
Methyl Bromide Alternatives Research

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Montreal Protocol Stratospheric Ozone Protection and Recovery

- MB listed by the Montreal Protocol as ozone depleting substance in 1992
- Phase out steps led to ban as of 2005
- QPS uses exempted
- Critical uses excepted after 2005
- Montreal Protocol has a unique definition of QPS

QPS

- QPS under the Protocol not meant to = IPPC or FAO definition of quarantine pests
- Allows Pre-shipment treatment of non-quarantine pests
- Deletes “economic” from definition of quarantine pest
- Includes treatments for commodities moved *interstate or between regions*

Opposition to QPS

- Some Parties historically have sought reductions in QPS
 - European Community a leader in this effort
 - TEAP is especially aggressive on QPS
 - View QPS as an “end-run” to keep using MB
- Recent attempts made to re-open the QPS Exemption

QPS – US Rule

- Protocol Definitions 1994 & 1995 decisions
- USEPA Rule issued 2003
 - Recognizes intra-country quarantines by state or local agencies as “official control”
 - Applies to propagative material if it must be certified to cross political boundary

Recent Montreal Protocol QPS Activity

- EU urged MP to form a QPS taskforce
- Taskforce reported and gave a workshop at 2009 MOP
 - Suggested Parties may want to bring QPS under Montreal Protocol control
 - Stressed endemic vs. exotic pests
 - Focus on soil uses
 - Intra-country QPS use is for endemic pests
 - Almost all soil uses of MB are “replaceable”
 - Proposed analysis of regs requiring MB
 - Survey reasons why MB is required
 - Suggested Parties may want to bring QPS under Montreal Protocol control
 - Suggested MLF funding for developing nations with respect to QPS issues if under Protocol (incentive to make friends)

MOP Decision XXI/10

- After workshop, in MOP 2009: assigned TEAP to study certain QPS aspects pertaining to: timber and logs, solid wood packaging, grains and soils
- TEAP formed a QPS subcommittee within MBTOC for the study to:
 - Review info on technical and economic feasibility of alternatives QPS uses
 - Assess availability of alternatives and relationship to regulatory requirements
 - Describe methodology by which TEAP could assess alternatives and the impact of restricting QPS uses

MBTOC QPS sub-committee

- Formed to implement Decision
- Report to be discussed at the Open Ended Working Group meeting of Parties in June
 - Soil uses inconsistent with definition of QPS
 - Encourages Parties to drop from QPS
 - Contradicts TEAP's 1999 Report
 - 50-95% of soil uses replaceable "after consideration of regulatory and other conditions that limit its use"

USDA Methyl Bromide Alternatives National Program

- Soil fumigation alternatives
- Postharvest alternatives include stored products and structures
- Quarantine (QPS) research located in Hilo Hawaii, Miami Florida, Parlier California and Weslaco Texas

Stored Product Research Then and Now

- In the early 1970's.....

Savanna, GA.....	25-30 sy
Manhattan KS.....	8
Gainesville FL.....	8
Fresno CA.....	8
Madison WI.....	1
Beaumont TX.....	1
Orlando, FL.....	2

NOW.....

Manhattan.....	6
Parlier.....	7
Gainesville FL.....	1

2010 Postharvest CUN Applications

■ Structures (4 CUNs)

- Food processing (bakeries, pasta, food facilities, pet food,)– Canada and US
- Flour mills and cereal processing – Canada and US

■ Commodities (4 CUNs)

- Chestnuts (Japan)
- Cheese in storage (US; included in a structural CUN)
- Dry cure pork in storages (US)
- Dried fruit, walnuts and dates (US)
- Rice (Australia)

Structural and Commodity CUE/CUNs for 2011 and 2012 assessed in 2010 round (tonnes)

	<u>Total</u>
Quantity nominated for 2011	3.529*
MBTOC recommendation for 2011	2.084
Quantity nominated for 2012	182.175
MBTOC recommendation for 2011	98.939
Total nomination for 2010	185.704

* *Not including first round of CUNs for 2011*

2010 QSC CUN Summary

- **Australia rice** 2012; nominated 4.870 t. Reduced to 1.948 t, a 44% reduction in the actual use in 2009, for 2012. The Party has not needed the full amounts recommended in past years. Several technically effective and registered alternatives are available in Australia for immediate adoption for the treatment of rice
- **Canada flour mills** 2012, nominated 11.020 t. Recommended. The party's nomination was a reduction of 22% over the amount of MB granted by the Parties for 2011. The amount recommended will only fumigate 7-8 mills. The applicant has reduced its nomination by about half since 2010, due to the results of a multi-year research program and the advent of the new regulation which allows sharing of the MB allocation by companies within the CUN. SF still not registered for food contact.
- **Canada pasta** 2010, nominated 3.529 t, the same amount as granted by the Parties in 2009. Reduced to 2.084 t, a 41% decrease. There are three facilities, each requesting one fumigation per facility, but one facility reports poor gastightness and is unsuitable for MB use. Heat treatment is an alternative, and SF where food will not be contacted

2010 QSC CUN Summary cont'd

- **Japan chestnuts 2012**; nominated 4.984 t. Reduced to 3.489 t, a 30% reduction. MI registered farmer training and adoption can begin in 2011.
- **US commodities 2012**; nominated 4.907 t. Reduced to 2.155 t, a 56% reduction. Include dried fruit (dried plums, figs and raisins), walnuts and dates. USG reported that the dried fruit industry has reached the maximum adoption of alternatives. But MBTOC believes there are several lines of action available with registered alternatives to almost entirely avoid the use of MB for dried fruit and nuts. In the case of export walnuts, QPS MB now used where formerly SF was used. Ongoing date research hopes to resolve lack of efficacy with SF.
- **US food processing (NPMA) 2012**; Nominated 17.365 t, same as was granted by the Parties for 2011. Not recommended. The substantiation for this CUN is unacceptably thin. No studies or reports detailing trials conducted in the facilities included in this CUN. The applicants indicate that trials are conducted but the information will not be submitted to MBTOC.

2010 QSC CUN cont'd

- **US mills and processors;** 2012 Nominated 135.299 t, same as granted by the Parties for 2011. Reduced to 74.510 t calculated as a 50% decrease in flour milling, a 50% decrease for rice milling and a zero decrease for pet food facilities. Substantiation for this CUN is very thin. One flour mill study by researchers at Kansas State University was presented but no studies in rice mills or pet food establishments. No heat treatment studies were included, although information from research and commercial adoption is available.
- **US cured pork 2012;** Nominated 3.73 t, the same amount as granted by the Parties for 2011. Recommended. There is no alternative registered for this use. There is a multi-state, multi-university research program ongoing which is testing several alternative treatments, increasing knowledge of pest and dose response to potential alternatives.

Problems Identified for Parties

- Progress has stalled for the majority of postharvest CUNs
- Without an increased research focus, regulatory approvals of alternatives and a commitment to requiring the use of the alternatives that are available, CUNs may well persist at current levels for several years or longer.
- Concerns about costs and the environmental impact of using sulfuryl fluoride, are cited as slowing adoption of that key alternative. The potential for the high GWP of sulfuryl fluoride to be a contributing factor to ongoing MB use should not be underestimated. This problem is discussed more fully in the Progress Report.
- Differences between the regulatory approval for food products between MB and SF prevent SF's full adoption in these facilities where food products are commonly present.
- Lack of regulatory progress for SF is used as a reason to delay adoption of heat treatment, although heat does not require registration

Problems page 2

- MBTOC identified two areas where regulatory interpretation is cited as preventing the adoption of alternatives – SF use for rice in Australia and SF use for dates. MBTOC believes the SF label covers these uses.
- No adoption of alternatives for rice in Australia, but applicant has returned to normal profitability.
- Inadequate substantiation of research in the food processing facilities requesting CUNs.
- CUN applicants are not required to report the results of trials of alternatives to their governments or to MBTOC and some applicants have been unwilling or unable to substantiate claims of technical ineffectiveness or higher costs of alternatives