



Australian Government

Department of the Environment and Water Resources

Mr Marco Gonzalez
Executive Secretary
Ozone Secretariat
P.O. Box 30552
Nairobi 00100
KENYA

Dear Mr Gonzalez,

Australian report under Decision Ex.I/4 paragraph 7.

In accordance with this decision of the Parties at the first Extraordinary Meeting of the Parties, please find enclosed with this letter a summary of Australia's current critical use nominations.

Paragraph 7 of Decision Ex.I/4 decided:

“To request each Party from 1 January 2005 to provide to the Ozone Secretariat a summary of each crop or post harvest nomination containing the following information:

- (a) Name of the nominating Party;
- (b) Descriptive title of the nomination;
- (c) Crop name (open field or protected) or post-harvest use;
- (d) Quantity of methyl bromide requested each year;
- (e) Reason or reasons why alternatives to methyl bromide are not technically and economically feasible;”

The attached report represents Australia's report for its current nominations in accordance with this Decision.

Should you have any concerns regarding the content of the report, please feel free to contact me.

Yours sincerely,

A handwritten signature in black ink, appearing to read 'P. McInerney'.

Patrick McInerney
Director
Ozone and Synthetic Gas Team
Department of the Environment, Water,
Heritage and the Arts

22 January 2010

Australian report under Decision Ex.I/4 paragraph 7

A. Name of the nominating Party:

Australia

B. Descriptive title of the nomination:

Re-application by the strawberry runner industry of the Australian State of Victoria for critical use exemption in 2012 towards the phase-out of methyl bromide.

C. Crop name (open field or protected) or post harvest use:

Strawberry runner production (open field)

D. Quantity of methyl bromide requested in each year:

29.79 tonnes is requested for 2012.

An additional 5.95 tonnes is requested for 2011.

E. Reason or reasons why alternatives to methyl bromide are not technically or economically feasible.

Trials of Telone C-35 (1,3-dichloropropene) have revealed unacceptable variability in plant growth and pest control, particularly under cool climatic conditions. Recent results have reconfirmed phytotoxicity issues with Telone C 35 in strawberry runners (even after a plant-back period of 3 months) with strawberry runner yields reduced by more than 30% compared with a MB:Pic treatment identified in previous research. Furthermore, additional data has demonstrated that the treatment does not effectively kill the pathogens *Phytophthora* and *Sclerotium* and certain weed species.

Commercial field trials conducted in 2008/2009 that compared the approved label rate of methyl bromide/chloropicrin (MB:Pic 50:50, 500 kg.ha⁻¹) with the methyl iodide:chloropicrin (MI:Pic) experimental rate (MI:Pic 50:50, 350 kg.ha⁻¹) are now complete. The results showed MI:Pic controlled pathogens (DNA concentrations of *Rhizoctonia solani* and *Pythium* spp. in soil) and weeds to the same level as MB:Pic. Runner yields were equivalent in blocks treated with MI:Pic and MB:Pic. Three further commercial field trials comparing MI:Pic with MB:Pic were established in 2009 with results expected to be ready in 2010. The formulated MI:Pic product remains unregistered for use in Australia.

A scientific field trial conducted in 2008/2009 showed that MI:Pic (50:50, 350 kg.ha⁻¹) controlled weeds and pathogens (DNA concentrations of *R. solani* and *Pythium* spp; and buried inoculum of *Sclerotium rolfsii* and *Verticillium dahliae*), and produced runner yields to equivalent levels as the standard MB:Pic treatment. Results from the trial also showed that sealing soils with an impermeable barrier film (Bromostop) had no effect compared with standard LDPE when fumigating with MI:Pic.

Results from previously conducted trials have suggested ethanedinitrile (EDN) may be a promising possible alternative to MB. Linde AG, the manufacturer of EDN, submitted a registration package to the APVMA in 2005, and a draft label for EDN has been developed. Linde AG has not advised of any further progress with registration.

Trials that evaluate the economic and biological feasibility of production of foundation stock by soil less systems were completed in 2009. Productivity was compared with the status quo system of production in MB:Pic treated soil in insect proof cages. Results confirm the potential of soil less system and the economics of the system compare favourably with the current methods of production. It is aimed to have a the commercial facility established by 2010/2011. Use of soil less system is viable for the smaller volume of runners produced as foundation stock but is not economically feasible for the large volume commercial production of strawberry runners.

Australian report under Decision Ex.I/4 paragraph 7

A. Name of the nominating Party:

Australia

B. Descriptive title of the nomination:

Reapplication for an exemption from the methyl bromide phase-out for consumer packs of rice for 2012

C. Crop name (open field or protected) or post harvest use:

Rice – consumer packs – post-harvest use

D. Quantity of methyl bromide requested in each year:

4.87 metric tonnes for 2012

E. Reason or reasons why alternatives to methyl bromide are not technically or economically feasible.

Australian Rice Growers Limited, which trades as SunRice, has accepted MBTOC's recommendations to reduce the amount of methyl bromide allocated for critical uses in 2009, 2010 and 2011. The amount of methyl bromide approved for 2011 is 47% less than the amount approved for 2008.

SunRice is pursuing phosphine fumigation in sealed silos as the most suitable alternative to methyl bromide fumigation. Substantial infrastructural development, costed at \$47million, is required. SunRice's transitional plan and timeframe for moving to phosphine was provided to MBTOC in 2007. The transition plan is dependent upon SunRice's capacity to source sufficient capital, which is generally derived from revenue from the annual rice harvest. This capacity has been greatly affected by prolonged drought conditions in Australia which have resulted in a 98% and 92% reduction in the rice yield for 2008 and 2009, respectively (down from an average 1,200,000 tonnes to 15,000 tonnes and 65,000 tonnes, respectively). The rice yield is expected to improve slightly in 2010 with 160,000 to 170,000 tonnes predicted (or about a reduction of 86%). Two of three milling sites have been closed and over 200 staff made redundant because of the effects of the drought on crop yields.

Sulfuryl fluoride (Profume) is another alternative being investigated and is considered as a near 'drop-in' replacement.

Profume was registered in late 2007. SunRice has commenced assessment of sulfuryl fluoride for use on packaged rice in January 2009. These trials, however, have so far not been promising. Sulfuryl fluoride at the recommended dosage was tested on packaged rice on pallets. There was survival of insects to the adult life-stage at all positions for the concentration tested. The results from the first trial have not yet been analysed (see below) but the numbers appear very significant and could indicate problems of penetration of sulfuryl fluoride into packaged rice when palletised.

Further work continued in July 2009 to see if its efficacy could be improved. While this trial has been conducted, finalisation of the consultant's report has been delayed. The report was to include an analysis of the data from the first and second trials and was to be prepared by Jan van Someren Graver, a prominent international expert of

stored grain pests. Unfortunately Dr van Someren Graver died on 20 November 2009. SunRice is now trying to determine whether the results of the second trial can be obtained and the data from both trials analysed by another consultant.

Pending results and success of the laboratory scale trials, third and fourth stage 'large scale' trials will commence approximately in January 2010 and/or July 2010 in order to assess performance in the existing methyl bromide fumigation enclosures. Residue results are expected one month from the date of trial, efficacy results from bioassays are expected 10-12 weeks from the date of the trial, while market research testing results are expected three months from the date of the trial.

Further trials, possibly summer and/or winter, may be required depending on the results from the trials. SunRice is planning to conduct these trials over the period 2009 to 2011.

Further trials from 2010 through 2011 will be required to determine efficacy of Profume under a wide range of conditions. If trials of Profume prove both technically and economically feasible, SunRice may not require methyl bromide for non-QPS use beyond 2012.

A number of other alternatives to methyl bromide have been considered, unfortunately each alternative has its own characteristics that make its use either economically or technically infeasible.

Residue problems have been experienced with ethyl formate, and the gas's high flammability creates excessive fire risks. There are also doubts about Ethyl Formate's pest control efficacy for rice, and the gas is registered in New South Wales for use on dried fruit only.

Vapormate (Ethyl Formate/Carbon Dioxide Fumigant Mixture) was investigated by SunRice but found to be technically infeasible. Due to the reduced grain size and higher bulk density, movement of the gas is inhibited resulting in very low concentrations at the bag opening. Insect mortality rate observed during testing ranged between 0-100%, confirming that all spaces in the bag were not reached using Vapormate.

Carbonyl sulphide was found to be technically infeasible. Sorption studies highlighted that significantly higher dosages were required for various rice commodities, as well as problems with organoleptic (taste and smell) perception due to residues.

Cold disinfestation has also been considered. During the trial it took three weeks to establish -20° in 1 tonne bulkers. Costs associated with constructing sufficient cold storage facilities would require an expansion of warehouse space of up to 200%. Such costs are expected to easily exceed \$100million.

Packaging alteration with Oxygen scavenging has also been considered as an alternative for rice storage. It has not been considered economically feasible due to substantial increases in operating costs (from \$8.88million to \$31.11million per year).