UPDATE ON THE METHYL BROMIDE PHASEOUT

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Methyl bromide is a broad spectrum pesticide used to control pest insects, nematodes, weeds, pathogens, and rodents. Globally, this material is used most frequently to control pests in the soil (75% of total use), but also against pests in grain and other durable commodities (13% of total), to protect fruits, vegetables and other perishable commodities against pest infestations during transport and storage (9%), and to control wood destroying insects and rodents in buildings, aircraft, ships and other structures.

In addition to being a widely used pesticide, methyl bromide is an efficient ozone depleting substance (ODS) in the stratosphere. The 1994 Science Assessment of Ozone Depletion, a document prepared by nearly 300 of the world's leading atmospheric scientists, lists the ozone depletion potential (a regulatory benchmark) of methyl bromide as 0.6, and reports that "An uncertainty analysis suggests that the ozone depletion potential (ODP) is unlikely to be less than 0.3." The report quite clearly states that "Methyl bromide continues to be viewed as a significant ozone-depleting compound." Additional research is ongoing to address outstanding uncertainties and to define the precise ODP, which may turn out to be slightly higher or lower than 0.6.

Methyl bromide reaches the stratosphere through emissions from agricultural pesticide uses, from the burning of biomass and leaded gasoline, and from the oceans. Winds and atmospheric mixing carry this pesticide to the stratosphere. Once in the stratosphere, high energy radiation from the sun release a bromide atom by breaking the bond between the bromine and the methyl group. This bromine atom is in a very reactive state, and will destroy molecular ozone (O_3). The Bromine atom will also react with non-reactive molecules in the stratosphere that contain chlorine, liberating the chlorine, which will then destroy additional ozone molecules. Because of this "chain-reaction", the bromine from methyl bromide is over 50 times more effective at destroying ozone than the chlorine from CFCs on a per atom basis.

The destruction of stratospheric ozone molecules results in a thinning of the ozone layer. Since ozone blocks radiation that is harmful to life, the destruction of this thin layer will result in an increase of radiation reaching the surface of the earth. This ultraviolet radiation is harmful to biological organisms, including crop plants and human beings. The amount of methyl bromide produced by

agricultural and other anthropogenic sources has considerable impact on stratospheric ozone, disrupting the natural balance of the atmosphere and increasing the amount of hazardous UV radiation that reaches the earths surface.

In the United States, the U.S. Clean Air Act Amendments of 1990 (title VI), requires that any ODS with an ODP of 0.2 or greater be listed as class I substances and be phased out within seven years. Under this authority, and with due consideration of the science, the U.S. Environmental Protection Agency (EPA) took regulatory action in 1993 to prohibit the production and importation of methyl bromide in the United States after January 1, 2001 (December 10, 1993 - 58 FR 65018). In addition, this regulation froze U.S. production in 1994 at 1991 levels. The U.S. phaseout applies solely to production and imports and does not restrict the use of methyl bromide before or after 2001.

Part of the U.S. regulatory effort is to insure that farmers have access to new pesticides as soon a possible. To do this, the U.S. Environmental Protection Agency Office of Pesticide Programs has set up an accelerated registration process for alternative for methyl bromide. This program speeds paperwork and support functions during the registration process. A task force has been set up to track alternative development, and monitor the program for problems.

With regard to the issue of alternatives to the use of methyl bromide, pest control tools exist today which manage many of the pests controlled by methyl bromide. An alternative to methyl bromide will depend upon the specific target pest and crop. There is no one alternative for all of the uses of methyl bromide, but there are several pest control tools which can manage the pests currently controlled with methyl bromide. Viable alternative materials need not be identical to methyl bromide, but must effectively and economically manage those pests which are now being controlled by methyl bromide. Numerous chemical and non-chemical pesticides are available now which effectively control many of the pests for which methyl bromide is used. In addition, research on alternatives is underway and will likely result in a wide range of options, depending on the pest, crop, and current use of methyl bromide. While economic disparities may occur in the short-term, alternatives will likely be viable in the long-term.