Comments in Response to the Notice of Availability of Certain Ethylenebisdithiocarbamates (EBDCs) and Ethylene Thiourea (ETU); Risk Assessments and Preliminary Risk Reduction Options: Hawaii Orchid Growers Association

Date: February 14, 2005

To: Cathy Tarutani
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SUBJECT: EPA Docket OPP-2004-0078 (EBDC (Mancozeb: Dithane(r), Maneb) and ETU) Re-registration Review and FQPA Assessment

Introduction:
Organized in 1995 to advance the potted orchid industry, the Hawaii Orchid Growers Association now has a membership approaching 150 nurseries. Our Association is specifically dedicated to the potted orchid industry but many of the members also belong to Associations that are specific to the orchid cut flower industry.

According to Hawaii Agricultural Statistics 2003 Summary of Hawaii Flowers and Nursery Products, the category of 'orchids' had a wholesale value of $24,379,000, a record. Having Mancozeb products available is absolutely essential to our being able to have a viable orchid industry in Hawaii.

Hawaii's tropical weather conditions are most conducive to a wide range of fungal diseases. A preventative fungicidal spray program is a key component to the overall success of orchid nursery operations. The value of Hawaii's orchid products is in the unique exotic look and form, and therefore requires a perfect plant product.

Question 1:
Mancozeb products are the most widely used fungicide for fungal leaf spots on orchids, flower rots, and root rots as they have a very broad spectrum of activity with very good to excellent control of many fungal diseases. They are effective against the hundreds of ascomycetes (Fusarium, Botrytis, Septoria, Cercospora, Alternaria/early blight, Colletotrichum/anthracnose, Bipolaris and "Helminthosporiums", Didymella/gummy stem, and many others) that cause many tropical diseases; the pervasive and numerous basidiomycetes (Rhizoctonia/web blight, rusts) on nearly all crops; and destructive oomycetes (Pythium/damping-off, Phytophthora/late blights/heart rots/damping-off, downy mildews, white rusts) that cause growers losses in the hundreds of thousands of dollars. Uncontrolled diseases can make the crop uneconomical to produce.

A broad-spectrum fungicide is highly valuable because one application controls diseases caused by several different types of fungi and oomycetes. We growers save on labor costs because we do not have to make multiple applications and these fungicides are still relatively inexpensive.

Both mancozeb and maneb also have limited effectiveness against some destructive bacterial diseases (tomato speck and spots), and quality-impacting organisms such as slime molds and algae (turf). Both mancozeb and maneb are very important for fungicide rotation programs that

are designed to mix the chemistries of fungicides. These programs prevent the rapid development of strains of fungi that are resistant to new highly effective fungicides. Pathogen strains resistant to mancozeb are extremely rare or have not been widely reported.

Growers utilize moderate rates for protection purposes but through monitoring efforts, maximum rates are employed when disease pressure is high. Some of the Trade names used in Hawaii are: Dithane, Fore, Pentathlon, Protect, and Cleary's.

Question 2:
Many growers time their spray applications to Fridays or Saturdays, the last working day of the week. This practice reduces worker contact and allows for weekend drying. According to EPA Worker Protection Standards, growers close individual greenhouses and post no entry signage following spray applications. These applications are generally on a 7-14 day interval depending on spray programs with other rotational fungicides. If protectant fungicide sprays exceed a 3 week interval, disease problems are exacerbated. Harvesting or delivery preparation of plants are usually done prior to the next scheduled spray application thereby extending the post application period.
Question 3:

Target pests include: Alternaria, Bipolaris, Botrytis, Calonectria, Colletotrichum, Exherohilum, Fusarium, Phyllosticta, Pseudocercospora and Cercospora, Downy Mildew, Rhizoctonia, Rust, and Scab. See question 1 for other target organisms.

Question 4:
There are no effective alternative fungicides that encompass Mancozeb's broad spectrum activity, no fungal resistance problems, and industry acceptance as a cost-effective product. Alternative treatments are expensive, limit the number of applications due to resistance concerns, and typically do not provide broad-spectrum control. These alternatives are usually targeted to a specific fungal organism.

If a disease is NOT controlled and 90% of the crop is unmarketable, application of mancozeb/maneb would reduce disease levels by 30 to 75%. These alternative chemicals are inhibitory by contact, thus spores that escape can germinate and cause disease. Many of the new fungicides have higher rates of efficacy, especially for those that are systemic. However, many of these highly effective systemic fungicides become ineffective as fungi become resistant to them after short periods (2-3 seasons or 5-7 applications).

Question 5:
See Question 4.
Question 6:
100% Ground Equipment.
Question 7:
There have been no reported incidents to the Association or the Extension Service of worker reactions to Mancozeb applications. The benefits associated with Mancozeb fungicides is that it is cost effective, accepted as the industry standard for fungal protection, and its broad range of efficacy. Because of Hawaii's tropical climate, plants are susceptible to a wide array of fungal pathogens. Mancozeb fungicides have provided an effective pest management program with no reported resistance problems even after more than 40 years of usage!
Question 8:
N/A
Question 9:
N/A
Question 10:
Many of Hawaii's orchid growers are smaller family farms and cannot utilize water soluble packaging which typically is utilized in 100 gallon tank mixes. Many nurseries have smaller spray

tanks and back-pack sprayers which makes water soluble packets more difficult to handle. Therefore, usage of WP and dry flowables are still a very desirable formulation. We orchid growers feel it is very important to maintain and utilize the concept of resistance management.

Question 11:

N/A

These comments are submitted this 14th day of February, 2005 by the Hawaii Orchid Growers Association.

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