Case Studies of Methyl Bromide Emission Reduction in Japan

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1 With the administrative direction, methyl bromide production in Japan in 1996 was advised to reduce five percent less than the production level of the base year.

2 Methyl bromide for quarantine was exclusively registered in 1994 and since then this methyl bromide have not been found in any other uses. This is the results of yearly monitoring to the stock of distributors or pest control operators in the pesticide site investigation.

3 Collation of Methyl bromide sales volume in Japan (tons)

Use	1990	1991	1992	1993	1994	1995
Preplanting	6136	6269	6594	7241	7782	5742
Quarantine	2910	2848	2646	2712	2703	2448
Others	121	219	121	204	426	523
Total	9167	9336	9361	10157	10911	8713

Source: MAFF Plant Protection Division

4 Plant quarantine authorities had advised pest control operators to follow the fumigation schedules with the grain temperature for the quarantine treatment of grain. It resulted in ten percent less of the methyl bromide use for the quarantine in 1995.

So far, application dose had been specified by the calendar month, irrespective to the grain temperature. It had been rather easier for the workers to prepare methyl bromide cylinder which might be excessive dose to kill pests. We know that methyl bromide efficacy to the pest is closely related to the grain temperature and fumigation dose should be strictly responded to it.

5 Further reduction of methyl bromide use in quarantine treatment is expected from next year. Plant Protection Act was amended in June 1996. In plant quarantine, quarantine injurious pests are established. As a

definition, quarantine injurious pests are the pests not yet present in Japan or present but locally distributed and/or being taken necessary control measures in the pest outbreak forecast programme. This amendment comes into effect by June 1997. In this amendment, a part of grain pests intercepted in the quarantine inspection are not necessarily required to take quarantine treatment. Therefore, some reduction of methyl bromide use are further expected from next year.

6 New substitutes of "Kilper" was recently registered to preplant treatment. Active ingredient is metum sodium. It was registered for food use pattern of which crop spectrum is widely ranged with such as tomato and cucumber.

7 The use of dazomet dust granule has been disseminated gradually among the farmers. The spectrum of the pests is widely ranged from bacterial wilt, root-knot nematode of tomato and fusarium wilt and foot rot of spinach.

8 Chloropicrin tablet was recently registered. It was coated with soluble film to soil moisture. When applied, it was just placed and covered soil. Then film get deformed due to soil moisture and chloropicrin gas is generated. Workers are not exposed with any irritant gas.

9 Fruit vegetable are raised almost all through the year with various cropping pattern with a lot of capital investment of production materials. In winter growing season, a lot of petroleum is used for keeping temperature in green house. Therefore, production cost is very high for the harvest and growing failure due to the outbreak of pests must be absolutely avoided. Methyl bromide is very essential because it is very effective even to the virus. At present, there is no substitute to treat virus. This is a big reason for the farmers to stick to use methyl bromide.