Docket #: OPP-2004-0159

October 30, 2004

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

Dear Mr. Seaton,

The California Cut Flower Commission appreciates the opportunity to comment on EPA's revised risk assessment for metam sodium. The Commission is a non-profit public corporation formed by growers, under the laws of the State of California. The Commission was formed in 1990 with the goal of promoting California cut flowers and providing information to regulators and growers about the impacts of government actions.

"Cut flowers" encompasses a wide range of flower species. Species that are grown outdoors in California include iris, dahlias, delphiniums, lilies (all kinds), freesias, matsumoto asters, tulips, snapdragons, tuberoses, gladioli, etc. The commission also includes growers of cut, cultivated greens. Most flower growers are situated in the coastal regions of California where year-round mild weather is conducive to long growing seasons. Growing regions include the Salinas Valley (Monterey Co.), Santa Barbara, San Diego and Del Norte Counties along the coast. Cut flowers are also grown in Kern County and Imperial County.

Total acreage on which cut flowers and greens were grown was around 11, 527 acres in 2002 (NASS- 2002 Ag. Survey), with another 1372 acres of greenhouse-grown flowers. In 2002, the total wholesale value of the cut flower and greens industry for California was $296 million and accounted for 69% of the national value of cut flower production. While the sizes of fields tend to less be than 1 A for any single variety of flower, many field have more than one crop of flowers per year. In the coastal regions it is typical to plant 2 or 3 sequential crops of flowers in one field in one year. For the metam sodium risk assessment we are only discussing field grown flowers, though depending on the variety and the season, some cut flowers will be seeded into open ground, which is subsequently covered with plastic (plastic greenhouse or cold frames).

Metam Sodium Use In California Cut Flowers

Because of the wide range of flower species and the very small acreage for each variety, there are few pesticides registered for use on cut flowers. Thus, cut-flower growers are very reliant on starting with as clean a field as possible. In California, flower growers have relied

on methyl bromide to control weeds and soil borne pathogens. With the phase-out of methyl bromide due to the Montreal Protocol, the cut flower industry is looking to metam sodium to fill some of the void.

Weed control is the primary purpose of the soil fumigation with metam sodium. There are few in-season herbicides registered for all the different flower varieties, and the plant-back restrictions for pre-emergent herbicides make their use impossible given the multiple crops per season. Without herbicides the only other option is hand weeding. In addition to the ever-increasing cost of hand labor, California just passed legislation that outlaws hand weeding except with a long-stemmed hoe. Weeding of seedlings requires greater precision than can be done with a hoe. Thus, weed control by soil fumigation is critical for cost-effective production of cut flowers in California.

To a lesser extent, metam sodium is used to control several soil pathogens. Diseases that are decreased by metam include *Phytophthora* spp., *Fusarium* spp, and *Pythium* spp. (the specific species tend to be associated with the specific flower species). Growers are still learning to what extent metam sodium can be applied to effectively control soil borne pathogens in cut flowers.

In addition to pest control, metam sodium is used to destroy plants left at the end of the season. This prevents the plants from harboring pests, while allowing the plant residues to remain for soil stabilization during the rainy season (winter). In the case of gladioli, metam sodium is used at the end of the season to destroy small bulbs formed during the growing season. Destruction of the bulbs is necessary to prevent them from becoming weeds for the next crop, as well as providing a haven for pests.

Specifics on Metam Use

Methods of application:

- drip irrigation is the predominant method of application, especially on the coast.
- shank injection is used.
- sprinkler chemigation is used in Kern and Imperial counties.
- rotary tiller is being tested for use in cut flowers.

Rates used:

Grower surveys:

- 213 – 320 lbs ai/A (50-75 gal/ A)

CDPR use data (2001 & 2002):

- Average rate statewide: 177 lbs ai/A
- Maximum rate used: 325 lbs ai/A

Seals used:

- Tarps or water seals are used with drip irrigation

Tarps are laid down prior to metam application with drip.

- Water seals are used with sprinkler irrigation.
  Generally about a ¼ inch water seal is applied immediately after application. A second irrigation may be applied depending on weather and soil conditions.

Acres treated in one day by one applicator:

Grower Surveys
- Maximum of 10 A, but more common is 1 A or less.

CDPR use data (2001-2002):
- Average field size treated statewide: 6.6 A
- Maximum field size: 35 A (sprinkler applied) / 20 A (drip applied)

The mixer/loader is commonly the same person as the applicator.

Time of year of application:

Imperial: Sept-Oct
Kern: July-Aug/Dec
Santa Barbara: Feb – Dec, with more applications in Aug & Nov.
San Diego: All year, with more applications in March, Aug - Sept.

Days non-commercial applicators work with metam sodium:

Survey data ranged from 1-2 days in a row, though more than 1 day is rare.

Days commercial applicators works with metam sodium:

1-2 days in a row

Days until soil is cultivated/bedded up, etc:

With both drip and sprinkler applications the beds are formed prior to applying metam. Plant back restrictions prevent planting for 14 days, thus the soil is not disturbed for at least 14 days.

Comments on the Revised Worker Exposure Assessment

It would be helpful if EPA calculated the acute mixer/loader/applicator exposures for typical rates used and acreage treated, in addition to the maximum label rates. The numbers of acres treated used to calculate the worker exposure are much higher than the typical and maximum acres treated in the cut flower industry. EPA uses 350 A for sprinkler applications while the maximum field size treated in 2002 was 35 A. For drip applications EPA uses 100 A, while the maximum field size treated for cut flowers was 20 A.

We appreciate EPA seeking to find MITC off-gassing data with current sealing practices in California, in contrast to the data used in the draft risk assessment.

Interpretation of the MITC worker exposure assessment is still difficult. Which studies are relevant, what is the distribution of the calculated exposures, etc.?

Comments on the Bystander Exposure Assessment

We hope that the use of better modeling of bystander exposures will bring the results more in line with the results calculated using actual measures MITC levels around treated fields. The revisions made since release of the draft risk assessment are clearly an improvement, however the modeled exposures are still quite different from the exposures calculated using actual measured MITC levels.

It is still difficult to interpret the exposures calculated with measured MITC levels, even with the graphs showing how the levels change over time. It would be useful for EPA to include distribution curves, or calculations based on some average or percentile MTIC level, and for EPA to determine which data sets should even be used.

Comments on the Proposed Comparative Risk Assessment of all Soil Fumigants

EPA has stated that they plan to review the risk posed by all the soil fumigants (Telone, methyl bromide, methyl iodide, chloropicrin, metam sodium and dazomet) in some comparative fashion. As users of several soil fumigants we appreciate EPA's efforts to consider all the soil fumigants when considering risk mitigation options. As growers who relied heavily on methyl bromide we are experiencing the effects of the loss of one of the fumigants. We also have experience with the impact of different regulations limiting the use of methyl bromide, metam sodium and Telone in different ways in the State of California. Thus, we agree with the sentiment that it does not make sense to regulate one soil fumigant without considering the impacts on the crops and other fumigants. However, EPA must clearly understand that the individual soil fumigants are not interchangeable. The loss of methyl bromide has made that abundantly clear. Furthermore, we urge EPA to not make any direct comparisons of the risks posed by each of the compounds, as each has different toxicological profiles and different functions in agriculture. The risks, if any, should be judged for each compound separately.

Conclusions

Metam sodium fills a vital role in our ability to control weeds and diseases in cut flowers. Without metam sodium we would see complete crop losses in some instances to diseases. We would not be able to produce an economically viable crop due to labor costs to eliminate weeds. In addition, its use allows us to prevent the build up of pests by killing remnant plants at the end of the season. The importance of metam sodium has increased with the phase-out of methyl bromide for our industry. Keeping costs in check is critical to survival of our industry. During the last 10 years there has been a major shift in the types of flowers produced in the U.S. due the importation of flowers from countries with lesser environmental regulations and lower labor costs.

We appreciate the opportunity to comment and are available for further questions.

Sincerely,

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