SOCIALLY UNJUST, ENVIRONMENTALLY DAMAGING AND ECONOMICALLY INSUPPORTABLE: METHYL BROMIDE IS NOT COMPATIBLE WITH SUSTAINABLE AGRICULTURE

James Liebman*

Sustainable agriculture has been defined as a system that is socially just, environmentally sound and economically viable. Methyl bromide typifies a production system that meets none of these criteria.

Methyl bromide is socially unjust because it poisons people. The material is a highly toxic gas that routinely drifts out of treated fields and into the airspace of adjacent residential areas. In California, methyl bromide leaks and drift have caused the evacuation of several thousand people in official incidents, and countless more in unofficial incidents. The material also has poisoned agricultural workers.

Methyl bromide is environmentally damaging. It destroys soil microbial diversity, which many researchers and farmers consider to be the heart of a healthy and productive agricultural soil. In addition, methyl bromide contaminates ground water with bromine residues and contributes to stratospheric ozone depletion.

Methyl bromide is not economically viable. Farmers use methyl bromide because they find the material efficacious and cost effective, but farmers pay only a portion of the true costs to society of using the material. Methyl bromide use would not appear economical if farmers were forced to pay for the human and environmental health impacts caused by methyl bromide: evacuations of neighborhoods next to strawberry farms in California, unsafe drinking water in Holland, increased skin cancer rates the world over. At present, society as a whole bears these costs. Therefore, society has a right to impose sanctions on the use of methyl bromide, just as is done for other pollutants.

For each of these reasons, methyl bromide has faced legal sanctions. Because of its role in ozone depletion it is now the first agricultural chemical to face an international phase-out. It is in no way compatible with sustainable agriculture.

Some of the proposed alternatives to methyl bromide are compatible with the principles of sustainable agriculture, while others are not. For example, increased use of other soil fumigants such as chloropicrin, 1,3-D, carbofuran

and metam-sodium, will only perpetuate our dependence on pesticides. In contrast, wider adoption of Integrated Pest Management, with improved pest monitoring and judicious application of management methods including soil building, crop breeding for pest resistance, and biological and cultural controls, would reduce the pesticide load on humans and the environment without sacrificing agricultural productivity. The impending phase-out of methyl bromide presents a choice to agriculture: the continuation of chemical-dependence or a unique opportunity to implement less toxic, sustainable methods on a large scale.