AUSTRALIAN CODE OF

GOOD MANUFACTURING PRACTICE

FOR THE FEED MILLING INDUSTRY

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CODE OF GOOD MANUFACTURING PRACTICE FOR THE FEED MILLING INDUSTRY

INTRODUCTION

The Code has been prepared to provide a set of principles for the manufacture of safe animal feeding stuffs. The Code has been developed with the following broad objectives in mind:

- To protect the health of the human consumer of food products derived from livestock fed prepared stock feeds.

- To protect the health of livestock and to enable livestock producers to achieve expected levels of performance by delivering stock feed of consistent quality to animals.

- To contribute to the delivery of livestock products of consistent and appropriate quality to enable livestock producers to market food commodities that meet national food standards.

This Code of Good Manufacturing Practice is a guideline for the manufacture of stock feed that is true to label and suitable for its intended purpose. By following this Code of GMP potential sources of error or contamination in the manufacture of the product can be minimised. Contamination, as used in this document, refers to the presence in a stock feed product of any foreign material or ingredient, whether by accident or error, that would compromise either the health or performance of the livestock for which the feed is intended, or the health of human consumers of food products derived from such livestock or the trade in animal products and animal feed. This includes the contamination or unintended mixing of one finished stock feed product with another.

Stock feed manufacturers must carry out a site hazard risk assessment plan that specifically relates to the three objectives stated above. Completion of hazard risk assessment at manufacturing sites is recognised as providing a method of identifying and managing risks associated with; use of medications, salmonella, restricted animal material (RAM), etc.

The Code does not deal with common or statute law requirements such as those relating to stock feed standards and labelling provisions, veterinary preparations, occupational health and safety, dangerous goods, poisons (including narcotics), weights and measures, genetically modified feeds or feed ingredients, waste disposal and pollution, and environmental protection. These must be met by the stock feed manufacturer. However some apparent duplication of legislative requirements may occur in the Code where it is felt that a point needs to be emphasised or explained more clearly. One such example is in relation to the ruminant feed ban under which the feeding of RAM (any rendered animal meal including but not limited to meat and bone meal, fish meal or poultry offal meal) to ruminants is strictly prohibited.

It is intended that the Code be used as a benchmark against which existing production facilities and practices may be judged. Those clauses in the Code which are considered essential are indicated by the use of the word “must”. In other clauses, where the word “should” is used, implementation need not be immediate but should be aimed for and preferably be a part of the company plan. Thus, the Code indicates, by the use of “must”, the points which are to be attended to first in a progressive upgrading program.

1. HAZARD RISK ASSESSMENT

1.1 A site hazard risk assessment plan for food safety must be undertaken and regularly reviewed. The plan must take account of risks to human and animal health and trade in livestock products and stock feed.

1.2 The hazard risk assessment plan must utilise HACCP principles, these being:

- list all potential hazards associated with each step, conduct a hazard analysis and consider measures to control hazards;
- determine critical control points (CCP);
- establish critical limits for each CCP;
- establish a monitoring system for each CCP;
- establish corrective action plans for deviations that may occur at CCPs;
- establish verification procedures;
- establish record keeping and documentation.

2. PREMISES AND MILL BUILDINGS

2.1 A site plan for the entire premises must be available.

2.2 The site must be suitably drained.

2.3 Roadways should be properly graded, compacted, dust-proofed and drained.

2.4 The buildings must be cleaned regularly to prevent accumulation of dirt, dust, spilt feed or raw materials on:

- the floor or surrounding grounds
- the exterior of production machinery
- ceilings, roof structure, wall cavities, ledges or rafters

Dry cleaning of spillages is preferable to wet.

2.5 Adequate facilities must be provided to hold raw materials in a manner which prevents mixing or cross-contamination except as required by product formulations. Where mills manufacture ruminant feeds and use RAM, separate receiving hoppers should be used for products containing RAM. Procedures adopted to address this RAM risk must be documented and verified through inspection, sampling and testing.

2.6 Procedures for maintaining mill cleanliness must be documented.

2.7 Adequate site security must be provided to minimise the possibility of accidental or deliberate contamination of product.

2.8 Procedures must be put in place, and be documented, to control access of contractors, transport operators, customers and other visitors to the site and their movements about the site.

2.9 Procedures must be in place, and be documented, to ensure that all visitors to the site, including staff, contractors, transport operators and customers, are aware of the potential impact of their actions on all aspects of product safety, quality and environment.

2.10 An effective, documented pest control program must be in place to minimise the potential impact of rodents, wild birds and insect infestations on product quality.

2.11 An efficient waste disposal system must be in place to regularly remove waste or contaminated materials from the mill site.

2.12 Adequate facilities and equipment must be provided and maintained for the storage of waste prior

to its removal from the premises. These facilities must be designed to prevent contamination. Waste containers must be clearly identified, leak proof and, where appropriate, should be covered. Waste containers should be cleaned and sanitised at an appropriate frequency to minimise contamination potentials.

2.13 Premises must be designed for wet weather operation. The operator must be able to load and/or unload feeds and ingredients without significant water damage resulting.

2.14 Ventilation within the mill must provide sufficient air exchange to prevent unacceptable accumulation of steam, condensation or dust and to remove contaminated air.

3. PERSONNEL

3.1 Appropriately qualified and/or experienced persons must be available to direct and supervise operations.

3.2 All staff must be informed in writing of their specific duties.

3.3 Personnel must be trained both in GMP generally and in their specific duties and training must be documented and recorded.

3.4 Training must be appropriate for the complexity of the manufacturing process and the tasks assigned. Personnel must be trained to understand the importance of the processes for which they are responsible in terms of their impact on all aspects of product safety, quality and environment. Training must ensure an understanding of any significant legislative requirements relative to the staff member's assigned tasks (eg the ruminant feed ban for the prevention of BSE).

3.5 Personnel responsible for maintenance of any equipment which can impact on product quality and safety must be appropriately trained to identify potential hazards that could affect product quality and safety and to take the appropriate corrective action.

4. PLANT AND EQUIPMENT

4.1 Equipment must be designed, constructed and installed to ensure that it is capable of delivering the requirements of the process.

4.2 Equipment must be designed, constructed, installed and maintained to prevent contamination of the product during operation, eg. use of magnets, separators or sieves.

4.3 Machinery should have appropriate dust extraction equipment and guarding

4.4 Equipment must be designed, constructed and installed to allow for routine cleaning, maintenance and inspection.

4.5 All plant and equipment must be kept in a state of good and safe working order by using a regular, logged, preventative maintenance program to ensure that it is capable of delivering feed to appropriate quality standards and to ensure that no physical or chemical hazard potentials result eg. inappropriate repairs, flaking paint and rust, excessive lubrication.

4.6 Written protocols, including calibration methods and frequencies, must be established for equipment monitoring and/or controlling devices (eg. weighing machines and flow meters), that may impact on all aspects of product quality. Calibration records must be kept.

4.7 Maintenance and calibration of equipment must be performed by appropriately trained personnel.

5. RAW MATERIALS - SOURCING/PURCHASING

5.1 A documented raw material sourcing and purchasing program must be implemented that minimises potential product quality and safety risks, be they biological, chemical or physical.

5.2 Relevant specifications for all materials used must be accessible at the site. Specifications should be based on Grain Trade Australia (GTA) standards, other recognised industry standards or individual company acceptance standards. Specifications should take into consideration such issues as grain treatment withholding periods. Ingredient suppliers should be provided with specification or contract definitions of the quality of the raw material to be supplied.

5.3 Products should, wherever practicable, be sourced from suppliers who can demonstrate compliance with a quality assurance system and/or can demonstrate that their products comply with purchase specifications and relevant State legislation.

5.4 A manufacturer who purchases supplies of packaged RAM that are not labelled with the ruminant feed warning statement must either include this statement on the packages prior to storing at the storage facilities or reject the product and return it to the supplier.

6. RAW MATERIALS - RECEIVALS

6.1 Every load of incoming raw materials must be cross-referenced to purchasing documentation.

6.2 A record of the origin, date of receipt and quantities of each raw material received must be kept.

6.3 Mills must have in operation a documented quality control program for the sampling and testing of incoming raw materials to ensure compliance with contract specifications and to ensure that they meet product quality standards.

6.3.1 At receival, all raw materials must be initially assessed by an authorised person and not unloaded or used without the authorisation of that person.

6.3.2 Appropriate tests should be applied to all raw materials on receival to detect any obvious biological, chemical or physical contamination risks and any other product quality risks.

6.3.3 Retention samples of all bulk raw materials accepted must be taken and retained for a period of at least 3 months. Retention samples of all packaged raw materials should similarly be taken and retained. All retention samples must bear an identification number or label recording the material supplier and identifying number/code.

6.3.4 All packaged raw materials, premixes and medications must be clearly labelled by the supplier with product name, weight, date of manufacture and/or expiry date, batch number and, when applicable, the mandatory ruminant feed warning statement required under the ruminant feed ban. These should be received in sound condition eg. no broken bags or leaking containers.

6.3.5 Labelling and packaging materials must be treated as raw materials and should pass quality assessment before use.

6.4 Raw materials found to be out of specification must be clearly identified and either returned to the supplier or not received until appropriately dealt with by authorised personnel.

7. RAW MATERIALS - STORAGE

7.1 All storage areas must be designed and maintained to prevent damage, contamination, unintended mixing, or spoilage of ingredients and packaging materials.

7.2 To ensure proper identification of all stored raw materials, all fixed or mobile bins, silos, tanks and bagged storage areas must be clearly identified by either labelling or numbering. Documentation and records must be maintained.

7.3 Silos, bins or tanks and warehouses should be inspected regularly for structural integrity and condition of contents. Special care should be taken to look for wet spots, mouldy product and insect infestations. Appropriate action should be taken to repair the storage facility if these are found. Bins and storage areas may need to be ventilated to avoid condensation problems.

7.4 Storage areas for bagged materials should be of a size sufficient to enable proper separation of different materials. They should also be operated so that a documented rotation of stocks of stored materials occurs, preferably on a 'first in first out' (FIFO) system.

7.5 All storage areas should be maintained in a clean and tidy condition and in a manner which minimises the risk of product contamination by vermin and birds.

7.6 Where mills manufacture ruminant feeds and have raw materials containing RAM on site, these raw materials must be stored in designated bins or areas to ensure cross contamination of ruminant feeds with RAM does not occur.

7.7 All feed additives and medications must be clearly identified and stored appropriately and in accordance with manufacturers' recommendations and current regulatory requirements (eg S4 drugs stored in a lockable, secure area) such that there is no possibility of cross-contamination or inappropriate handling.

7.8 Any chemical treatment (eg. fumigants, pesticides) applied to stored raw materials must be applied as per the product label (approved by the Australian Pesticides and Veterinary Medicines Authority (APVMA)) and withholding periods, as per the label, must be adhered to. Such chemicals must be applied by suitably trained personnel and application records must be kept. A documented inventory control system for all such chemicals must be implemented and maintained.

8. PRODUCTS/AGENTS NOT FOR INCORPORATION IN FEED - STORAGE, HANDLING AND USE

8.1 The need to store, on-site, potentially hazardous materials or materials that may be mistaken for feed ingredients, should be minimised to the extent that this is practical. Materials in this group will include bait used in pest control, boiler water treatments, cleaning agents or substances used to control odour. All such materials must be stored securely away from ingredient storage areas and access points to the production line (e.g. hand tip hoppers or grains inward hoppers). These materials should be stored close to the point of intended use (e.g. boiler water treatments should be stored in or near the boiler room).

8.2 Chemicals used as part of the pest control program represent a significant potential risk to feed safety and must be used with caution and in a controlled manner, according to the label, by suitably trained personnel. All chemicals used for pest control must be registered for their intended use. Using a pest control contractor who does not store such materials on the mill site is preferable (refer to section 2.10 on pest control).

8.3 Access to cleaning products/agents should be limited to cleaners (if a contractor is used) and/or

trained mill staff. Cleaning agents must be returned to a secure storage area after use and should not be left in the production area while the mill is operating. The cleaner should keep a record of the type and quantity of cleaning agents on site and where these are stored.

8.4 A documented inventory control system must be implemented and maintained for all chemicals used on site.

8.5 Other materials:
Any other materials coming on to the mill site should be assessed by the mill manager or other appropriate personnel as to their potential to impact on any aspects of product safety or quality. All reasonable precautions must be taken to prevent non-ingredient materials from being incorporated into any stock feed.

9. FORMULATION AND MANUFACTURING INSTRUCTIONS

9.1 A written master formula must be made by an authorised person and kept on a master file with a record of the dates of use.

9.2 For each formula the following information must be included:

- the name and unique identity code of the product;
- an indication as to the animal type for which the product is intended to be fed;
- the precise quantity of each raw material and, where appropriate, the location of the bin or bags of that raw material;
- if the formula contains RAM, and the mill also manufactures ruminant feeds, a statement must be included to the effect that the product contains RAM and must not be used for ruminant feeding.

9.3 Formulas can be issued to mill production staff and implemented either manually or via a computerised batching system. No amendments may be made to a formula once issued to mill production unless made by an authorised person and fully documented.

9.4 Good manufacturing practice must recognise and address the potential for contamination of feeds with incompatible feed ingredients or medications resulting from the order in which feeds are manufactured. This must be done with an adequate understanding of the operational limits of the mill's equipment and the particular quality and safety risks that apply to a particular ingredient/medication in a particular feed. Strategies adopted to address this may include flushing, sequencing and cleaning. The procedures adopted to address these risks must be documented and verified through inspection, sampling and testing

9.5 Precautions must be taken to ensure carry-over from previous mixing of feeds does not contaminate subsequent feed mixes.

9.6 Care must be taken to avoid the generation of reworks. Reworks consist of product that has been previously erroneously formulated or mixed. However, where reworks and returns are generated they must be carefully handled and documented. Returns are formulated feeds that have been produced, left the control of the feed mill, and returned to the feed mill. Key practices to be followed are set out below.

9.6.1 Products that cannot be identified must not be used in further manufacture of stock feed and must be disposed of as waste. Raw material or finished product that has been downgraded to waste and is awaiting disposal must be clearly identified and segregated from good stock to prevent its accidental use.

9.6.2 Reworks and returns must be labelled appropriately and should be segregated from raw materials and finished products.

9.6.3 Reworks and returns must be identified as containing or not containing RAM. If uncertainty exists regarding RAM status, the feed must be assumed to contain RAM. Reworks or returned feed either containing RAM or assumed to contain RAM must only be reprocessed into non ruminant feeds.

9.6.4 Such reworks and returns must only be approved for release and reformulation by an authorised person. Reformulation must be strictly in accordance with written instructions.

9.6.5 Full details of returns and of the reformulation of reworks and returns must be documented.

10. PRODUCTION

10.1 The different stages of production must be carried out according to written procedures which define, check and control the critical points in the production process. Records must be kept which confirm that procedures are followed and/or identify any departure from them. Procedures should be subject to regular, critical appraisal to ensure that they continue to be effective.

10.2 Veterinary chemical products in use must be **either**:

10.2.1 Registered by the APVMA for use in food producing animals of the type for which the feed is supplied and to which it is fed; and

- Added to the feed in accordance with the registered label instruction if in the form of an unrestricted premix; or
- Added to the feed on the written instructions (prescription) of a veterinarian registered and acting under a law of the jurisdiction, if in the form of a prescription animal remedy;

or

10.2.2 Be classified by the APVMA as a non-active constituent that can be added under the Veterinary Chemical Products (Excluded Stockfood Non-active Constituents) Order, 14 October 1995.

10.3 Records must be kept of veterinary prescriptions that pertain to medicated feed batches according to the requirements of State/Territory legislation.

10.4 Records must be kept to show that batching is done in accordance with formulation and manufacturing instructions.

10.5 Ingredients weighed within each batch must be within documented, pre-determined tolerances.

10.6 Each feed batch must be mixed to achieve a homogeneous product. Written protocols for testing mixer efficiency (homogenous mixing), must be established and test records must be kept.

10.7 Actual final batch records of ingredients used must be recorded and retained for twelve months for future reference eg recall and customer complaints. Medicated feed records should be kept for the period of time prescribed in the State/Territory legislation.

10.8 Outloading and packaging systems, including all fixed or mobile silos, bins and tanks, must be

designed and operated to prevent contamination, unintended mixing or misidentification of finished product. Key elements of this system are that:

- the bins (silos, tanks etc) must be identified by an appropriate labelling or numbering system;
- product stored within a given bin (silo, tank etc) must be identified via documentation and records;
- bins (silos, tanks etc) must be designed to be free-flowing, readily inspected and cleaned, and should be able to be sealed and secured;

10.9 A clearly labelled sample enabling traceability of each load of feed leaving the mill must be retained for at least 3 months.

10.10 Appropriately trained and authorised staff must supervise all aspects of processing.

11. LABELLING OF BAGGED PRODUCT

11.1 In the case of bagged product, correct packaging and labels must be applied at the time of bagging.

11.2 Labels must meet regulatory requirements. With respect to the ruminant feed ban for the prevention of BSE, labels on bags of stock feed containing RAM must include the prescribed warning statement and lettering must be of the prescribed size, in accordance with state legislation.

12. LABELLING OF PRODUCT SOLD IN BULK

12.1 Bulk product must be labelled to meet all regulatory requirements. With respect to the ruminant feed ban for prevention of BSE, the product supplied in bulk must be accompanied by documentation with the necessary statement concerning RAM, as prescribed by state legislation, either attached to or incorporated in the invoice or delivery documentation, and to be supplied to the buyer before or on delivery.

13. LOADING, TRANSPORT AND DELIVERY

13.1 Loading, transport and delivery of bulk and packaged feed products must maintain the identity and integrity of each feed product post production, thereby minimising any post-production unintended mixing or contamination risks.

13.2 Loading

A formal system must be in place to ensure loading of all vehicles used for transport of bulk and packaged feed products with the correct product, without risk of damage, unintended mixing or contamination. Key elements of this system are that:

- outloading storage bins, transport vehicles/trailers, and vehicle/trailer compartments used in loading and transporting a given order of feed to a customer must be clearly identified and documented;
- all equipment and vehicles that have been used in the loading or transportation of RAM must be effectively cleaned before loading of feeds not containing RAM. Any feed deemed to be containing RAM cleaned from equipment or vehicles must be disposed of or used only for non-ruminant feeds;
- all equipment and vehicles that have been used in the loading and transport of medicated feeds must be inspected and cleaned where necessary before loading non-medicated feeds.
- vehicles/trailers must be inspected prior to loading;
- details of contents of prior loads should be provided prior to loading and appropriate action

taken eg. further cleaning;
- pallets used for the loading of packaged feed products must be kept in good condition so as not to damage product;
- damaged or leaking bags and other packaging should not be loaded for delivery.

13.3 Transport

13.3.1 Transport vehicles/trailers must be kept in clean, well maintained and roadworthy condition, and designed such that feeds can be kept dry and protected from damage or contamination during transport and delivery.

13.3.2 Loads must be covered.

13.3.3 Transport drivers must always carry adequate documentation as to the identity of feed products in a given load (by compartment as applicable) and clear instructions as to the precise destination for delivery of each.

13.3.4 If any incident (eg. accident) should occur during feed transport which could result in unintended mixing or contamination either between compartments or from the exterior, this must be reported to the appropriate person at the mill who must determine the appropriate course of action to be taken before the load is delivered/unloaded.

13.4 Delivery

13.4.1 The recipient of a given consignment of bulk or packaged feed products has responsibility for the provision of adequate, safe and unobstructed facilities for unloading, and the clear and visible identification of all their storage facilities (silos, bins, etc.).

13.4.2 When delivering bulk feed products to a farm, it is essential that feed products are unloaded into the correct farm storage facilities for feeding to those animals intended, without risk of contamination. If, due to unacceptable facilities or inadequate instructions, this cannot be assured, the driver must not unload before seeking advice from the appropriate person at the mill.

13.4.3 Feed must not be unloaded into a farm storage facility (eg. silo, bin) other than as instructed, unless with the permission of the farm owner/manager. Each such instance must be documented. Similarly, any feed returned to the mill for whatever reason must be documented.

13.4.4 If any significant spillage occurs during unloading, this must be reported to the appropriate person at the mill and to a representative of the customer, and the spilt feed disposed of responsibly.

13.4.5 The driver must ensure complete emptying of truck compartments after each delivery. If for some reason complete unloading is not possible, transport drivers must notify the appropriate person at the mill and the incident must be recorded.

13.4.6 Where a feed mill supplies feed to a farm or into a region which is subject to quarantine or other restrictions due to the presence, suspicion or risk of a notifiable or emergency disease, the feedmill and transport drivers must obey all regulatory requirements and adhere to all standard operating procedures that apply to that quarantined farm or area. In the event of such an incident, an authorised person must assume responsibility for co-ordinating truck movements and hygiene measures, in consultation with relevant authorities, to ensure regional/farm biosecurity is not compromised. It is recommended

that the mill have on-site a copy of all relevant emergency disease control plans (eg. AUSVETPLANS).

13.4.7 Where a customer has in place particular quarantine/biosecurity measures which impact on movements of vehicles/drivers/products to or on the farm, or decontamination of delivery vehicles/drivers/products, prior to their arrival at the farm, these must be adhered to by the mill and transport drivers, and the mill must ensure that transport drivers are made aware of these requirements.

14. INSPECTION, SAMPLING AND TESTING

14.1 Samples may be required by state authorities as part of the audit process for the BSE ruminant feed ban. Access must be provided at suitable points in the manufacturing process for the purpose of taking representative samples.

14.2 Samples taken by a stock feed mill for its own private compliance testing:

- must be sealed and kept separately;
- must be labelled in such a way as to assist traceability;
- must be retained for at least a 3 month period of time;
- must be stored in conditions which aim to reduce deterioration to a minimum (cool, dry and free from pests and insects);
- must be easily retrievable.

14.3 Testing should be undertaken by appropriately trained and equipped staff on-site and/or at a reputable external laboratory (preferably with NATA accreditation for the tests undertaken).

14.4 Results of any inspection and testing should be assessed against documented, pre-determined tolerances/standards and appropriate records maintained. Where results fall outside these tolerances, further investigation and/or appropriate corrective action should be taken and appropriate records maintained.

15. RECORDS

15.1 Comprehensive records must be kept to identify all details related to the production of finished product. This should include, but not be limited to, production batch records, raw material source and storage details, product quality test results and delivery details, for all packaged and bulk feeds manufactured or sold. Records of relevant verification results for flushing and sequencing must be kept. This information must be kept for at least twelve months and allow for the traceback of product to all related details of its manufacture.

16. CUSTOMER COMPLAINT INVESTIGATION

16.1 A formal, documented system must be in place for registering and investigating customer problems and complaints which may relate to product/packaging safety or quality.

16.2 This system should result in satisfactory and timely responses to customers. Non conformances identified through customer complaint investigation should result in corrective actions applied to mill practices and procedures to improve product and service performance.

17. PRODUCT RECALL SYSTEM

17.1 The mill must have in place a Recall Committee with its members and their responsibilities clearly defined and documented.

17.2 The complaint investigation system must be linked to a formal, documented system for the recall of products should this prove necessary at any time.

17.3 Following identification of a potential hazardous risk, this product recall system should aim to:

- minimise or eliminate the risk of possible injury or death to animals, or potentially to humans, or impact on trade, by prompt retrieval of hazardous products from the marketplace;
- notify relevant government authorities as appropriate, explain corrective action undertaken and keep them informed of all developments on a regular basis;
- minimise disruption and inconvenience to distributors and end-users of stock feed products.

17.4 This product recall committee should be proactive in responding to non conforming product situations.

17.5 A written recall procedure must specify the following:

- methods to identify, locate and control recalled product (as supported by adequate mill production, inventory and sales distribution records);
- how recalled product will be isolated on return to the mill until appropriate disposal procedures have been determined.

17.6 The recall procedure must be capable of being put into operation at any time, inside or outside working hours and must therefore include emergency and 'out of hours' contact persons and telephone numbers.

17.7 The recall system should be periodically reviewed/tested to ensure that its effectiveness is maintained.

17.8 Each recall incident must be adequately documented and, after such an incident, the Recall Committee must review all aspects of the recall to ensure that recall procedures were adequate. At this time, the Committee must also review and revise mill practices and procedures to prevent the recurrence of such an incident.