



GUIDELINES

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# GOOD MANUFACTURING PRACTICE FOR FEED

DEPARTMENT OF VETERINARY SERVICES  
MINISTRY OF AGRICULTURE AND AGRO-BASED INDUSTRY MALAYSIA



# **Guidelines for Good Manufacturing Practice for Feed**

**First Edition, 2014**

Department of Veterinary Services  
Ministry of Agriculture and Agro-based Industry  
Malaysia



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## DIRECTIVES BY THE DIRECTOR GENERAL OF VETERINARY SERVICES

Feed offered to animals has long been recognized as a potential source of hazards in processed animal food products. Consequently, the feed manufacturing industry plays a vital role in this matter as it has the responsibility to ensure that consumers are adequately protected. The adoption of Good Manufacturing Practice for feed manufacturers and the designed implementation, supervision and on-going evaluation of such practice are the means of achieving this goal.

This GMP for Feed is developed to establish a feed safety system for animals, taking into account relevant aspects of animal health and the environment in order to minimize risks to human health. It also takes into account relevant aspects of the international requirements to ensure food safety. It also outlines the minimum standards of hygiene and sanitation, quality assurance and feed safety set by Department of Veterinary Services (DVS) to be adopted by the plants to fulfill the requirements of the Feed Act 2009 which is in force to ensure the production of safe, clean and wholesome food of animal origin.

I would like to thank all those involved in providing this guideline and hope this cooperation will continue in the future entwined. I then, order all parties concerned to comply with this guideline.

Thank you.



**DATUK DR. ABDUL AZIZ BIN JAMALUDDIN**  
Director General of Veterinary Services Malaysia

## 1.0 OBJECTIVES

This GMP has been developed with the following broad objectives in mind:

- a. To adhere to general standard of manufacturing;
- b. To ensure and promote products that meets the intended specifications;
- c. To maintain the integrity of the product manufactured and feed manufacturer;
- d. To prevent undesirable substances in the product manufactured.

Additionally, this GMP aims to control all the risks associated with a set of processes needed to produce feed. In this context, this guide complements the existing regulations and establishes requirements and recommendations for a perfect process control necessary for the proper functioning of the company in areas of:

- a. The production of feed, from the formulation and manufacturing, purchasing and procurement, to packaging, loading and delivery and including the recycling of usable quality products;
- b. The cross-cutting functions of the company, that is to say, scheduling, maintenance, cleaning/sanitation, process validation, control of suppliers, control of documents and records, control systems and data, the analytical inputs and technological tracking and tracing;
- c. The process of management. The guide provides policy and Quality Food safety, animal and investment planning, non-



compliance and customer complaints, audits and corrective and preventive actions.

## **2.0 SCOPE**

This GMP follows the feed chain from incoming materials to distribution, setting out the necessary hygiene conditions for producing feed which is safe and suitable for consumption.

This GMP also covers pet food and specialty pet food such as, but not limited to, gerbils, hamsters, canaries, psittacine birds, mynahs, finches, tropical fish, goldfish, snakes and turtles.

## **3.0 REFERENCES**

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- 3.1 CAC/RCP 54-2004, Code of Practice on Good Animal Feeding;
  - 3.2 Document Q1.3ver4 SFMCA 29-06-09, Australian Code of Good Manufacturing Practice for the Feed Milling Industry;
  - 3.3 DVS Document No: 32/4/97, Guidelines on Current Good Manufacturing Practice (CGMP) for Feed Manufacturers;
  - 3.4 FAO and IFIF. 2010, Good Practices for the Feed Industry – Implementing the Codex Alimentarius Code of Practice on Good Animal Feeding. FAO Animal Production and Health Manual No. 9. Rome;
  - 3.5 Feed Act 2009;
  - 3.6 MS 1514: 2009, Good Manufacturing Practice (GMP) For Food (First Revision).

## 4.0 DEFINITIONS

### 4.1 Feed

Any single or multiple materials, whether processed, semi-processed or raw, which is intended to be fed to animals.

### 4.2 Feed ingredient

A component or reconstituent of any combination or mixture making up a feed, whether or not it has a nutritional value in the animal's diet, including feed additives. Ingredients are of plant, animal or aquatic origin, or other organic or inorganic substances.

### 4.3 Feed additive

Any added ingredient including micro-organism and enzyme not normally consumed as feed by itself, whether or not it has nutritive value, which affects the characteristics of feed or animal products.

### 4.4 Medicated feed

Feed that contains approved medications intended for the cure, treatment or prevention of animal disease, enhancement of feed efficiency or promotion of growth.

### 4.5 Undesirable substances

Contaminants and other substances which are present in and/or on feed and feed ingredients and which constitute risk to consumer health and animal health.



#### **4.6 Antibiotic**

A substance produced by a microorganism or any other product produced wholly or partially by chemical synthesis and which in low concentration inhibits the growth of or kills micro-organisms, and used for the purpose of growth stimulation and prevention of diseases.

#### **4.7 Chemical**

Includes an antioxidant, preservative, binding agent, colouring substance, flavouring agent and non-antibiotic medicament.

#### **4.8 Package**

Anything in which or by which any feed or feed additive is encased, covered, closed or contained.

#### **4.9 Label**

Any written, printed or graphic matter describing the contents of any feed on the package or otherwise on the feed, or accompanying the feed.

#### **4.10 Authorised person**

A designated person authorised by the establishment.

#### **4.11 Manufacture**

In relation to feed, means to formulate, prepare, compound, mix, make, pack, label or to treat the feed with a view to its sale but does not include a bona fide research or experiment



relating to feed and any action forming part of or incidental to such research or experiment.

#### **4.12 Sale**

Includes barter or supply under integrated contract farming arrangement.

#### **4.13 Food safety**

Assurance that food will not cause harm to the consumer when it is prepared and/or eaten according to its intended use.

### **5.0 ABBREVIATION**

- 5.1 DVS - Department of Veterinary Services
- 5.2 FIFO - First-In-First-Out
- 5.3 GMP - Good Manufacturing Practice

### **6.0 GUIDELINES**

#### **6.1 Location**

6.1.1 Potential sources of contamination need to be considered when deciding the location of feed establishments, as well as the effectiveness of any relevant measures that might be taken to protect the feed.

6.1.2 Establishments should not be located anywhere where, after considering such protective measures, it is clear



that there will remain a threat to food safety or suitability. In particular, establishments should be located away from:

- 6.1.2.1 Environmentally polluted areas and industrial activities which pose potential and serious threat of contaminating feed;
- 6.1.2.2 Areas subject to flooding;
- 6.1.2.3 Areas prone to pest infestations; and
- 6.1.2.4 Areas where wastes, either solid or liquid, cannot be removed effectively.

## **6.2 Premises and Buildings**

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- 6.2.1 A site plan for the entire premises shall be available.
  - 6.2.2 Building used to process feed and feed ingredients should be constructed in a manner that permits ease of operation, maintenance, cleaning and minimizes feed contamination. Buildings are to have appropriate facilities, capable for their intended purpose of feed as well as pre-mix production. Coupled to this is good interior and exterior housekeeping.
    - 6.2.2.1 Premises should be so located, constructed and maintained so as to avoid contamination as well as to protect against weather and ground moisture seepage. Focus must be on appropriate facilities and good housekeeping.
    - 6.2.2.2 In determining the design and lay-out of premises, consideration should be given to:

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- a. The adequacy of the working space, which should allow orderly and logical placement of equipment and materials to suit operations, efficient flow of work, effective communication and supervision as well as to avoid crowding and disorder;
  - b. Avoiding the use of production areas for general traffic of personnel or materials or for storage of materials other than those in process.
- 6.2.2.3 Building and facilities shall have adequate space for the orderly placement of equipment and materials to prevent mix-ups between different feed additives or their components and cross contamination.
- 6.2.2.4 Defined areas for the following operations are required:
- a. Material receiving;
  - b. Storage;
  - c. Weighing of ingredients;
  - d. Mixing and Packaging;
  - e. Dispensing.
- 6.2.2.5 Storage areas should be of adequate space, provided with adequate lighting, arranged and equipped to allow dry, clean and orderly placement of stored materials and products, with appropriate labels, and with the following conditions:

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- a. Storage areas should be laid-out to permit effective and orderly segregation of various categories of materials stored and to allow rotation of stock;
  - b. Segregated storage should be provided for rejected, recalled or returned goods;
  - c. Storage arrangements should permit separation of different labels and other printed materials to avoid mix-up.

### **6.3 Internal Structures and Fittings**

- 6.3.1 Structures within feed establishments should be soundly built of durable materials and be easy to maintain, clean and where appropriate, able to be disinfected.
- 6.3.2 In particular the following specific conditions should be satisfied where necessary to protect the safety and suitability of feed:
  - 6.3.2.1 The surface of walls, partitions and floors should be made of impervious materials with no toxic effect in intended use;
  - 6.3.2.2 Walls and partitions should have a smooth surface up to a height appropriate to the operation;
  - 6.3.2.3 Floors should be constructed to allow adequate drainage and cleaning;
  - 6.3.2.4 Ceilings and overhead fixtures should be constructed and finished to minimize the



build-up of dirt and condensation, and the shedding of particles;

- 6.3.2.5 Windows should be constructed to minimize the build-up of dirt, be easy to clean and bird proof;
- 6.3.2.6 Doors should have smooth, non-absorbent surfaces and be easy to clean and, where necessary, disinfected; and
- 6.3.2.7 Working surfaces that come into direct contact with feed should be in sound condition, durable and easy to clean, maintain and sanitised.

## **6.4 Equipment**

### **6.4.1 General**

- 6.4.1.1 Equipment shall be located so that it:
  - a. Permits easy maintenance and cleaning;
  - b. Functions in accordance with its intended use; and
  - c. Facilitates good hygienic practices, including monitoring.
- 6.4.1.2 Equipment and containers should be made of materials with no toxic effect in intended use. Where necessary, equipment should be durable and capable of being disassembled to allow for maintenance, cleaning,



sanitization, monitoring and to facilitate inspection for pests.

- 6.4.1.3 Container for waste, by-product and inedible substances, shall be specifically identified, suitably constructed and kept in appropriate place.
- 6.4.1.4 Containers used to hold toxic substances shall be identified and kept locked to prevent malicious or accidental contamination of feed.
- 6.4.1.5 Equipment must be selected for a specific purpose depending on the type of mix required and are routinely inspected, maintained, calibrated, and recorded. Main focus must be on suitable equipment and easy maintenance.

The equipment should fulfill the following requirements:

- a. Equipment surfaces coming into contact with any raw material, intermediate, bulk or finished product should not be reactive, additive or absorptive so as to affect the quality of the product beyond the established limits;
- b. Equipment should not adversely affect the product through faulty valves, lubricant drips; or through inappropriate modifications or adaptations;

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- c. All equipment shall be equipped with explosion-proof electrical parts and should be properly grounded where appropriate.

#### **6.4.2 Control of Monitoring and Measuring Equipment (Maintenance)**

- 6.4.2.1 The monitoring and measuring equipment used shall be calibrated or verified at specified intervals or prior to use, against measurement standards traceable to national or international measurement standards; where no such standards exist, the basis used for calibration or verification shall be recorded.
- 6.4.2.2 All mixers used in the manufacture of feed and feed ingredients should be appropriate for the range of weights or volumes being mixed and be capable of manufacturing suitable homogeneous mixtures and homogeneous dilutions, and be tested regularly to verify their performance.
- 6.4.2.3 All other equipment used in the manufacture of feed and feed ingredients should be appropriate for the range of weights or volumes being processed, and be monitored regularly.

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- 6.4.2.4 Written procedures should be established and followed for maintenance of equipment including computers.
  - 6.4.2.5 A written record of major equipment servicing and use should be included in individual equipment logs which also identify the date, time, product, and lot number of each batch processed.
  - 6.4.2.6 Temperature and/or time recording devices shall be checked at regular intervals and tested for accuracy.

## **6.5 Facilities**

Adequate facilities shall be provided to hold raw materials in a manner which prevents mixing or cross-contamination.

## **6.6 Drainage and Waste Disposal**

- 6.6.1 Adequate waste disposal systems and facilities shall be provided. They should be designed and constructed so that the risk of contaminating feed or the potable water supply is avoided.
- 6.6.2 Drainage facilities are to be adequate for the purpose intended. They are to be designed and constructed to avoid the risk of contamination. Where drainage channels are fully or partially open, they are to be so designed as to ensure that waste does not flow from a contaminated area towards or into a clean area, in



particular an area where feeds likely to present a high risk to the final consumer, are handled.

## **6.7 Cleaning and Pest Control**

- 6.7.1 Feed and feed ingredients, processing plants, storage facilities and their immediate surroundings should be kept clean and effective pest control programmes should be implemented.
- 6.7.2 Containers and equipment used for manufacturing, processing, transport, storage, conveying, handling and weighing should be kept clean. Cleaning programmes should be effective and minimize residues of detergents and disinfectants.
- 6.7.3 Special precautions should be taken when cleaning machinery used for moist and semi-moist feed and feed ingredients to avoid fungal and bacterial growth.
- 6.7.4 Adequate facilities, suitably designated, shall be provided for cleaning utensils and equipment. Such facilities should have an adequate supply of hot and cold potable water where appropriate.

## **6.8 Personnel Hygiene Facilities**

- 6.8.1 Personnel hygiene facilities shall be available to ensure that an appropriate degree of personnel hygiene can be maintained and to avoid contamination of feed. Where appropriate, facilities should include:

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- 6.8.1.1 Adequate means of hygienically washing and drying hands, including wash basins and a supply of running water and sanitisers;
  - 6.8.1.2 Adequate number of toilets of appropriate hygienic design and shall not open directly into rooms where feed is handled;
  - 6.8.1.3 Adequate changing facilities for personnel; and
  - 6.8.1.4 Devices or fixtures, such as water control valves, so designed and constructed to protect against recontamination of clean, sanitized hands.

6.8.2 Such facilities should be suitably located, designated and maintained.

## **6.9 Temperature Control**

Depending on the nature of the feed operations undertaken, suitable facilities of sufficient capacity should be available for heating, cooling and so on, for storing feeds, monitoring feed temperatures, and when necessary, controlling ambient temperatures to ensure the safety and suitability of feed.

## **6.10 Air Quality and Ventilation**

6.10.1 Adequate means of natural or mechanical ventilation should be provided, in particular to:

- 6.10.1.1 Minimize air-borne contamination of feed, feed-packaging materials and feed-contact



surface for example from dust and condensation droplets;

6.10.1.2 Control ambient temperatures;

6.10.1.3 Control odours which might affect the suitability of feed and feed-packaging materials; and

6.10.1.4 Control humidity, where necessary, to ensure the safety and suitability of feed.

6.10.2 Ventilation systems should be designed and constructed so that air does not flow from contaminated areas to clean areas and they can be adequately maintained and cleaned.

## **6.11 Lighting**

Adequate natural or artificial lighting should be provided to enable the undertaking of manufacturing operations in a hygienic manner. Where necessary, lighting should not be such that the resulting colour is misleading. The intensity should be adequate to the nature of the operation. Lighting fixtures should be protected to ensure that feed is not contaminated by breakages.

## **6.12 Personnel and Training**

6.12.1 The establishment shall prepare a training plan identifying the need for training which is essential for the implementation and maintenance of GMP.

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- 6.12.2 The need for training shall be reviewed at appropriate intervals. Every feed manufacturer should have a team of qualified individuals who have been given appropriate direction and supervision by the management. Assurance of food safety shall be the key objective.
- 6.12.3 The duties and responsibilities of all personnel should be clearly defined.
- 6.12.4 Personnel shall be trained both in GMP generally and their specific duties and training shall be documented and recorded.
- 6.12.5 Training should be appropriate for the complexity of the manufacturing process and the tasks assigned. Personnel should 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.
- 6.12.6 Training in GMP should be in accordance with written programmes approved by the Production Manager and the Quality Control Manager.
- 6.12.7 Personnel responsible for maintenance of any equipment which can impact on product quality and safety should be appropriately trained to identify potential hazards that could affect product quality and safety and to take the appropriate corrective action.
- 6.12.8 Training programmes should be routinely reviewed and updated where necessary.



6.12.9 Systems should be in place to ensure that feed handlers remain aware of all procedures necessary to maintain the safety and suitability of feed.

### **6.13 Feed Ingredients - Sourcing/Purchasing**

6.13.1 Feed manufacturer shall source raw materials from approved suppliers who can demonstrate compliance with a quality assurance system and/or comply with purchase specifications.

6.13.2 A documented raw material sourcing and purchasing programme shall be implemented to minimize potential product quality and safety risk (biological, physical or chemical).

(Remarks: Difference between System and Program

6.13.2.1 System: any formulated, regular,/special method/plan of procedure.

6.13.2.2 Program: a plan/schedule of activities, procedures, etc., to be followed.)

6.13.3 Specifications for all materials used shall be accessible at the site. Specifications shall be based on Malaysian Standard, other recognised industry standards or individual company acceptance standards. Feed ingredients suppliers should be provided with specification or contract definitions of the quality of the raw material to be supplied.

### **6.14 Feed Ingredients – Receiving**

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- 6.14.1 The origin of the feed ingredients, date of receipt and quantities of each raw material received shall be recorded and kept.
- 6.14.2 Each load of incoming feed ingredients shall be cross-referenced to purchasing documentation (Bill of Lading or invoice).
- 6.14.3 Establishments shall have in operation a documented quality control program for the sampling and testing of incoming feed ingredients to ensure compliance with contract specifications and to ensure that they meet product quality standards.
- 6.14.3.1 Upon receiving, all feed ingredients shall be initially assessed by an authorized person and not unloaded without the authorization of that person.
- 6.14.3.2 All feed ingredients shall not contain any prohibited additives as mentioned under Feed Act 2009.
- 6.14.3.3 Appropriate test should be carried out to all feed ingredients upon receiving for detection of biological, chemical or physical contamination risks and other product quality risks.
- 6.14.3.4 Samples of all bulk feed ingredients and packaged feed ingredients should be taken and retained for a period of at least 3 months. All samples shall be clearly labelled.
- 6.14.3.5 All packaged feed ingredients, premixes and medications shall be clearly labelled by the



supplier with product name, weight, date of manufacture and/or expiry date and batch number. These should be received in sound condition e.g. no broken bags or leaking containers.

6.14.4 Feed ingredients found to be out of specification shall be clearly identified and either returned to the supplier or not received until appropriately dealt with by authorised person.

6.14.5 Packaging materials shall be treated as feed ingredients and should pass quality assessment before use.

## **6.15 Feed Ingredients – Storage**

6.15.1 Storage areas shall be designed and maintained to prevent damage, contamination, unintended mixing, or spoilage of ingredients and packaging materials.

6.15.2 All storage areas should be maintained in a clean and tidy condition (housekeeping) to minimise the risk of product contamination.

6.15.3 To ensure proper identification of all stored feed ingredients, all fixed or mobile bins, silos, tanks and bagged storage areas shall be clearly identified by label. Documentation and records shall be maintained.

6.15.4 Inspection should be carried out regularly on silos, bins or tanks and warehouse for structural integrity and conditions of contents. Special attention to wet spots, mouldy products and pest infestations. Appropriate



action should be taken to repair the storage facilities if any of these are found. Bins and storage areas may need to be ventilated to avoid condensation problems.

6.15.5 Storage areas for bagged ingredients should be adequate to enable effective and orderly segregation of different materials and to allow rotation of stock. Preferably on a FIFO system to be adopted.

6.15.6 All feed additives and medications shall be clearly identified and stored appropriately and in accordance with manufacturers' recommendations and current regulatory requirements to ensure no cross-contamination or inappropriate handling.

6.15.7 Any chemical treatment (e.g. fumigants, pesticides) applied to stored feed ingredients shall be applied as per the product label (approved by the Poison Board/ Pesticides Board) and withdrawal periods, as per label shall be adhered to. Such chemicals shall be handled by trained personnel and application records shall be kept. A documented inventory control system for all chemicals shall be implemented and maintained.

## **6.16 Products/Agents Not For Incorporation in Feed – Storage, Handling and Use**

6.16.1 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 baits



used in pest control, boiler water treatment, cleaning agents or substances used to control odour. All such materials shall be stored securely away from ingredient storage areas and access points to the production line. These materials should be stored close to the point of intended use (e.g. boiler water treatment should be stored in or near the boiler room).

6.16.2 Chemicals used as part of the pest control program represent a significant potential risk to feed safety and shall be used with caution and in a controlled manner, according to the label, by suitably trained personnel. All chemicals used for pest control shall be registered for their intended use.

6.16.3 Cleaning agents shall be returned to a secure storage area after use and should not be left in the production area. The cleaner should keep a record of the type and quantity of cleaning agents on site and where these are stored.

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

## **6.17 Formulation and Manufacturing Procedures**

6.17.1 A written master formula shall be made by an authorised person and kept in a master file with a record of the dates of use.

6.17.2 The following information shall be included for each formula:

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- 6.17.2.1 The name and identity code of the product;
  - 6.17.2.2 The quantity of each raw material;
  - 6.17.2.3 An indication as to the animal type for which the product is intended to be fed.

6.17.3 Implementation of formula either manually or via a computerised batching system or may be issued to the production staff. No amendments may be made to a formula once issued to the production unless made by an authorized person and fully documented.

6.17.4 This manufacturing process shall recognize and address the potential for the contamination of feeds with incompatible feed ingredients or medications resulting from the order in which feeds are manufactured. This shall be done with an adequate understanding of the operational limits of the 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 shall be documented and verified through inspection, sampling and testing.

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

6.17.6 Care shall be taken to avoid the generation of reworks. Reworks applied to product that has been previously erroneously formulated or mixed.

## **6.18 Rework of Feed**

6.18.1 Where reworks and returns are generated they shall be carefully handled and documented. Returns are formulated feeds that have left the control of the feed manufacturing, and returned to the establishment. Key practices to be followed are set out as below:

6.18.1.1 Unidentified products shall not be used in further manufacture of stock feed and shall be disposed. Clearly identify downgraded raw material or finished product and segregate it from good stock to prevent its accidental use;

6.18.1.2 Reworks and returns shall be clearly labelled and segregated from raw materials and finished products;

6.18.1.3 Reworks and returns shall be approved for release and reformulation by an authorised person. Reformulation shall be strictly in accordance with written instructions;

6.18.1.4 Full details of returns and of the reformulation of reworks and returns shall be documented.

## **6.19 Production**

6.19.1 Various stages of production shall be carried out according to the written procedures which clearly define, check and control the critical points in the manufacturing process. Records shall be kept to confirm that procedures are followed.

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- 6.19.2 Records of veterinary prescriptions pertaining to medicated feed batches should be kept according to the requirements of the legislation.
- 6.19.3 Records shall be kept to show that batching is done in accordance with formulation and manufacturing instructions.
- 6.19.4 Ingredients weighed within each batch shall be within documented, pre-determined tolerances.
- 6.19.5 Each feed batch must be mixed to achieve a homogeneous product. Written protocols for testing mixer efficiency (homogenous mixing), shall be established and test records shall be kept.
- 6.19.6 Actual final batch records of ingredients used and medicated feed records shall be recorded and retained for twelve months for future reference e.g. recall and customer complaints.
- 6.19.7 Outloading and packaging systems, including all fixed or mobile silos, bins and tanks, should be designed and operated to prevent contamination, unintended mixing or misidentification of finished product. Key elements of this system are as below:
- 6.19.7.1 Bins (silos, tanks, etc) should be designed to be free-flowing, readily inspected and cleaned, and should be able to be sealed and secured;
  - 6.19.7.2 The bins (silos, tanks, etc) shall be clearly identified by an appropriate labelling or numbering system;

6.19.7.3 Product stored within a given bin (silo, tank, etc) shall be identified via documentation and records.

6.19.8 Sample shall be clearly labelled and kept for at least 3 months to enable traceability of each load of feed leaving the establishment.

## **6.20 Packaging**

Materials used for packaging shall be suitable for intended use and prevent cross contamination and deterioration of feed quality.

## **6.21 Loading, Transportation and Distribution**

6.21.1 Loading, transport and distribution of bulk and packaged feed products shall maintain the identity and integrity of each feed product post-production, thereby minimizing any post-production unintended mixing or contamination risks.

### **6.21.2 Loading**

A system shall 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 and inspected by an authorized person. Key elements of this system are that:

6.21.2.1 Clearly identified outloading storage bins, transport vehicles, and vehicle compartments



used in loading and transporting a given order of feed to a customer and shall be documented;

6.21.2.2 Vehicles/trailers shall be inspected prior to loading;

6.21.2.3 Do not load any damaged or leaking bags;

6.21.2.4 Inspection shall be carried out on the equipment and vehicles that have been used in the loading and transport of medicated feeds and cleaned where necessary before loading non-medicated feeds.

#### 6.21.3 Transportation

6.21.3.1 Transport vehicles/trailers should be designed to ensure that feeds can be kept dry and protected from damaged or contamination during transport and distribution.

6.21.3.2 Transport vehicles/trailers shall be kept in clean, well maintained and roadworthy conditions.

6.21.3.3 Loads shall be covered to prevent contamination.

#### 6.21.4 Distribution

6.21.4.1 Feed shall not be unloaded into a farm storage facility (e.g. silo, bin) other than as instructed, unless with the permission of the farm owner/manager. Each such instance shall be documented. The same condition applies to any feed returned to the establishment.

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- 6.21.4.2 Feed products shall be unloaded into the correct farm storage facilities for feeding to the animals intended. The driver shall not unload feed at unacceptable facilities until he is given instruction from the authorised person at the establishment.
  - 6.21.4.3 The recipient of a given consignment of bulk or packaged feed products has the 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.).
  - 6.21.4.4 The driver shall ensure complete emptying of truck compartments after each delivery.
  - 6.21.4.5 Report to the authorised person at the establishment if there is any significant spillage during unloading. Spilt feed shall be disposed of responsibly.
  - 6.21.4.6 The driver shall obey all regulatory requirements where a feed manufacturer supplies feed to a farm or into a region which is subject to quarantine or suspicion of a notifiable disease. They are to adhere to all standard operating procedures that apply to that quarantined farm or area.
  - 6.21.4.7 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 transporting vehicles / drivers / products, prior to their arrival at the farm, these shall be adhered to by the establishment and transport drivers.

## **6.22 Inspection, Sampling and Testing**

6.22.1 The basic responsibility of sampling to accomplish the intended purposes shall rest upon the management.

6.22.2 Clearly specify the sampling system, programme and tools as described in Malaysian Standard and other recognized standards.

6.22.3 Access should be provided at suitable points in the manufacturing process for the purpose of taking representative samples.

6.22.4 Samples taken by a stock feed manufacturer for its own private compliance testing shall be:

6.22.4.1 Labelled in such a way as to assist traceability;

6.22.4.2 Sealed and kept separately;

6.22.4.3 Stored in conditions to avoid deterioration (cool, dry and free from pests and insects);

6.22.4.4 Easily retrievable;

6.22.4.5 Kept for at least 3 months.

6.22.5 Testing should be undertaken by appropriately trained and equipped staff on-site and/ or at a certified external laboratory.

6.22.6 Time and frequency of sampling are crucial. It is a good practice to sample each batch.



6.22.7 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.

## **6.23 Labelling**

6.23.1 Labelling should be clear and informative guides to handle, store and use of the feed and the feed ingredients.

6.23.2 Labelling should be consistent with any statutory requirements and should describe the feed and provide instructions for use. Labelling or the accompanying documents should contain, where appropriate:

- 6.23.2.1 A list of feed ingredients, nutritional values including appropriate reference to additives, in descending order of proportion;
- 6.23.2.2 The species or category of animals for which the feed is intended;
- 6.23.2.3 The purpose for which the feed is intended;
- 6.23.2.4 Registration number if available;
- 6.23.2.5 Batch identification;
- 6.23.2.6 Directions and precautions for use;
- 6.23.2.7 Manufacturing and expiry date;



6.23.2.8 Contact information of manufacturer or distributor.

6.23.3 State if the feed contains pork or beef or its derivatives, or lard, as the case may be.

## **6.24 Records**

Comprehensive records shall be kept to identify all details related to the production of finished product. This information shall be kept for at least eighteen months to allow traceability of product.

## **6.25 Customer Complaint Investigation**

6.25.1 A proper documented system shall be in place for registering and investigating customers' problems and complaints which may relate to product / packaging safety or quality.

6.25.2 This system should result in satisfactory and timely response to customers.

6.25.3 Non-conformances identified through customers' complaint investigation should result in corrective actions applied to establishment practices and procedures to improve product and service performance.

## 6.26 Product Recall System

- 6.26.1 The feed manufacturer shall have a Recall Committee with its members and their responsibility clearly defined and documented.
- 6.26.2 The complaint investigation system shall be linked to a proper documented system for the recall of products at any time.
- 6.26.3 Following identification of a potential hazardous risk, the product recall system should aim to:
  - 6.26.3.1 Minimise disruption and inconvenience to distributors and end-users of stock feed products;
  - 6.26.3.2 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 market place;
  - 6.26.3.3 Notify relevant government authorities as appropriate, explain corrective actions undertaken and keep them informed of all developments on a regular basis.
- 6.26.4 The product recall committee should be proactive in responding to non-conforming product situations.
- 6.26.5 A written recall procedure must specify the following:
  - 6.26.5.1 Methods to identify, locate and control recalled product;
  - 6.26.5.2 How recalled product will be isolated on return to the feed manufacturer until appropriate disposal procedures have been determined.

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- 6.26.6 The recall procedure must be capable of being put into operation at any time, inside or outside working hours and shall therefore include emergency and 'out of hours' contact persons and telephone numbers.
- 6.26.7 The recall system should be periodically reviewed / tested to ensure that its effectiveness is maintained.
- 6.26.8 Each recall incident shall be adequately documented and, after such an incident, the Recall Committee shall review all aspects to the recall to ensure that recall procedures were adequate. At the same time, the Committee shall also review and revise manufacturing practices and procedures to prevent the recurrence of such an incident.

## **6.27 General Requirements**

The premise shall be equipped with fire safety instruments.

## **7.0 RESPONSIBILITY OF FEED MANUFACTURER**

- 7.1 Every feed manufacturer or mixer of feed reviews the GMP applicable to his operation from time to time and adopts better practice. This further ensures that the practice and procedures followed comply with the spirit and intent of existing regulations in the country. In order to achieve the intended results, all feed manufacturers shall:
- 7.1.1 Use good manufacturing practice;
  - 7.1.2 Comply with the regulations in the Feed Act 2009;
  - 7.1.3 Registered to the Feed Board;

- 
- 7.1.4 Follow proper sequential order of mixing additives / hormones / antibiotics / chemicals into feed;
  - 7.1.5 Strictly adhere to approved limits of feed additives / hormones / antibiotics / chemicals used.

For enquiries, please contact:

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### GUIDELINES FOR GOOD MANUFACTURING PRACTICE FOR FEED

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**NOTE**



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