



CALIFORNIA DEPARTMENT OF
FOOD & AGRICULTURE
Karen Ross, Secretary



CALIFORNIA
ENVIRONMENTAL
PROTECTION
AGENCY

October 10, 2012

The Honorable Hillary Clinton
Secretary of State
U.S. Department of State
Washington, DC 20520

The Honorable Lisa P. Jackson, Administrator
U.S. Environmental Protection Agency
1200 Pennsylvania Avenue, N.W.
Washington, DC 20460

Dear Madam Secretary and Administrator Jackson:

The State of California supports the U.S. Environmental Protection Agency's (U.S. EPA's) phaseout of methyl bromide under the Clean Air Act and Montreal Protocol on Substances that Deplete the Ozone Layer. California's strawberry growers have worked to decrease their use of methyl bromide since 1991 by nearly 80 percent, while over the same time period increasing the acres planted with strawberries by over 80 percent, and the value of California's strawberry crop by 280 percent. California now accounts for 79 percent of the U.S. fresh strawberry market value, and 90 percent of the processed value. The average farm size of the state's 400 strawberry farm families is 95 acres. Many have been successful with ten and twenty acre plots because of fast growing demand.

Unfortunately, as discussed in more detail below, we believe it will take several more years to achieve significant reductions or elimination of methyl bromide use. For this reason, California respectfully requests that U.S. EPA continue to nominate and approve critical use exemptions (CUEs) for California strawberries.

Cognizant of the need to find an alternative to methyl bromide, the strawberry industry has funded research for a number of years by the University of California in collaboration with the U.S. Department of Agriculture to find a nonfumigant alternative to methyl bromide. Independently, U.S. EPA registered the fumigant methyl iodide that promised to be an effective alternative to methyl bromide, and California followed suit. The promise of methyl iodide as an effective alternative was factored into CUE decisions granted to strawberries under the provisions of the Protocol. This promise evaporated when the registrant withdrew methyl iodide from the U.S. market in March of this year. The availability of other fumigant alternatives is limited by California's restrictions on their use to protect people and the environment. Further, as strawberry growers have switched to these alternatives, certain plant pathogens appear to be increasing, requiring growers to return to methyl bromide use after approximately three years of treatment in order to disinfest the soil contaminated with both emerging pathogens and weeds.



Approximately 40,000 acres (16,000 hectares) are used for strawberry production in California. The value of California's strawberry crop in 2011 was approximately \$2.3 billion. Currently, U.S. EPA's critical use nomination for California strawberries in 2014 of 915,000 pounds, or 415,000 kilograms, would allow approximately 16 percent of the California strawberry acreage to be treated with methyl bromide. This may be an insufficient amount to control the plant pathogens that appear without methyl bromide use approximately every three years. To support this critical need, the State of California requests that U.S. EPA nominate CUEs for California strawberries at the level of approximately 1.5 million pounds of methyl bromide, or 600,000 kilograms, for 2014.

Fumigant alternatives ineffective as complete replacement for methyl bromide in California strawberry production

Many growers have switched from methyl bromide/chloropicrin shank applications to 1,3-dichloropropene/chloropicrin drip applications. However, outbreaks of *Macrophomina* and *Fusarium* have been reported in fields with alternative treatments. Outbreaks of both pathogens cause wilting, stunting, and death of strawberry plants. After approximately three years of using alternatives, some growers have been forced to return to using methyl bromide fumigation in order to disinfest the soil. *Verticillium* may also be increasing in fields that were planted with lettuce as part of a crop rotation with strawberries, and may require similar treatments of methyl bromide for control.

No new fumigant products currently available in California

No new fumigant products are currently available for California strawberry growers. California registered the new fumigant methyl iodide in December 2010. The 2013 CUE assumes that approximately 2,000 acres (800 hectares) of California strawberries will be fumigated with methyl iodide. However, in March of 2012 the registrant withdrew methyl iodide from the U.S. market and requested cancellation of its methyl iodide products in California. U.S. EPA has registered a new fumigant that can be used for strawberries, dimethyl disulfide, but California has been unable to make a registration decision on this fumigant due to incomplete toxicity data required by California law. The development of this data and its evaluation after submission to California's Department of Pesticide Regulation is likely years away.

Despite on-going research over a number of years and the identification of nonfumigant alternatives to methyl bromide, few techniques have been developed to the point where widespread use is practical. Steam treatment of soil, nonsoil substrates, anaerobic soil disinfestation, and other techniques have been effective in small plots, but additional research is needed on commercial-scale fields. The State of California, through its Department of Pesticide Regulation (DPR), is also working to identify nonfumigant alternatives for strawberries. In March 2012, DPR and the California Strawberry Commission began a research partnership to look for alternatives to fumigant pesticides. The \$500,000, three-year project is exploring ways to grow strawberries in peat or substances other than soil. In addition, DPR's budget for fiscal year 2013-14 will include a \$713,000 annual increase for DPR to support research for fumigant alternatives. In April 2012, DPR formed a diverse work group of scientists and other specialists to develop a five-year action plan to accelerate the development of management tools and practices to control soil-borne pests in strawberry fields without fumigants. The plan should be completed in early 2013.

California regulatory requirements limit existing fumigants as alternatives and those restrictions may increase

California's regulatory requirements for alternative fumigants limit their use. Since 1995, California has limited the use of 1,3-dichloropropene to reduce long-term health risks. This use limit caps 1,3-dichloropropene applications to 90,250 pounds per township per year. (NOTE: A township is a 36 square mile area designated by the Public Lands Survey System.) California has approved township cap waivers for use in the strawberry industry for several years but the acreage fumigated with 1,3-dichloropropene will likely need to decline in the future to achieve an acceptable health risk, thereby reducing the availability of this tool to control many strawberry pests. Results of air monitoring have confirmed some levels of concern for this fumigant. Although changing the application method (such as using less permeable tarps) can reduce emissions, the emission reductions are unlikely to reduce health risks to an acceptable level with the amount of acreage currently treated with 1,3-dichloropropene. DPR is in the process of updating its risk assessment for 1,3-dichloropropene to determine if other exposures, such as acute exposures to bystanders, need further mitigation.

Beginning in December 2012, buffer zones and other use restrictions will go into effect for chloropicrin to reduce acute exposures as part of U.S. EPA's label revisions. In addition, DPR is considering more stringent requirements on chloropicrin beginning in 2013. DPR is determining the appropriate buffer zones and other requirements based on California conditions. If adopted, these restrictions could require greater use of totally impermeable films to reduce emissions and exposures. These restrictions on chloropicrin would likely reduce its use, particularly in strawberry-growing regions where fumigations frequently occur near residential areas, schools, and other sensitive sites. Additional restrictions may be reviewed to reduce occupational and long-term exposures to chloropicrin.

In contrast, methyl bromide has been used for many years under California restrictions developed after extensive consideration in order to adequately protect human health and the environment. At current or increased use levels, California's restrictions will ensure low health risk from methyl bromide exposure, and no additional restrictions are envisioned as necessary.

Conclusions and recommendations

Both strawberry growers and the State of California are committed to finding practical and feasible alternatives to methyl bromide, including nonfumigant options that will meet the needs of growers without the stringent limitations required on fumigants to protect human health. However, until these alternatives are identified and tested for efficacy, the need to maintain the availability of methyl bromide to supplement an alternative fumigation program to manage new diseases or a severe build-up of older diseases remains critical to California's \$2.3 billion strawberry industry.

The U.S. requested approximately 915,000 pounds, or 415,000 kilograms, in the 2014 critical use nomination for California strawberries. The State of California recommends that U.S. EPA seek a supplemental CUE for California strawberries to bring the total CUE to approximately 1.5 million pounds of methyl bromide, or 600,000 kilograms, for 2014, and consider a similar amount for 2015. This amount is based on the projection that alternative

nonfumigant and fumigant approaches will limit the use of methyl bromide to no more than 25% of the California conventional strawberry acres - a total of 10,000 acres (4,000 hectares) - in 2014, at an application rate of 150 pounds per acre (170 pounds per hectare). We are committed to further reductions in future years as effective alternatives become available.

We thank you for your support and consideration.

Sincerely,



Karen Ross, Secretary
CA Department of Food & Agriculture



Matthew Rodriguez, Secretary
CA Environmental Protection Agency

cc: Secretary Tom Vilsack
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