

Working Without Methyl Bromide

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. A large portion of Canada's methyl bromide use has been in space fumigation, for example, in flour and oat mills and food processing operations.

A variety of pest management products and techniques exist or are under development for use in food processing facilities. While a single treatment or practice will not suffice to replace methyl bromide, a combination of preventative and treatment practices can provide effective pest management.

Integrated pest management (IPM) 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 approach to the replacement of methyl bromide.

The Methyl Bromide Industry Government Working Group is a consultative forum to provide direction on effective implementation of Canada's program for the control and phase out of methyl bromide under the Montreal

Protocol on Substances that Deplete the Ozone Layer. The food processors, pest control operators and suppliers, management consultants and government officials that comprise the Subcommittee on Alternatives for the Food Processing Sector have prepared a document entitled *Integrated Pest Management in Food Processing: Working Without Methyl Bromide*, upon which this brochure is based.

Copies of the document are available from the Pest Management Regulatory Agency (PMRA) at:

1-800-267-6315

<http://www.hc-sc.gc.ca/pmra-arla/>

For more information on IPM for food processing facilities, contact your pest control supplier.

This brochure is published by the PMRA on behalf of the Methyl Bromide Industry Government Working Group.

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Adapting to the Phase Out of Methyl Bromide

Integrated Pest Management in Food Processing

Adapting to the Phase Out of Methyl Bromide



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Key Points on IPM for Food Processing

- Success requires a **commitment** by senior company management to develop and implement an IPM strategy, and to allocate expertise to lead, manage and fine tune the IPM program. The commitment must extend to plant managers, supervisors, and ultimately all staff.
- An operational IPM strategy and pest management plan will need to be developed and **tailored for specific locations and needs**, using the steps listed in this document as a guide.
- Of all the components of an IPM plan, consistent and effective **sanitation** is the most important.

Steps for Implementing Integrated Pest Management

1. Assessment of the actual or potential pest problem.

- **Inspections** to identify the type and variety of pests present.
- **Monitoring** the intensity of a pest problem and the distribution of pests in and around a facility, for example, by trapping.
- **Observations** to confirm the results of inspection and monitoring.



In planning a new facility, use past experience, knowledge of similar facilities, and knowledge of pests in the region to assess potential pest problems.

2. Development of Pest Management Plan.

- **Information gathering** on the biology and management of the pests.
- **Elements** of the pest management plan:
 - Building and materials design and retrofitting
 - Exclusion practices
 - Good sanitation practices
 - Building maintenance
 - Inspections and monitoring
 - Pest identification
 - Physical and chemical controls

3. Plan Implementation starts with management and decision makers. A commitment to ongoing IPM is essential.

- **Education** of employees to recognize pests, pest habitats, and pest conditions, and how to deal with them.
- **Communication**, including written procedures for all aspects of an IPM program.
- **Monitoring** activities of both the pest populations and the implementation of the pest management plan.
- **Record keeping** to verify that all parts of the plan are being implemented on a day to day, ongoing basis.

- **4. Evaluation of Plan:** Was the required level of control achieved? If not, why not?
- **5. Adjustments** based on the analysis of the plan's effectiveness, leading to a renewed cycle of assessment, planning, implementation and evaluation.

Elements of the Pest Management Plan

Building and materials design and retrofitting must be incorporated into the IPM strategy in order that the facility, its equipment and its exterior surroundings do not promote pest populations, and are amenable to control and treatment methods.

Exclusion practices reduce or eliminate infestations in incoming food and ingredients through strict purchase specifications, audits of suppliers, and inspection of incoming material.

Good sanitation practices include thorough and regular cleaning, prevention of dust generation and accumulation, and removal of food sources and harbourages for pests.

Building maintenance should eliminate holes and cracks in floors, walls, ceilings, roofs, doors and windows that allow access for vermin and allow dust to collect.

Inspections and monitoring are necessary to guide schedules and locations of treatments, and to monitor the effectiveness of the overall management strategy.

Pest identification is necessary to select the most appropriate control methods.

Physical and chemical controls include physical and mechanical treatments, controlled atmospheres, and pesticide applications. Each type of treatment will contribute to a pest management in a facility, and should be used as one component of an overall integrated management strategy. All pesticides must be stored, handled, and used according to label instructions.

Types of treatments include exterior insecticide treatments and baiting for rodents; targeted insecticide applications, such as crack and crevice or Ultra Low Volume treatments; insect baits and traps; and facility treatments. Phosphine gas generated through a variety of application methods is most often being considered as a replacement for methyl bromide. Other facility treatments in use or under development include heat treatments, and various combinations of heat, carbon dioxide, phosphine and diatomaceous earth. Cold treatments are possible in some storage facilities.

