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Example Procedure

INTEGRATED PEST MANAGEMENT

1. PURPOSE

This Good Manufacturing Practice describes how [Insert Company Name] will manage and control the risk of pests entering the premises and minimise product damage/infestation to assure the safety and quality of its raw materials and finished goods.

The goal of Integrated Pest Management (IPM) is to identify, prevent, and eliminate conditions that could promote or sustain a pest population with a food manufacturing, storage, or transportation operation. IPM relies on appropriate assessment, monitoring, and management of pest activities.

2. SCOPE

This standard details how Insert Company Name] will identify and manage product damage and infestation by vertebrate and invertebrate pests for incoming raw materials, on site management and to minimise the risks of pests during storage and handling of finished product.

This Standard does not cover these risks once the finished product has been delivered to a customer site, however finished product packaging plus recommended handling and storage instructions have been designed to minimise risks to the safety and quality of the finished products.

It is the responsibility of site management to ensure that any employee required to handle and apply pesticides, herbicides and other potentially hazardous chemicals have been appropriately trained in the correct and safe use of said chemicals.

All IPM programs must be administered by trained, registered, and/or licensed in-house or contracted pest management providers.

3. TERMS & DEFINITIONS

NIL.

4. REFERENCES

FSANZ Maximum Residue Limits for agricultural chemicals
APVMA Registration and label guidelines for insecticides, pesticides and herbicides.
GRDC Grain Fumigation Guide
GRDC Grain Storage Fact Sheet

5. PROCESS

Site requirements – how has the site been designed, modified and maintained to remove/minimise the ingress of pests?

- Access points – doors, windows, ventilation

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- Pest refuge areas
- Assessment of Pest Presence

Types of Pest:

Birds

Raw or spilled grain is an extremely desirable food for nuisance birds, so these animals can be found frequently feeding, roosting, or nesting near food plant facilities. Pigeons, sparrows, and starlings are very common, but their presence is undesirable because they carry diseases. Their droppings, in particular, can lead to product contamination and other problems. Dried pigeon droppings that are stirred up by the cleaning process or otherwise can spread contaminates into the air, affecting both product and personnel. Breathing in dried pigeon droppings can lead to human diseases, in particularly histoplasmosis, cryptococcosis, or psittacosis**.**

Insects (flies, beetles, cockroaches)

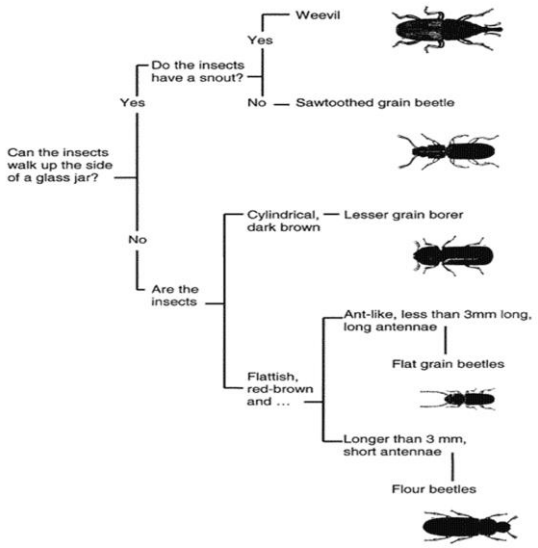
A wide range of insects can be found in and around feed production facilities. Some of these insects are obligatory pests that are attracted to stored food, and live and breed in the food product. These are the stored-product pest insects. Other insects found may be opportunistic species that can be attracted to stored food and inhabit buildings but generally do not live in the grain or flour (for example, cockroaches, flies, and ants) or incidental pests that generally don't persist inside grain or inside mills and warehouses but may be attracted into a structure by lights or warm temperatures. Natural enemies are predators or parasites that feed on other insects but don't feed on the stored-products, and are commonly found inside and outside food facilities. While any insect found inside a mill or warehouse indicates a problem, the nature of the problem, the potential risk it poses, and best response varies with the insect species.

The most common insect pests of stored cereal grains in Australia are:

- Weevils: (Sitophilus spp.) Rice weevil is the most common weevil found in wheat in Australia
- Lesser grain borer: (Rhyzopertha dominica)
- Rust-red flour beetle: (Tribolium spp.)
- Saw-toothed grain beetle: (Oryzaephilus spp.)
- Flat grain beetle: (Cryptolestes spp.)
- Indian meal moth: (Plodia interpunctella)
- Angoumois grain moth: (Sitotroga cerealella)

Another dozen or so beetles, psocids (booklice) and mites are sometimes present as pests in stored cereal grain. The most common pests in stored oilseeds include canola, linseed, safflower, cottonseed and sunflower) are:

- Flour beetles and Saw-toothed beetles.



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Mammals (rodents, cats, possums)
Rodents are a significant part of any food plant pest management program. Rodents, mice and rats in particular, reproduce and multiply to build their populations rapidly. Mice and rats can eat large amounts of raw material, while their excrement can contaminate enormous amounts of product and transmit disease.

General Control Measures

Site Inspection and Monitoring
The information obtained from the mill inspection will assist in determining if sanitation, maintenance, housekeeping and other prerequisite programs are functioning properly or if adjustments or modifications need to be made to assist in managing the pest population.

Housekeeping
General site cleanliness should be maintained to minimise ingress and harbourage for insects and rodents.

Raw material and finished product spills should be cleaned up as soon as possible to minimise potential food source for insects, birds and rodents.

Trash areas should be kept to a minimum to eliminate potential harbourage areas for rodents. Pallet stacking areas should not be located close to facility walls.

Incoming raw materials
All incoming raw materials shall be inspected for live insect activity. Under GTA Standards, all commodities that contain live insects can and shall be rejected prior to receival onto the site.

Bulk commodity unloading areas shall be maintained in a clean and tidy state. All spillage and over flow shall be cleaned up immediately unloading has finished. Grain and meal intake pits should be maintained in a clean and dry state.

Bait stations and traps
The pest control program should start at the property perimeters, especially for rodents. Baits should be of a solid formulation in most cases and stations secured to the fence line. This prevents rodents or other non-target organisms from removing them from the bait stations. The rodent bait station locations should be marked on a schematic location map for periodic (i.e., biweekly at least and more often if rodent pressure is heavy) inspection and maintenance by trained personnel. Observations must be documented in a log. Move bait stations as rodent activity decreases.

Stored product pests
General cleanliness, hygiene and sanitation with regard to pest control. Include good housekeeping procedures to minimise pest refuge areas such as litter, refuse, waste, etc.

Spot Fumigation
Spot fumigation using phosphine shall be used as per the Fumigation Task Instruction and the Phosphine Safety Fact Sheet.
Phosphine is effective against insects in most types of grain. But some commodities (for example, oilseeds – linseed, cottonseed) soak up phosphine very quickly, leaving little to kill insects.

Aerosol Fogging
Thermal fogging or misting will be used in sealed and contained storage areas and warehouses if required. Application shall be by licensed pest control operator.

Only natural pyrethrum chemicals shall be used.

Monitoring of ingress points, bait stations and traps
At a minimum a monthly pest control report shall be compiled and will include bait station activity, level of activity, and requirement for relocating or increasing bait stations.

In addition the monthly pest control report should include results from any traps.

Landscaping and gardens
Trees or landscaping that bear fruit, sweet smelling flowers, nuts or seeds are attractive to insects, birds, and rodents because they provide food and may provide nesting or roosting sites, so they should not be located near a facility. Ideally, landscaping should be designed to minimally attract any of the above.

Stored Product Warehouses
Ensure that product storage areas have an accessible, 50 cm perimeter along the warehouse wall to allow for proper cleaning and inspection.

- Keep all doors closed when not in use, including both pedestrian and roll-up.
- If insect screens are used, ensure they are adequate to protect against pest entry.
- Maintain dock plate brushes to prevent pest entry.
- Seal floor/wall junctions and ceiling/wall junctions to prevent pest entry and harbourage.
- Seal around all equipment legs to prevent pest harbourage.
- Maintain floors so as to avoid cracks or pits, as these allow product accumulation and pest harbourage.
- Clean structural overhead and support beams on a frequency that will prevent pest harbourage.
- Repair cracked or pitted floors to prevent product accumulations and pest harbourage.

Packaging Area Sanitation

- Package materials should be stored in a location that minimises pest harbourage and ingress.
- Clean structural overhead and support beams on a frequency to prevent pest harbourage.
- Set cleaning frequencies to avoid product accumulations. This frequency will depend on your operating environment.
- Avoid placing insect light traps in close proximity to doorways.

6. DOCUMENTATION & RECORDS

The following records shall be maintained to assure this program was conducted according to the Quality Policy.

- Monthly GMP Internal Audits
- Pest Control Reports
- Chemical Stock Control
- Training Records relevant to chemical use

7. DOCUMENT HISTORY

Version No.:			
Last saved by:		Date:	
Original Author:		Date:	
Approved by:		Date:	

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