

Methyl Bromide Use in Forest Tree Nurseries

What Happens After January 1, 2005?

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In 1987, the United States signed on to the Montreal Protocol to protect stratospheric ozone by limiting the production and consumption of ozone-depleting chemicals. The phase-out was set to be completed by January 1, 2005. In 1990, Congress enacted several amendments to the Clean Air Act regarding stratospheric ozone protection. Among other things, the act required that the United States maintain consistency with the requirements of the Montreal Protocol.

Both agreements included provisions for exemptions. In the case of the Montreal Protocol, an exemption allowing use of methyl bromide (MB) beyond January 1, 2005, could be granted by the Parties of the Protocol, if a lack of technical or economic feasibility could be demonstrated. This exemption is called the Critical Use Exemption (CUE).

Also included in the Montreal Protocol was a provision for another exemption called the Quarantine and Preshipment (QPS) exemption. Individual nations were permitted to exempt specific activities from the phase-out, if they could demonstrate that quarantine pests were being treated. In the January 2, 2003, Federal Register, the U.S. Environmental Protection Agency (EPA) issued regulations specifying the types of activities eligible for this exemption (January 2, 2003, Federal Register 68 FR 02-32986).

In 2002 and again in 2003, organizations and cooperatives representing forest tree nurseries submitted CUE applications requesting a quantity of methyl bromide for use in nurseries after the phase-out in 2005. Early in 2003, the U.S. Delegation to the Protocol filed a Critical Use Nomination (CUN) with the Methyl Bromide Technical Options Committee (MBTOC) of the Parties. It was denied due to insufficient information. A revised nomination was ultimately approved by MBTOC and by the Technical and Economic Assessment Panel (TEAP) in October 2003, but needed a vote of the parties.

Interestingly, it was believed that forest tree nurseries might qualify under QPS exemption, and, in fact, the nominated quantity was equal to the amount requested,

minus any amount requested for new growth beyond 2001, less 50 percent for QPS exemption! The EPA said, although at the time undocumented, that the amount of MB used to treat forest tree seedlings destined for interstate shipment qualified under the QPS exemption. This decision was later documented in a letter from EPA Administrator Mike Leavitt to Senator Mike Crapo on January 20, 2004. In his letter, Mr. Leavitt states.... "we were able to review relevant state regulations related to interstate movement of forest tree seedlings. Our review allowed us to conclude quickly and generically that the focus of these rules was to ensure that no seedlings should be brought into the relevant state unless the seedlings were treated. Accordingly, we were able to state with assurance that interstate related uses, which amounted to approximately 50 percent of the consumption of MeBr used in the U.S. to treat forest tree seedlings, could be exempted under the protocol." As you can see, they `assumed' that seedlings in this category represented 50 percent of the total production and adjusted the nomination accordingly.

The good news is that if you ship 50 percent of your stock interstate, you can use MB to protect them under QPS exemption. The bad news is, that if you do not ship nursery stock interstate, you cannot purchase MB to protect those trees under the QPS exemption. The MB used to protect those seedlings must be allocated under the CUE allocation system, which has yet to be finalized in EPA regulations. To make matters worse, because EPA overestimated the amount of seedlings shipped interstate and, thereby, reduced the amount requested in the CUN, this combination could make MB in short supply for tree seedlings destined for intrastate shipments to customers.

The bottom line is that the U.S. Delegation nominated 195.5 metric tons for use by forest tree nurseries in 2005. A decision on the U.S. allocation could not be made at the annual meeting of the Parties of the Protocol in November 2003. At a subsequent meeting called the First Extraordinary Meeting of the Parties held in Montreal in March 2004, the U.S. nomination was approved.

So where are we? Currently, the EPA is working on an allocation process that will decide what the specific allocations will be. The EPA is also considering a QPS exemption for MB used to grow seedlings for intrastate shipment.

While the international process and rulemaking actions move forward, House Bill 3403 was introduced in October 2003 to modify certain provisions regarding MB. Specifically, the bill authorizes production of MB in the same amount requested by the United States under the CUE process of the Montreal Protocol, even if the parties to the protocol do not approve the entire amount. The status of this bill is that it has been referred to the Subcommittee on Energy and Air Quality.

What you should be able to count on at this point is the amount of MB needed to grow stock requiring interstate shipment to customers (QPS exemption). The remainder depends on whether you or someone representing your organization filed for a CUE. If a CUE was not filed, my understanding is that MB will not be available for your use in 2005. If a CUE was filed, expect half of what you submitted, since the EPA assumed you got the other half based on a QPS exemption for interstate shipment. Who knows, by the time 2005 rolls around, perhaps we will have in hand a QPS exemption for intrastate shipment. Word has it that the U.S. Delegation will make a supplemental request to the parties for additional MB that can be used by the forest seedling sector in 2005, reflecting a correction in the amount of MB that had been originally subtracted from the CUN when the EPA incorrectly assumed 50 percent of the seedlings grown were shipped interstate and, therefore, exempted under QPS exemption. We should have a clearer view of this outcome following the 24th Open Ended Working Group (OEWG) meeting of the parties in Geneva, Switzerland, July 2004.

So, what about 2006 and beyond? An interim evaluation of the 2004 CUNs was published by the party's Technology and Economic Assessment Panel (TEAP) in June 2004. The quantity that was nominated for use by the forest seedling sector in 2006 (157.7 metric tons) received a favorable recommendation by MBTOC. The TEAP will now review and present their recommendations to the parties at the 24th OEWG meeting in Geneva, July 2004.

There is no question in my mind that the amount of MB approved for CUE by the parties will steadily decline to zero, and that the future of the QPS exemption is uncertain. What it says to me is that if you need to use a fumigation treatment and haven't experimented with some of the options, it is probably time to do so.

In the Pacific Northwest, we are still struggling to find an alternative that is on par with MB. In our situation, methyl isothiocyanate agents (MIT) such as Basamid and metam sodium do not consistently reduce pest populations, and some trials have shown significant reductions in harvestable yield. Another limitation is that MIT should not be used in the Pacific Northwest in the spring due to wet, low soil temperature constraints. Often nurseries need to fumigate in the spring immediately after the current crop has been packed (March), and when planting the next crop begins (April). During this 30-day time period, which often occurs during periods of wet weather, there is insufficient time to complete soil preparation and fumigation activities. Delays in planting to accommodate the dissipation of Basamid, metam sodium, or even higher rates of chloropicrin will not leave sufficient time for adequate seedling growth. Even with late summer application to fields in fallow using products such as metam sodium, the current method of application is inadequate both in terms of distribution of material and prevention of off-gassing, which has raised safety and liability concerns.

However, we continue to experiment and work with Telone (C-35), idomethane, and metam sodium in combination with chloropicrin, chloropicrin alone, and continue to seek herbicide solutions for the weed control shortcomings of Telone. The work with idomethane, the only spring option we have, has shown promise, but the treatment is cost prohibitive at this time. Improvements in the application technology of metam sodium by injecting at two depths followed by chloropicrin shanked to depth and then tarped has been a big improvement. However, there are still significant safety and liability concerns that need to be addressed. Chloropicrin alone used in a late summer fallow situation works well for disease control, but we lack sufficient weed control capability, especially for yellow nutsedge. We are making progress, but there is still much to do, and insufficient resources to do it in a timely manner.

It is hard to know what the future will bring, but the one thing that seems sure is that MB is going away.