

Fact Sheet on Methyl Bromide Alternatives



UNEP Regional Office for Africa Compliance Assistance Programme

Fact Sheet 1

Integrated Pest Management in Milling Industry

Sanitation and IPM in Flour mills, Food and Feed Facilities

Introduction

Significant reductions in the production and consumption of ozone-depleting substances have been achieved under the Montreal Protocol on Substances that Deplete the Ozone Layer. Schedules have been established for reduction and phase out of methyl bromide, an important agricultural fumigant. Developed countries are required to phase-out methyl bromide production and non-quarantine uses by 2005 and developing countries to do the same by 2015.

With methyl bromide on the phase-out, the milling industry is under intense pressure to find a safe, viable, legal, and cost-effective substitute for structural fumigation. There are several options to methyl bromide for pest control in flour mills.

Integrated Pest Management (IPM) provides a primary response for the agro-food industry facing consumer demands of high quality products while at the same time addressing environment, safety and social-economic issues.

What is Integrated Pest Management (IPM)?

IPM is a broad, rational, ecological approach to the solutions of pest problems by combining, either concurrently or sequentially, biological, physical and chemical tools to ensure pest control while ensuring protection of the environment, maintenance of profitability and fulfillment of consumer demand for decreased or no pesticide use.

IPM is a process for planning and managing sites to prevent pest problems and for making decisions about when and how to intervene when pest problems occur. It is a dynamic combination of control practices designed and implemented to meet the need of maintaining control of pests using a variety of techniques. IPM provides a systems control to the replacement of methyl bromide.

A major component of any IPM system for processing, storing, and marketing durable commodities is sanitation or 'hygiene', which generally involves application of measures to remove pests or to deny them access to structures or commodities.

Key Elements of an IPM

An IPM program has to provide effective pest prevention, based on an accurate pest monitoring system and provide training for industry staff on the tools employed for maintaining an acceptable level of control.

- ◆ IPM based on sanitation and continuous monitoring of pest presence can be installed in all types of facilities where food or feed is stored, handled or processed
- ◆ It comprises a set of pest control measures which act preventative or curative
- ◆ IPM is more a "philosophy" or a system and less a technical tool towards stored product pest control
- ◆ It requires diligence, knowledge, permanent training and responsibility but it does not need high investments in terms of technology or money.
- ◆ IPM provides the indispensable basis for applying state of the art pest control measures

Pest Prevention

In developing an IPM plan, consideration may need to be given to the following:

- ◆ Building design improvement
- ◆ The material present
- ◆ Retrofitting of certain facilities and effects
- ◆ Exclusion practices aimed at reducing or eliminating infestation in incoming food and ingredients

How does IPM Work?

IPM is a management system that can be individually adapted to the needs of every single company or facility. It consists of components such as

- ◆ Insect, bird and rodent proofing of buildings
- ◆ Sanitation (elaborate cleaning, vacuuming and better hygiene schemes)
- ◆ Regular and permanent inspection of products, machinery and facilities
- ◆ Monitoring using sampling and trapping techniques (in particular bait stations for rodent monitoring and pheromone traps for insect monitoring)
- ◆ All kinds of suitable methods for curative pest control including physical (e.g. heat, inert gases and dusts) and chemical treatments (insecticide application, fumigation, etc)
- ◆ Documentation of monitoring results, measures that have been taken and success.

The technical equipment required to implement IPM depends largely on the individual components of the system. The most important components necessary in any case are:

- ◆ Professional cleaning equipment such as high performance vacuum cleaners
- ◆ Rodent bait stations with attractive baits
- ◆ Insect traps and pheromones suitable to attract the prevailing insect pest species.

While the technical side of IPM is comparatively easy to manage, it is essential that all people working in the facility are well trained and aware of their responsibilities and also motivated to continuously put their knowledge into practice. IPM is generally not subject to legal prescription such as authorisations or licenses but may be part of stipulations with regard to food and feed quality.



modern Flour Mill

A



Better hygiene is essential in flour mills



Red-Rust flour beetle

Advantages

- ◆ IPM is comparatively inexpensive
- ◆ Biggest advantage: permanent smooth work without major disturbances caused by pest invasions and good results of all pest control operation.

Constraints

IPM requires a rational integration of processes and tools. IPM strategies require constant maintenance in order to succeed. Occasional full-site or curative treatments may be required to supplement IPM programs. These may involve fumigation or other processes. IPM is still relying on pesticides as a main tool in raw material and structural pest control. Therefore, resistance to insecticides has to be managed and taken into account in any pest management program.

References:

Some useful information sources

[2006 MBTOC Report of the MBTOC, 2006 Assessment](#)

[2002 MBTOC Report of the MBTOC, 2002 Assessment](#)

[TEAP 2002 Assessment Report, UNEP](#)