

Japan National Management Strategy for Phase-out of Critical Uses of Methyl bromide

Ministry of Agriculture, Forestry and Fisheries
Japanese Government

Background of the application for critical use nomination in Japan

In Japan, as a result of prospective development and penetration of alternatives to methyl bromide in which various bodies have been involved, it has been demonstrated that majority of soil born pest insects and diseases has been able to be controlled by the various alternatives such as chloropicrin. We have developed alternative technology to control soil born disease to various crops such as tomato and strawberry to which Japan had not nominated critical use exemptions of methyl bromide at all. However, it has been clear that a very small spectrum of pest insects and diseases such as soil transmitted virus to Cucurbit and pepper as well as chestnut weevil to chestnut cannot to be controlled with the alternatives available to the farmers use because there is no registered alternatives despite much of efforts have been made by many people concerned so far. In addition, we recognize there are no alternatives to methyl bromide to control root rot disease to ginger because of emergence of fungi resistant strain to the alternative chemical and no alternatives to be economically feasible.

The quantity of critical use exemption to Japan as of February 2006 is provided in the Appendix. It shows clearly that its total quantity has kept down-ward trend every year.

In the 9th Meeting of the Parties of September 1997, it was decided for non-Article 5 countries to reschedule methyl bromide reduction and its phase-out by 2005 with five years ahead of original schedule. On the other hand, Japan had already established our own reduction schedule for yearly production limit prior to the decision of Montreal Protocol. Japan froze the production in 1995 with the actual record level in 1991 and since then, we had reduced annually by five percent to base year though there was some minor variation in values each year. Additionally we have reduced the production volume level in accordance with the reduction schedule of the Montreal Protocol since 1999.

Japan will certainly implement our National Management Strategy in order to

ensure the reduction of critical use nomination successively. Furthermore, we will follow up the progress of National Management Strategy periodically, considering the reflection of new facts on our National Management Strategy.

Strategy for the para (a)

Our aim to avoid any increase in methyl bromide consumption except for unforeseen circumstances

Japanese Government will continue to make effort to reduce methyl bromide use and to nominate the amount as critical use exemption not to exceed the amount of previous year except for unforeseen circumstances such as spread of pest insect and disease outbreak. We will nominate the amount of critical use exemption with the check for efforts to the use and emission reduction in the nominating area in view of the standpoint of the applications of alternatives and the means of use and emission reduction of methyl bromide which are prescribed in the item from (b) to (e) of our National Management Strategy.

Strategy for the para (b)

Our aim to encourage the use of alternatives through the use of expedited procedures, where possible, to develop, register and deploy technically and economically feasible alternatives:

1. Relaxation to the terms and conditions for registration application for the alternatives to methyl bromide

To those who apply the expansion of the spectrum of applied pest insects and diseases to the pesticide, six test data on the efficacy and chemical injury are required to submit to the pesticide registration agency in principal. However, for the alternative chemicals to methyl bromide, that requirement is exceptionally mitigated to submit four test data, Pesticide registration agency accepts those mitigated data package, being made effort to accelerate the availability of alternatives.

2. Preferential review for the registration application to alternative pesticides

Pesticide registration agency currently takes preference over the review for the registration application of alternatives to methyl bromide for the purpose of sooner availability of alternatives to the farmers if technically and economically feasible alternatives are applied to registration.

3. Holding the conference on measures for the reduction of methyl bromide

In February 2000, the government set up the conference on measures for the reduction of methyl bromide in order to work out its reduction until 2005 when its production would be totally phased out. It is composed by national administration, research institutes and bodies which are related to methyl bromide. The conference has been promoting mutual cooperation among the conference members and has strengthened the approaches for development and penetration of the alternative technologies to methyl bromide. We provide respective local administration agencies with the detail of the conference.

4. Approaches to develop and penetrate the alternative technology and pesticide substitutes to methyl bromide

In the important fields of agriculture, the significant technologies, for which unified approaches by the national administrations, experimental research institutes, related bodies and private industries are considered to be important in order to solve the issues to the matters such as laborsaving and environmental preservation, are positioned as “Key Technologies”. In standpoint of the approach to the environmental issues, alternative technology to methyl bromide is positioned as one of “Key Technologies” to which we have been working out for the development and penetration in the respective regional level.

Targets to the activity are of improvement of application and penetration of alternative technologies and of preparation of excellent model series on the penetration of alternative pesticides to methyl bromide. As the excellent outcomes, seven pesticides are registered from 2001 to 2004, being put together as the information of alternative technology in the excellent model series.

In the future, along with the “Key Technology” activity, studies shall be made under local agricultural policy planning divisions.

5. Implementation of a subsidized project for developing the alternative pesticides as a part of the urgent projects to establish the alternative technologies to methyl bromide

Japan Fumigation Technology Association has promoted the development of alternative pesticides to methyl bromide which has been subsidized by the government with the cooperation of private industries and has attained the expansion of the spectrum of applied pest insects and diseases to five pesticides and the registration of two new pesticides from 2001 to 2004.

Strategy for para (c)

Our aim to provide information, for each current pre-harvest and post-harvest use for which a nomination is planned, on the potential market penetration of newly deployed alternatives and alternatives which may be used in the near future, to bring forward the time when it is estimated that methyl bromide consumption for such uses can be reduced and/or ultimately eliminated

1. Holding of briefing sessions to the applicants for the critical uses

In July 2005, the government invited local administrative agencies to hold a briefing session on the application for the critical uses of methyl bromide, explained the current global situation and emphasized the necessity of further effort of its reduction. It is highly expected that penetration of alternative technologies could be promoted by enhancement of the awareness of methyl bromide users. In the future, we are planning to hold brief sessions not only for the agency but for the applicants for critical use exemption at the regular basis.

2. Holding of symposium and forum to introduce alternative technologies

Experimental research institutes and other bodies related to methyl bromide are holding technical symposium and open forum to introduce alternative technologies. Symposium and forum held recently are mentioned below. In addition, alternative technologies for methyl bromide are taken up in some of the other symposium on plant protection as well.

(1) Invited people, playing a leading role in charge of pest control in the regional administrative agency, and given presentation on the current situation of critical use nomination and on the alternative technologies under development (Symposium of

Japan Plant Protection Association held in September 1997)

(2) Invited people, playing a leading role in charge of pest control in the regional administrative agency, and given presentation on the hot water treatment principle and effective use with field demonstration (Exhibition and demonstration symposium of soil disinfection by hot water treatment held by Japan Greenhouse Horticulture Association in 2002)

(3) Invited people, playing a leading role in charge of pest control in the regional administrative agency and given presentation on the current situation of the alternative technologies and its penetration which was held by National Institute of Vegetable and Tea Science in October 2005.

(4) Invited people, playing a leading role in charge of pest control in the regional administrative agency and given presentation on the further penetration with safe use of chloropicrin in the training session which was held by Japan Fumigation Technology Association in October 2005.

Workshop etc. will be held on the alternative technology under development even for the critical use of methyl bromide in every occasion which is sure to be helpful to promote farmers better understanding.

Strategy for para (d)

Our aim to promote the implementation of measures which ensure that any emissions of methyl bromide are minimized
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Following to the guideline for emission control and rational use of controlled substances developed in 1989 pursuant to the Law concerning the Protection of the Ozone Layer through the Control of Specified Substances and Other Measures, we promote emission reduction and rational use of methyl bromide by users to ensure the smooth implementation on the Vienna Convention and the Montreal Protocol.

Especially, in order to ensure dose rate reduction and sufficient supply and further penetration of low permeable barrier film, following measures will be taken.

1. Encouragement of the use of low permeable barrier film

According to the “Technical Guidance of Agricultural Production” issued in April 2005, the government is encouraging to take necessary measures for the emission control of

pesticide such as covering the soil treated by the pesticide during the time indicated in the label of pesticide container.

2. Questionnaire on the use of low permeable barrier film

The government made questionnaire to the local administrative agencies, who requested methyl bromide critical use exemption, whether they had an intention to reduce the emission of methyl bromide gas by covering soil with the low permeable barrier film.

The results showed that although they would like to introduce the low permeable barrier film for the use of methyl bromide in the future, they requested significant improvement of its availability with sufficient supply and lower price and improvement of easily tearing physical properties as well.

3. Further encouragement on the use of lower permeable barrier film (Virtually Impermeable Film; VIF) to the local administrative agencies applying critical use exemption

The government invited local administrative agencies to the briefing session on the applications for critical use of methyl bromide in July 2005, suggesting use of lower permeable film as the more effective means for the reduction of methyl bromide use in the future which Methyl Bromide Technical Options Committee (MBTOC) requests.

4. Requesting improvement of availability of lower permeable barrier film by the enhancement of its film production capacity to the existing manufacturing company and seeking another manufacturers

We had made inquiries to the existing lower permeable barrier film manufacturing company on the possibility of enhancement of production capability. According to the reply, they have shown to keep deliberate stance for the scale up of the production capability because perspective of the use of lower permeable barrier film is not necessarily sure with the uncertainty of future prospective of the critical use nomination of methyl bromide. For the enquiry of possibility of lowering price, they replied it is rather hard to consider lowering price due to the escalating crude oil price and plant specificity.

In order to improvement of the film availability, we will work out to seek another

manufacturing company who intends to produce lower permeable barrier film to ensure sufficient supply capability in the future. In addition, we would like to encourage farmers to use this film more positively through the regional administrative agencies.

5. Approaches for the national subsidized projects

The government appropriates in the budget for fiscal year 2006 for the costs necessary to develop the technologies to reduce the use of methyl bromide by lower permeable film.

Strategy for para (e)

Our aim to show how the management strategy will be implemented to promote the phase-out of uses of methyl bromide as soon as technically and economically feasible alternatives are available, in particular describing the steps which Japan is taking in regard to subparagraph (b)(iii) of paragraph 1 of decision IX/6 in respect of research programmes

1. Experimental research plan on alternative technology

The government is currently making following plans for the establishment of alternative technologies in the research and development for the production improvement and sustainable development of agriculture, forestry and fisheries as a part of the establishment of the agricultural production system aiming environmental conservation for regional specificity.

- Development of the pest control system with the application of attenuated virus against pepper mild mottle tobamovirus (PMMoV) etc.
- Development of the pest control system for the diseases, which is difficult to control, with the combination of soil disease infection check technology with the application of attenuated virus

2. Alternative technologies under development

Development of following alternative technologies is currently under way.

(1) Development of alternative pesticides

- ① Soil application of Cyazofamid flowable, chloropicrin emulsion and De-Trapex oil solution against root rot disease to ginger
- ② Methyl iodide fumigation against chestnut weevil and soil transmitted virus

③ Coating live micro organism to seeds to control soil transmitted diseases

(2) Development of resistant variety

Breeding of prospective resistant green pepper variety of “Kashimamidori” with *L4* gene to pepper mild mottle virus (PMMoV)

(3) Development of vaccination technology by the attenuated virus strain to soil transmitted virus

Development of vaccinated seedling against CGMMV to melon and PMMoV to green pepper

(4) Development of the measures to control contact infection

① Dis-infection of scissors at the harvest of green pepper

② Nursery seedling transplanting pot technology to keep out of virus contaminated soil

(5) Development of chestnut dipping method in the hot water to control chestnut weevil

Hot water dipping treatment at the temperature of 50 °C for thirty minutes to control chestnut weevil and sterilization of anthracnose to chestnut

3. Clarification on the issues in the switchover to alternatives under regional circumstances in the survey on the approach to the methyl bromide reduction

For the purpose of attaining sufficient information on the approach to methyl bromide reduction in the area requesting critical use exemption, it is surveyed how methyl bromide use reduction is tackled. As a result, it comes to be clear that although much of effort has been made for the reduction, switchover to alternative technology is not necessarily carried out because there is not technically and economically feasible alternative technology available to the farmers in those area. Furthermore, cropping pattern and harvest timing are different each other among respective regions even in the same crop cultivation. Accordingly it has been found difficult to suggest standard reduction level in general. In the future, it should be taken into account respective regional circumstances are taken into account for the application of alternative

technology, being supported with their respective approaches. Prospective alternatives among the ones of which tests are carried out in the regions are mentioned below.

- Efficacy test by methyl iodide fumigation to control chestnut weevil as the data for the registration application
- Efficacy test to control chestnut weevil with the storage under low temperature and high humidity
- Efficacy test to control melon necrotic spot virus (MNSV) with the use of resistant stock
- Review on the results of demonstration field test on the efficacy with the use of resistant stock to MNSV
- Field test on the availability of green pepper resistant variety with L^4 gene against pepper tobamovirus in growing area.

4. Holding of briefing sessions to the applicants for the request of critical use exemption

Same as the reply of (c) – 1.

Appendix

Quantity of Methyl Bromide Critical Use Exemption for Japan (tons)

	2005	2006	2007
Chestnut	7.1	6.8	6.5
Cucumber	88.3	88.8	72.4
Ginger (Field)	119.4	119.4	109.701
Ginger(Protected)	22.9	22.9	14.471
Watermelon	129.0	98.9	94.2
Pepper	187.2	200.7	156.7
Melon	194.1	203.9	182.2
Total	748.0	741.4	636.172
Rate to the base level	12.2%	12.1%	10.4%

* Base level is of production of 6,107 tons in 1991