

Docket #: OPP-2004-0159

July 26, 2004

Veronique LaCapra  
Special Review and Reregistration Division  
Office of Pesticide Programs  
Environmental Protection Agency  
1200 Pennsylvania Ave., NW  
Washington, DC 20460

Dear Ms. LaCapra,

These comments are on behalf of the members of the California Tomato Grower Association. We are a cooperative of processing tomato growers. Our crop is utilized to produce tomato paste, ketchup, canned tomatoes, etc. Nearly 95 % of the U.S. production of processing tomatoes and 35% of the global production is grown in California. In 2002, processing tomatoes were grown on some 291,000 acres and the crop was valued at \$632,403,000.

In 2002, 19% of the processing tomato acreage was treated with metam sodium. The greatest use is in San Joaquin Valley, in Fresno, Merced and Kern counties, and in the Sacramento Valley counties of Yolo and Solano. Applications occur in the early spring before planting or the late fall (Nov-April).

Metam sodium is used for control of weeds, soil-borne diseases, such as phytophthora, and nematodes. The most common reason for use is for control of weedy nightshades (black nightshade (*Solanum nigrum* or *S. Americanum*) and hairy nightshade (*S. Sarachoides*)). Since tomatoes are part of the nightshade family, it is impossible to apply herbicides in-season that would kill the weedy nightshades without injuring the tomatoes. Growers who know a field has a history of nightshade infestations rely on a mix of pre-plant treatment with metam sodium combined with pre-plant herbicides to provide broad spectrum weed control. However, many of the effective pre-plant herbicides have plant-back restriction which limits their use. For example, rimsulfuron (Matrix or Shade Out) has a 12 month plant-back restriction for most crops. This prevents the planting of cool season crops such as carrots or lettuce subsequent to processing tomatoes. If weed control is inadequate, growers are forced to use hand weeding which is extremely costly. Hand weeding in fields not treated with metam sodium have added \$50-100/A, even as much as \$400 A, to the cost of production.

Comments on the EPA's worker exposure assessment:

We sent questionnaires out to growers to ask about their current metam sodium usage habits and reviewed CDPR's usage data to address EPA's assumptions about metam use in processing tomatoes.

### 1) Methods of Application

The percentage of the questionnaire responders who indicating using any of the following methods:

Spray blade injection:	69%
Subsurface drip:	31%
Shank injection:	23%
Sprinkler:	8%
Furrow or Flood:	0%

EPA's risk assessment does not address the method of application most commonly used by processing tomato growers in California, spray blade injection with a soil cap. Metam is injected into the soil behind a spray blade, which is immediately capped by a mound of soil and rolled. Around 6 inches of a 60 inch bed are treated. 5-14 days later the soil cap is flattened down into the bed for direct seed planting. (For detailed description see [A Growers Weed Management Guide](#) by Harold Kempen, Tomatoes Chapter). None of the data currently available to EPA seems to deal with this method of application and sealing. It is not clear which data would be used as surrogate for this method of application.

### 2) Use Rates:

Rates from Survey:

Typical rates for spray blade applications according to the survey are:

31.95 - 42.6 lbs ai/A when one row of tomatoes is grown per 60 inch bed,

63.9 - 85.2 lbs ai/A when two rows of tomatoes are planted per 60 inch bed.

Maximum rate according to the survey is 85.2 lbs ai/A.

Rates from CDPR Use Reports

Based on review of individual applications from 2000-2002 (1782 applications)

Average: 49.0 lbs ai/A

Maximum rate: 320 lb ai/A

(less than 2% of applications used rates greater than 300 lbs ai/A)

The typical use rates per acre are well below the maximum allowed, as the spray blade method only applies metam sodium to a narrow band, about one tenth the width of the 60 inch bed. The rate applied to the actual soil treated when applied by spray blade or drip is typically the maximum rate recommended on the label. The higher rates per acre recorded are presumably from sprinkler applications.

### 3) Seals:

As the majority of the applications in processing tomatoes are by spray blade, soil seals are the most common method of sealing. The soil is mounded up several inches over the area where metam was applied, in the same step of applying metam sodium. Water seals are applied to sprinkler and shank applications.

EPA does not seem to have or use data pertaining to the effectiveness of soil seals.

4) Acres Treated in One Day by a Single Applicator

Survey results:

Average: 80 A

Maximum 150 A.

The higher acreage was indicated by growers who only use the spray blade method of application.

5) Acres Treated in One Day (multiple applicators)

Survey results:

Average: 150 A treated in one day

Maximum: 300 A

CDPR results

Average: 95 A

Maximum: 295 A and 608 A.

3 applications between 250 and 300 A and one application of 608 A. These applications represent 0.2% of 1782 applications between 2000 and 2002.

Breakdown of acres treated in one day

1-49 A 23.8%

50-99 A 32.1 %

100-149 A 15.7 %

150-199 A 26.9%

200- 249 A 1.12 %

> 250 A 0.2%

6) Mixer/Loader same a Applicator

Most survey respondents indicated that it was common for the mixer/loader to be the same person as the applicator.

7) Days a Non-Commercial Applicators Applies Metam

The survey respondents estimated an average of 19 days in a year.

8) Timing of Applications

January through April: 80-90%

October through December: 10-20%

June through September: 0 applications for processing tomatoes in California.

9) Soil/Air/Night Temperatures

Soil average: 55.8°F max: 70°F

Day average: 68.0°F max: 80°F

Night average: 45.7°F max: 52°F

### Comments on the worker exposure assessment:

- In the handler exposure assessment EPA uses data from a number of different MITC exposure studies in different scenarios. Some with and some without the use of seals. We hope that EPA will ultimately rely on data using current practices. At least since 1999 the use of some kind of seal is mandatory in California.
- When assessing the applicator exposure to metam sodium, EPA states they relied on studies from ground applications in their database. However, it is not clear to us whether the data are from ground injection applications or ground spray applications. We would assume that the chances of exposures are greater when spraying across the top of the soil compared to injecting the material and immediately sealing it with a soil cap. Thus, it is important to understand what kind of surrogate data was used and the implications for interpretations of the findings. If EPA has any applicator exposure from ground injections applications, that data should be used.

### Comments on the Bystander Exposure Assessment:

EPA has assessed bystander exposure using two different methods: one using actual levels of MITC measured at different distances and times around a treated field, the second method is based on an air exposure model. It is striking how completely different the outcomes of the two methods are. With the use of actual data most data points seem to be above the level EPA considers of concern (it would have been useful to have distributions or some better display to discern the trends). In contrast, the modeled exposures imply the need for vast buffer zones.

It is our understanding that EPA is in the process of reviewing and asking outside reviewers to assess the merits of several more refined fumigant air models. However, EPA will not know the results of the review for 2-3 months after release of the revised risk assessment. It seems to us questionable to report the current modeled bystander exposure assessment, since it cannot be revised before the current deadline should the newer models be deemed to be more appropriate. Also, the enormous difference between the calculated risks using actual versus modeled data, raises serious questions about the relevance of the modeled bystander exposure assessment.

### Conclusion

We appreciate the opportunity to provide comments on EPA's draft risk assessment of metam sodium. Metam sodium is an important tool for processing tomato growers in California. We are very much interested in ensuring that its use can continue in a safe manner. Its ability to control several pests at once, decreases the need for in-season pesticide applications, as well. And, since there is currently only one or two herbicides that control weedy nightshades, metam is useful for resistance management.

If you have any further questions about how metam sodium is used by processing tomato growers in California, please do not hesitate to contact me.

Sincerely,

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