

## Finding Alternatives

In 1991, Methyl Bromide was added to the list of chemicals that contribute to depletion of the Earth's ozone layer.

The decision to add Methyl Bromide to the list of Ozone Depleting Substances (ODSs) was based on scientific data. Accordingly, the manufacture and importation of methyl bromide is being phased out in developed countries as follows: 25-percent reduction in 1999, 25-percent reduction in 2001, 20-percent reduction in 2003, and complete phase out in 2005.

In developing countries like Jamaica, consumption was frozen in 2002 at the 1995-98 average levels of 8.3 metric tonnes. Further reductions of 20-percent will place take in 2005 with complete phase out in 2015. Jamaica is on target for the phasing out of Methyl Bromide.

Researchers say there is no known single alternative to methyl bromide .

Indications are that it will take a multiple of alternative control measures to replace the many essential uses of the product. As a result, there are currently no exemptions for the use of Methyl Bromide for areas such as quarantine and certain pre-shipment uses. A number of countries are also seeking exemptions for critical uses in the agricultural sector.



For information on exemptions and the Jamaica Country Programme

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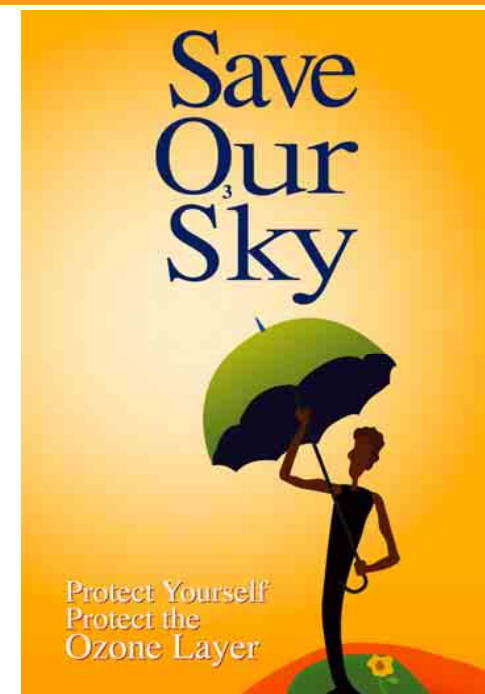
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# Alternatives to Methyl Bromide





### Methyl Bromide:

- A toxic chemical used in soil fumigation post-harvest protection, pre-shipment and quarantine.
- Ideal for the control of insects, nematodes, weeds, and pathogens
- Damaging to the Ozone (O<sub>3</sub>) Layer


managing and protecting Jamaica's land,  
wood and water

# Comparing results from Methyl Bromide alternatives

Use	Treatment Methods	Comments
<b>1. Grains, Herbs (dried) &amp; Spices</b>  	(1) Phosphine Fumigation (a) Magnesium Phosphide (b) Aluminium Phosphide	(1 a) Fast release of gas (b) Long exposure time of 5-7 days
	(2) ECO <sub>2</sub> Fume® Fumigation	(2) Excellent alternative for stored products. Not recommended for use with electrical equipment
	(3) Integrated Pest Management	(3) Comprehensive programme that includes sanitation, and structural maintenance
	(4) Diatomaceous Earth (D.E.)	(4) Primarily for spot treatment. Good for germinating seeds
	(5) Irradiation	(5) Expensive and not readily accepted by the public.
	(6) Cold Treatment/ Refrigeration	(6) May be expensive for a large scale application May be utilized in households
	(7) Hermetic Seal (Vacuum Seal)	(7) Preferred when dealing with small amounts

<b>2. Structures</b>  	(1) Heat treatment	(1) Type of treatment is expensive
	(2) Sulfuryl Fluoride	(2) A preferred alternative
	(3) Integrated Pest Management	(3) Comprehensive programme that includes sanitation and structural maintenance
	(4) Phosphine Fumigation	(4) Long exposure time

Use	Treatment Methods	Comments
<b>3. Soil</b>	(1) Solarization	(1a ) Simple technology (b) Cost is minimal in long term
	(2) Cultural Practice	(2) Education of farmers is necessary
	(3) Insecticide/ Nematocide	Might be costly

<b>4. Fresh Produce</b>  	(1) Magnesium Phosphide	(1) Fast release of gas. Crop specific. Shelf life may be affected
	(2) Heat Treatment	(2) Type of treatment is expensive. Crop specific, may affect shelf-life
	(3) Cold Storage	

<b>5. Others</b> <b>(i) Processed Foods/ Packaged Goods/ Packaging Material</b>  	(1) Diatomaceous Earth	(1) Primarily for spot treatments
	(2) ECO <sub>2</sub> Fume® Fumigation	(2) Excellent alternative for stored products. Not recommended for use with electrical equipment
	(3) Integrated Pest Management	(3) Comprehensive program that includes sanitation and structural maintenance
	(4) Sulfuryl Fluoride	
	(5) Spraying	
	(6) Fogging	
	(7) Phosphine Fumigation	
	(8) Heat Treatment	(8) Expensive

<b>(ii) Plant Materials (Coconut Seedlings)</b>	(1) Phosphine Fumigation	
	(2) ECO <sub>2</sub> Fume® Fumigation	