

Changes to the Processed Feeds of Animal Origin Import Health Standard

In April this year, Biosecurity New Zealand proposed some changes to the existing Import Health Standard for the importation into New Zealand of processed animal feeds of plant origin. These changes involved:

- an increase in the phosphine fumigation exposure times, and a requirement to state the method of application on the fumigation certificate;
- an increase in sampling for bulk product in shipping containers;
- an increase in the inspection rate for non-fumigated bags;

- a new allowance for small trade samples of certain products to be imported into New Zealand without full documentation being required, and
- a new clause to clarify that dried seaweed products imported under this Import Health Standard can only be used in feed for terrestrial animals.

The NZFMA, on behalf of the feed manufacturing industry in New Zealand, wrote a submission to Biosecurity New Zealand to comment on these changes. Ours was the only

submission received. On the whole, industry was not opposed to the proposed changes, but we did seek clarification on some points, such as the new increased sampling regime for product in containers.

Biosecurity New Zealand clarified these points in their Review of Submissions and in the revised Import Health Standard, both of which can be viewed on their website.

For more information on these changes, please contact Vanessa Wintle in the NZFMA office on (09) 520 4300 or vanessa@pianz.org.nz.

Industry Profiles



Christine Swadel
Chemiplas NZ

Christine has worked at Chemiplas NZ Ltd for the past 2 years, initially as South Island Manager of their Food Additives, Animal Feed and Fine Chemicals Division. And later, in a national Animal Feed role. Prior to this she was National AgChem Manager for ABB Grain NZ Ltd for 3 years, sourcing and trading feed ingredients for the industry. This followed 20 years in the woolgrease/wool scouring industry managing the international marketing and logistics for all of New Zealand's wool grease production. With comprehensive technical support from Chemiplas's key agencies, a strong supply chain knowledge and a background in marketing and trading, Christine has formed sound relationships within the NZ industry.

Frances Clement
Pork Industry board



Frances has been involved in the New Zealand pork industry for around 17 years during which time she has been closely involved in a range of areas – and a number of challenges! - traversing the provision of safe and suitable food, quality improvement across the pork supply chain, animal welfare, biosecurity, and environmental resource management. Within this range of Industry Sustainability issues, the sourcing and utilisation of safe and suitable feed ingredients is a significant and ongoing focus. It is for this reason that NZPork is an active member of NZFMA. Frances is based in Wellington. Along with the rest of NZPork's small team of staff she is an active supporter of the production of 100% New Zealand Pork, as well as a dedicated consumer.

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www.nzfma.org.nz



Mill Run

Welcome to the 2009 Winter Issue. An interesting seminar was held in Wellington on 20th May with presentations from Judi Lee, NZFSA on the Salmonella Risk Strategy, Trish Whitaker, NZFSA on the suggested changes under the ACVM regulations and Shari Mannan, MAF/Biosecurity NZ on the changes to the Ruminant Protein Regulations.

It was the proposed changes to the Ruminant Protein Regulations that saw much discussion particularly around notices and labeling. This has led to further discussion with MAF and we will update you as these changes are agreed.

The presentations of Judi Lee and Trish Whitaker can be found on our NZFMA website.

We have an interesting Technical Seminar set for the 11th of November in Christchurch with a panel of speakers from manufactured feed customer sectors such as dairy, pork, layer hens and poultry meat giving their views on what they want, now

and in the future, from the manufactured feed industry. The 11th of November is also the date of our Annual General Meeting so we look forward to seeing you at the Hotel Grand Chancellor in Christchurch.

If you are interested in attending the November Technical Seminar in Christchurch, please contact Julie MacDonald in the NZFMA office on (09) 520 4300 or julie@pianz.org.nz for confirmation of attendance. Please confirm by the 30th October of this year.

Work is about to commence on a revised and updated Code of Manufacturing Practice for Feed Manufacturing. The draft document will be forwarded to members for feedback and input. We need your input to ensure it is a document that suits your operational needs.

The NZFMA Board is also considering the option of industry audits and the revised Code will be the basis for such an audit programme.

We are pleased to announce that ABB Ltd, following the purchase of NRM Ltd, have now joined the NZFMA. Tegel Ltd is also now a member of NZFMA in their own right.

Post Harvest Grain Management is a key issue this is discussed on page 2 and 3 of this issue of Mill Run.

The NZFSA will shortly release their consultation document on the amendments to the ACVM Act. We have pleasing feedbacks from NZFSA on a number of issues as a result of our submissions. We will update you as soon as the consultation document is received.

We always welcome any concerns you would like to see addressed in Mill Run or by the Executive Committee or the NZFMA office. So please let us know.

Michael Brooks
Executive Director

Post Harvest Grain Management



Post harvest grain management is a critical step in producing a high quality animal feed. Typically post-harvest grain management can be divided into five categories which include:

- measures taken at harvest;
- measures taken on receipt;
- physical control methods;
- chemical control methods;
- hygiene and exclusion, and
- Inspection.

Although feed manufacturers may argue that measures taken at harvest are beyond their control, the remaining measures would apply from harvest through to feed manufacture.

Proper implementation of these measures not only improve the quality of feed manufactured, but help to reduce waste and subsequently, cost.

All environments are surrounded by large populations of microorganisms, including bacteria, fungi and yeasts, and are open to fluctuations in temperature and moisture, all of which if not properly managed will have a negative impact on grain quality. Implementation of proper techniques can ensure quality is maintained, prolong the storage life of the crop, prevent or reduce yield losses, reduce the potential for contamination (e.g. with toxins, pathogens and vermin) and reduce the decline in nutritional value over time.

At Harvest

As noted above, feed manufacturers would argue that measures taken during harvest are often beyond their control. However, this can be overcome through the implementation of effective supplier approvals and the inclusion of minimum standards in supply contracts.

Crops that have broken kernels or bits of foreign matter are more susceptible to mould growth and insect infestation. Consequently, it is important to keep kernel damage during harvesting, drying, and transfer to a minimum. As far as possible, foreign matter and fines should be removed during the harvesting process. Supply contracts should also state maximum residue limits for pesticides used during grain production.



Receipt of grain

Visual inspection of grains on arrival is an easy and cost effective practice to implement. Although visual inspection may not identify the presence of certain contaminants (e.g. mycotoxins), it will identify the presence of visible mould, damaged grains, gross contamination, insect infestation and the evidence of rodent / vermin activity.

Monitoring of grain samples for compliance with maximum moisture, residues and other undesirable contaminants (e.g. *Salmonella* or mycotoxins) is an important component of any quality control programme. Each mill should have in place a testing programme which has been established based on risk factors identified for that particular

commodity. For example, testing of meat and bone meal for *Salmonella*, high protein content products (e.g. prime gluten) for melamine and copra for aflatoxins.

Collection of retention samples on receipt of grain will allow feed manufacturers to undertake a traceback if ever this is required and should be a routine occurrence in all mills. Retention samples should be labelled with sufficient information and stored, in cool, dry and dark conditions, for a sufficient period of time, to allow a trace back if this is ever needed. A documented schedule of retention samples should be kept.

Physical Control

All storage facilities should be cleaned thoroughly before filling. In addition, grain should be cleaned on intake to remove any extraneous matter as this will increase the risk of mould growth (and subsequently mycotoxin production) and insect infestation. As far as possible, keep grain transfer to a minimum to reduce the potential for damage and operate augers and elevators at capacity and at their slowest speeds.

Any cracks or crevices in the storage bins should be repaired promptly as these provide entry points for moisture and/or insects. Signs of moisture in the storage facility include crusting on the stored product and/or condensation on the inside of the bin roof. There should be a regular inspection and a 'repairs & maintenance' programme for each mill which is documented

as part of the mill's quality control system.

Where grain is stored for long periods of time, aeration of grain is a crucial component of physical control. Aerating the grain evens out moisture levels, controls self-heating and makes the environment less hospitable for pests. Installation of a stirring mechanism in the grain silo could aid in more effective grain drying and use of a dehumidifier could also dry out grain without the risk of heat damage.

In addition to these measures, the grain peak should be levelled to remove key points of moisture accumulation. Lowering the centre core also functions to improve airflow through the central area and makes it easier to check the crop.

The aeration system should be cleaned and checked regularly as foreign matter may accumulate in the ducts, blocking airflow and providing a breeding ground for insects.

A simple mechanism which will help to reduce the temperature fluctuations in silos is to paint them white to reflect heat from the sun.

Chemical Control

Chemical control should only be viewed as a last option and not as a safety net. However, if there has been an infestation, the storage structure should be dusted with a pesticide. There is often seasonal variation in insect numbers and it may be necessary to use chemical control measures at certain times of the year to prevent infestations. This should be detailed as part of the mill's cleaning and sanitation programme.

Where chemical controls are

used, they should be used according to the manufacturer recommendations to ensure minimal residue levels. In addition, they must be recorded in a traceable system. At the least this should include the storage area treated, crop type, the date of application, the chemical product applied, the application rate and method, and the name of the person who carried out the application.

Ensure that the chemicals chosen to treat insect infestations are fit for purpose. Certain chemicals may sit in the airspace above the grain and not penetrate into the spaces between the grains, thus reducing the overall effectiveness of the treatment.

Hygiene & Exclusion

Hygiene is a key component in maintaining the quality of any stored crop. Basic control measures such as ensuring any spilled grain or feed is quickly cleaned up and maintaining an uncluttered weed free exclusion zone around grain and feed storage areas can be easily implemented and will help discourage vermin.

Another important measure is ensuring that machinery and equipment used to handle or store grain is well maintained and regularly cleaned. A cleaning programme for all machinery and equipment (including silos) should be documented as part of the feedmills quality control system.

Building maintenance is an important aspect of hygiene and exclusion in a feed mill or grain storage facility. Where possible, seal unloading auger, openings, and pipes. Holes should be covered with a screen of fine mesh and any

leaky roofs, seals, joints, and holes promptly repaired.

Inspection

If a stored crop is kept for any length of time, it is essential that it is regularly inspected to monitor moisture and temperature levels and check for insect and microorganism contamination. Bins should be checked at least fortnightly in warmer months and monthly in cooler months. The ideal time to carry out these inspections is late afternoon when insects are most active.

It is important to have a temperature monitoring system installed in the storage bins. Temperatures over 21°C facilitate insect development while temperatures over 27°C almost certainly indicate insect activity.

Increases in the temperature of the grain indicate a problem, unless the external air temperature is higher than that of the crop. Similarly, grain should be monitored for moisture using a moisture meter. Any increases in moisture content may indicate the presence of pests or fungal growth. You may wish to use pheromone traps as a cost effective method of trapping insects. Storage insects are generally small in size, rarely longer than 2 mm, making them difficult to detect. And, they are able to multiply rapidly meaning they can attack grain in a very short space of time. This rapid population growth makes them the major cause of food loss in stored grain.

Finally, develop a simple to complete checklist which allows for fast and easy monitoring of grain storage would help to ensure that these tasks can be managed appropriately.