

Improved Technologies to Reduce Emission of Methyl Bromide from Fumigated Soil

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Methyl bromide (MB) is the chemical most widely used for soil fumigation in intensive agriculture, and for commodity and postharvest quarantine treatments. MB was listed by the Montreal Protocol in 1992 as a controlled ozone-depleting substance, and a phase-out process has been initiated. Several technologies to reduce the fumigation dosage and subsequent emission of MB from the fumigated soil were tested and applied in field trials and commercial application. These include dosage reduction by using impermeable films, improving uniformity of distribution, and preventing possible escape sources such as the edges of the fumigated plot. Combining MB with other pesticides, solarization, or biocontrol agents is another approach to reducing MB emission and dosage. Adapting these technologies may result in a 60–90% reduction of MB emitted from fumigated soil.

KEY WORDS: Methyl bromide; soil disinfestation; ozone; solarization; biological control.

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