- the suppliers must provide seed sampling certificates and seed analysis certificates with the consignment or if sampling certificates are not provided with the consignment, the consignment must be sampled for regulated contaminants on arrival in New Zealand;
- where specified for the individual grain type, various treatments including heat treatment and fumigation are required;
- that importing organisations must send grain to a MAF-approved GIS facility.

The health standards for imported grains have been designed to reflect an element of faith in the systems of the countries exporting grains to New Zealand, namely Australia (Australian Wheat Board) and Canada (Canadian Wheat Board). Industry commented that due to this mutual recognition of standards, importing grains from these countries, in practice, is relatively straight forward.

5.2.2 IHS for Feeds and Oil-Seed Meals

The health standard applying to imported oil-seed meals describes the sanitary and phytosanitary requirements for meals derived as a by-product of oil extraction or produced as a full fat feed. An import permit is not required for oil-seed meals because importers are not required to use a GIS system upon arrival. The IHS requires instead that several activities are undertaken, mostly offshore. These activities include requirements that:

- an independent verification agency inspect the processing plant in the country of origin;
- pre-shipment inspections of the consignment in the country of origin by the National Plant Protection Organisation (NPPO) to obtain a phytosanitary certificate.
- inspection of the vessel to obtain a vessel clearance certificate, also issued by the NPPO;
- consignments are fumigated;

- the product must be shipped in bulk in the ship's hold, in containers or in clean sacks;
- inspection at port of arrival.

5.3 BIOSECURITY REQUIREMENTS PRE-ENTRY

Pre-entry biosecurity requirements for oil-seed meals, in particular, are directed at keeping the supply chain clean throughout processing and shipping. In comparison with grains, the import of oil seed meals involves a lighter compliance activity burden at the border and post-border. Biosecurity clearance is usually given at-border following a documentation check.

5.3.1 Surveillance in the Country of Origin

Pre-border compliance activities are monitored by agencies in the country of origin. For example, an independent verification agency must inspect the feeds processing plant in the country of origin (i.e. AQIS or the Canadian Food Inspection Agency). In Australia, for example, the costs of surveillance for all grains and feed types is an AQIS cost. This cost is not directly imposed on New Zealand importers. A result of this is that the costs of this surveillance are not considered direct compliance costs stemming from New Zealand biosecurity regulation.

In contrast, cargo surveillance for oil-seed meals in the USA and Asia is a cost directly borne by the importer. This is because these countries do not have automatic recognition and private verifiers must be used. The use of a verification agency costs an additional NZ$1.44 per tonne imported from those countries[13]. This equates to a total verification cost for feeds and oil seed meals of $509,000.

In comparison to trusted sources such as Australia, establishing a new import arrangement from countries such as Argentina (and South America generally) and India requires significant effort on the part of the importer. The importer assesses the processing, storage and shipping standards in those countries in order to establish the supply line. Importers send investigation teams to establish new import arrangements, for example establishing the supply of Brazilian Soya. According to workshop participants, the cost of establishing a new import arrangement can cost upwards of $50,000, requiring several trips.

[13] By our import statistics, approximately 83 percent of oil-seed meals comes from outside Australia. The per tonne estimate is a straight average, based on verification activity in Asia ($1.09/tonne) and USA ($1.78/tonne).

5.3.2 Import Permits for Grains

Import permits are required for importing grains, but not for feeds and oil-seed meals. This reflects the need for GIS approval for grains.

5.3.3 Pre-entry Treatment Requirements for Grains

Fumigation is required for bulk-shipped grains before they are exported. Each shipment is inspected for contaminants by the National Plant Protection Organisation (NPPO). The grain is tested for insects and fungi, usually several days before the grain leaves the port. Soghum testing can occur up to ten days before testing. If pests or weed-seeds are found in the shipment (this is rare), pest identification occurs, and the shipment is re-treated, re-tested or simply destroyed.

The vessel is also inspected and a vessel clearance certificate is issued by the NPPO.

5.3.4 Pre-entry Treatment Requirements for Feeds and Oil-Seed Meals

All containers of feeds and oil seed meals are fumigated before arrival in New Zealand. As a rule of thumb, fumigation for oil-seed meals costs around $1.00 per tonne, spread across the different countries of origin. This results in fumigation costs of $416,000 per annum.

Treating a container with methyl bromide costs approximately $85 per container. The use of containers for oil-seed meals is infrequent, no more than 10 percent of traffic (roughly 22,450 tonnes, or 955 containers). If all containers were treated with methyl bromide (not all are), this would equate to a cost of around $81,000.

In summary the total estimate of compliance costs for feeds and oil seed meals is around $1.0 million.

5.4 BIOSECURITY REQUIREMENTS AT BORDER

5.4.1 Inspections and Diagnostic Testing

As part of a GIS audit for grains and for every bulk consignment of oil-seed meals, MAF staff will take samples from the consignment at port. It is very rare for there to be live insects in a consignment leading to a "hold" being placed on the ship. One industry participant noted this had only occurred twice in the 15 years he had been importing grains and feeds.

Oil-seed meals are generally given biosecurity clearance at the border, requiring no further treatments. Grains require further processing and treatments before clearance status is achieved (clearance is tacit, provided the GIS standards are followed).

Treatments of the majority of grains occur at the accredited transitional facility, namely heat treatments. Treatments of oil-seed meals are not required unless the meal has arrived in a container, which can lead to methyl bromide treatment being required.

5.4.2 Unloading

The at-port activities for grain depend on whether the grain is bulk-shipped or containerised. Industry representatives estimated that 90 percent of grain and oil-feed is bulk-shipped, the remainder is containerised.

If the grain is bulk-shipped, sweepers collect the grain into trucks, where it is compressed and transported to the accredited transitional facility. This requires use of an air-compressor and stevedores to blow-down the trucks at the wharf. Hire of the compressor and the use of stevedore time incur costs over and above business as usual. The discharge is supervised, usually by the trucking company, incurring labour costs which are passed on to the importer.

For the small number of containers carrying oil-seed meals, it is important to keep the container sealed and dry. If the grain is containerised, MAF staff ensure that the container is taped and covered properly before the container is loaded on to a truck. This incurs costs of tape and stevedore labour. On occasion, the time taken to prepare containers so that they meet the regulatory requirements can lead to demurrage charges.

5.4.3 Disposal of Quarantine Wastes

Inevitably, there is some grain lost during the unloading process. High wind can cause delays in unloading because of biosecurity threat of airborne risk material. Spilt grain is disposed of at the port using deep burial or sewage disposal.

5.4.4 At-port Administrative Burden and Delays

At-port activities are generally not causing delays or difficulties for this industry group, unless there are transport capacity constraints.

If stevedore labour is not available to perform the taping for whatever reason, additional demurrage charges can be incurred. This is more a function of the operation of the port rather than biosecurity regulation per se.

5.4.5 Transport

The trucks used for transporting grain must be sealed, be equipped with a spillage kit, be cleaned after each load and undergo regular maintenance. No jack-knifing of trucks is allowed, therefore trailers must be disconnected before tipping the truck. This requires additional time. Trucks are inspected regularly as part of the approved provider process.

The trucks follow dedicated routes, but this is not thought of by industry as imposing significant additional cost.

Freight companies' yards must be transitional facilities because often containers are taken directly there to avoid demurrage at the wharf. Drivers must be trained in MAF-approved procedures.

If the grain is shipped in containers, the container must be emptied using a MAF-approved tipper. Industry reports a shortage of such tippers, which can delay tipping, incurring detention charges.

Containers must be steam cleaned once emptied, incurring steam-cleaning charges. This imposes a cost on the grains importers, the total cost of which has been implicitly included within the cost estimate for container clearance in Chapter 16, Containers and Risk Packaging.

An indirect cost resulting from biosecurity compliance is that the requirements to obtain approved provider status create a significant barrier to entry. This has resulted in there being a limited number of transport providers for grains, for both bulk loads and containerised grains that can be used as part of the GIS process. This has potential for creating delays when capacity is stretched and results in monopoly prices being charged to the importer. Significant delays can happen due to lack of available transport 2-3 times per year, so the problem is not infrequent.

The additional transport costs are passed on to the importer in the form of higher charges. Industry noted that the premium on transport since implementing the GIS requirements has amounted to around $1.00 per tonne of grain.

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

5.5.1 Transitional Facilities / Grain Import System

In order to obtain accreditation for a grain import system (GIS) the grain importer must do a variety of things during unloading, transporting and processing imported grains. The facility providers must:

- use a MAF-approved tipper for containers;
- the store must be cleaned before unloading;
- use quarantine bins and brushes;
- segregate treated / local silos from non-treated silos;
- track consignments;
- use a specially fitted-out warehouse, which requires regular maintenance (e.g. filling in cracks in the floor etc);
- staff at the facility must be trained and certified to inspect containers and to supervise unloading;
- weeds on site must be inspected and sprayed; and
- at mills, conveyors and lines must be flushed before local grains can be used.

GIS accredited providers are audited twice-yearly by MAF, for which MAF charges a fee. Samples are taken at the facility, post-treatment as part of the GIS audit process.

5.5.2 Treatments

At mills, grains must be heat-treated or ground to specification. According to industry, the costs of grinding are not onerous and mills are required to fine-grind to meet quality criteria.

5.5.3 Flushing Requirements

Biosecurity regulation requires that millers of grains must flush conveyors and lines before lines and conveyors can be used. This involves some downtime of the machinery. Industry feedback suggests that downtime is minimal, and the flush is recovered and used elsewhere, so the costs are not significant.

5.5.4 Administration

Grains and oil-feed importers and mills incur administrative costs in complying with MAF regulation. These costs include:

- internal audit costs;
- costs of updating procedures, contingency plans and training staff;
- records-keeping;
- monitoring and managing the GIS system and the costs of establishing GIS status; and
- staff costs.

No specific information to assist with estimating the level of administration costs has been provided to us.

5.5.5 Regulatory Issues

Industry sources suggested that the level of stringency applied by MAF staff can vary according to the New Zealand port of arrival. One example given by the group is that unloading in Christchurch requires three times the manpower than unloading in Auckland. The feeling was that additional requirements in some locations might reflect the level of local political pressure applied to MAF by groups like Federated Farmers to prevent the introduction of herbicide resistant species and weed seeds.

5.6 SUMMARY OF GRAINS COMPLIANCE COSTS

Sample compliance cost estimates associated with a grain import system have been provided to us by three firms. Some of the estimates are more detailed than others, in the sense that they explicitly break down the sources of individual costs.

5.6.1 Case Study One

At the lower end of the range, an industry participant reported a weighted average per tonne grain import compliance cost of $3.48 per tonne. Within this estimate, there were a range of costs, depending on the commodity. For example, processing imports for waxy maize products costs the company on average $14.65 per tonne, whereas processing starch, syrup solids and caramel products costs between $1.90 and $2.35 per tonne.

This firm's import share is about 9 percent of the total volume of grains imported. The firm noted that the requirements for GIS status are driven both by biosecurity and genetic modification concerns, so it is difficult to separate strictly biosecurity-related costs.

We have weighted each of these estimates by the amount of product processed by the company to arrive at a per tonne cost estimate to apply to all grain imports. The total industry cost for grains based on these per tonne estimates is $781,000 the component elements of which are shown in the table below.

Table 7 Grains Costs of Compliance - Case Study One Cost Breakdown

Compliance Activity	Per Tonne Cost Estimate (Weighted by Grain Type)	Total Estimated Cost Year to June 2004 $NZ
Import permit	$0.01	$2,000
Country of origin proof – pre-border	$0.02	$4,000
Paperwork – pre-border	$0.09	$19,000
Pesticide – pre-border	$0.24	$53,000
GIS system and administration – post-border	$0.45	$102,000
Weed seed inspections – local (excludes MAF fees)	$0.22	$49,000
Disposal of quarantine wastes – post-border	$0.06	$13,000
Quarantine costs – post-border	$1.09	$244,000
Container taping – post-border	$0.32	$71,000
Transport premium – at-border, post-border	$1.00	$224,000
Total		$781,000

Source: PwC, using per tonne cost estimates provided by a major grains importer.

5.6.2 Case Study Two

In the middle of the range of cost estimates, feedback from one industry participant was that biosecurity requirements on grains cost an additional $17,000 per 4,000 tonne shipment, for testing, fumigation, pre-shipment storage, transport and processing. This equates to an additional $4.25 per tonne of grain imported, or a total industry cost of $954,000.

5.6.3 Case Study Three

At the higher end of the estimated cost range, a cost of $7.33 per tonne of grain has been assumed, based on a case study received from another industry participant. Within this figure, the facility costs equate to $1.30 per tonne,[14] with an additional $6.03 per tonne for unloading and out-loading, including labour, disposal of waste etc. Using this estimate, the total industry cost is $1,644,000 per annum.

In summary, the case studies show a range of compliance costs associated with grains imports from $0.8 million to $1.6 million.

5.7 SUMMARY

In summary, estimated compliance costs on this industry group, as defined and limited for the purposes of our analysis, are:

Table 8 Estimated Compliance Costs for Grains, Cereals, Feeds and Oil Seed Meals

Compliance Activity	Estimated Annual Cost $NZ Grains and Oil-Seed Meals
Grains – Case studies	$0.8 million (low case study) $0.9 million (mid case study) $1.6 million (high case study)
Feeds and Oil Seed Meals – Verification agencies – pre-entry	$0.5 million
Feeds and Oil Seed Meals – Fumigation – pre-entry	$0.4 million
Feeds and Oil Seed Meals – Container methyl bromide– pre-entry	$0.1 million
Total	$2.0 - $2.7 million

Source: PwC, Statistics New Zealand, Tegel, ABB Grain, Penford NZ, Western Milling.

[14] The facility run by this importer attracts biosecurity compliance costs of $26,000 per annum, including an amortised capital cost of $20,000 spread over 5 years. Costs excluded from this estimate exclude internal audits for compliance with GIS, updating procedures, records-keeping and administration time, as industry representatives consider most of these costs to be business-as-usual costs.