



Australian Government

Department of Sustainability, Environment, Water, Population and Communities

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 'Patrick McInerney', with a stylized flourish at the end.

Patrick McInerney  
Director  
Ozone and Synthetic Gas Team  
Department of Sustainability, Environment, Water, Population and Communities

11 March 2011

## **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 2013 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:**

29.76 metric tonnes in 2013

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

Research and field trials to identify a suitable replacement for methyl bromide are ongoing.

Results from a trial conducted with Telone C-35 in 2009/2010 continue to show the same trends as in previous research by the runner industry in Toolangi. Previous trials showed that Telone C-35 reduces yields and that this is considered to be due to phytotoxicity. Telone C-35 therefore remains an unacceptable alternative in the runner industry in Toolangi.

MBTOC recommended in 2009 that the strawberry runner industry adopt a lower dosage rate of 20 g MB.m<sup>-2</sup>. Currently, rates of MB below 25 g MB.m<sup>-2</sup> are not registered and available for use in Australia, with or without impermeable barrier films. Trials to date have tested rates of MB:Pic (40:60) at 600 kg.ha<sup>-1</sup>, MB:Pic (50:50) at 400 kg.ha<sup>-1</sup>, and MB:Pic (50:50) at 500 kg.ha<sup>-1</sup>, with notable variations in results for weed and pathogen control, and yields. These inconsistent results are unacceptable and are currently hindering development of a case for label change for presentation to the relevant State Government Department. Two further commercial trials of lower rate MB (20 g MB.m<sup>-2</sup>) have been established in the runner industry in 2010/11. It is anticipated that data from these trials will be available in October 2011.

Methyl iodide (MI) remains un-registered and unavailable for commercial use by the Australian runner industry. However a permit is in place which allows for further evaluation of methyl iodide by runner growers. Field trials have shown that MI consistently controls pathogen (DNA concentrations of *Rhizoctonia solani* and *Pythium* spp. in soil) and weeds to equivalent levels as MB. Runner yields in soils treated with MI and MB were statistically equivalent in all trials. Registration of methyl iodide by the Australian Pesticides and Veterinary Medicines Authority (APVMA) may occur in 2012 depending upon APVMA's satisfaction with additional data regarding bystander exposure issues.

Results from previously conducted trials have suggested ethanedinitrile (EDN) may be a promising possible alternative to MB. Linde BOC, the manufacturer of EDN, submitted a registration package to the APVMA in 2005, and a draft label for EDN has been developed. No further trials were conducted in 2009/10. Linde/BOC,

however, advises that a further submission providing additional data was lodged with the APVMA at the end of January 2011. Linde/BOC also advises that it has volumes available for trial under permit by customers until EDN gains registration.

Application has been made to import small quantities of dimethyl disulphide into Australia for research as an alternative to MB. It is anticipated that small amounts of DMDS will be available for efficacy trials in the runner industry in the 2011 season, should the strawberry runner industry choose to proceed with trials. It is also anticipated that, if effective, registration of DMDS would take at least 3-5 years.

A new project extending previous developmental work on soil-less substrate production systems to a more commercial setting is now complete. It evaluated the economic and biological feasibility of commonly used commercial cultivars produced in soil-less mix in commercial sized bins. This work focussed exclusively on production of the early stage generation known as the Foundation stock that comprises an estimated 50,000 runners of major varieties. Although not yet analysed, the results appear to confirm biological and economic feasibility for all cultivars and bins. Pending analysis, this finalises the information requirements for detailed planning and construction of the facility planned for the first quarter of 2011. It should be noted that solution is suitable for foundation stock however it is not practical or economically feasible to apply to wider strawberry runner propagation.

## **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 2013

### **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:**

2.374 metric tonnes in 2013

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

The use of methyl bromide to treat consumer packs of rice is being phased out, with 2014 being the final year that a critical use exemption should be required. The amount of methyl bromide approved as a critical use exemption has decreased each year since 2009 and will continue to reduce through to 2014.

If alternative treatments are not available at the time that methyl bromide amounts approved for critical uses are insufficient to treat the quantity of rice harvested for the domestic market, the applicant will not be able to access additional methyl bromide. Therefore the total amount of rice that can be treated will reduce. This has not occurred to date due to a significant decrease in rice production as a result of drought conditions over the past decade. An improved harvest is expected in 2011 and it is possible that 2011 will be the first year where there will be insufficient methyl bromide.

Phosphine fumigation, following milling but before packaging, is currently considered to be the best technical and economical feasible alternative. The method of phosphine application differs markedly from methyl bromide which is applied after packaging. Phosphine fumigation would require a considerable change to SunRice's processing methods and a substantial infrastructure investment. SunRice has been unable to finance a transition to phosphine so far due to continued severe drought conditions in the growing area. Continuing to use methyl bromide at a reduced rate through to (and including) 2014 allows SunRice to recover from the effects of the drought (which has recently broken) and make the major investment required for phosphine over the coming years. The agreed transition plan allows time for SunRice to do this. .

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. Trials with sulfuryl fluoride have so far not been promising and further work is continuing to see if its efficacy against certain stored product pests (rice weevil and rust red flour beetle) can be improved. SunRice has so far been unable to obtain conclusive results in the way of a formal report (due to the death of Dr Jan van Someren Graver who conducted the trials) and

continue to pursue such. Given that a formal report has not been received, SunRice will perform further trials in the summer and winter of 2011. Trials will again be small scale using bioassays to determine mortality on *S. oryzae* and *T. castaneum*. If further trials prove sulfuryl fluoride to be technically and economically feasible, SunRice may not require methyl bromide beyond 2012/13 given that sulfuryl fluoride could be used in a similar fashion to methyl bromide.

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. Ethyl Formate has not been registered in New South Wales, the rice growing area for use on rice.

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  $-20^{\circ}$  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).