THE COMMONWEALTH OF MASSACHUSETTS
EXECUTIVE OFFICE OF ENERGY AND ENVIRONMENTAL AFFAIRS

Department of Agricultural Resources
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MDAR MASSACHUSETTS DEPARTMENT OF AGRICULTURAL RESOURCES

Maura T. Healey, GOVERNOR | Kimberley Driscoll, LIEUTENANT GOVERNOR | Rebecca L. Tepper, SECRETARY | Ashley E. Randle, COMMISSIONER

PESTICIDE BOARD SUBCOMMITTEE MEETING MINUTES

February 20, 2024

Meeting to be held via remote participation: Join Zoom Meeting at:
https://us06web.zoom.us/j/86843114982?pwd=Q3N5S0JIUXBQQXU5QVJLNW5FVlE1dz09
Passcode 632573

BOARD MEMBERS IN ATTTENDANCE

Michael Moore, DPH, Food Protection Program	(Chair)	Present
Taryn LaScola, MDAR, Designee for Commissioner Randle		Present
Meg Blanchet, DPH, Designee for Commissioner Goldstein		Absent
Nicole Keleher, DCR, Designee for Commissioner Arrigo		Present
Richard Berman, Commercial Applicator		Present

The Board did meet or exceed the minimum number (3) of members present to form a quorum and conduct business.

A. PRODUCT REGISTRATIONS

Motion: That the Pesticide Board Subcommittee registers the pesticide products listed on the EIPAS PR December 19, 2023, Subcommittee cover sheet with the exception of the following products:
Verify, EPA Reg. No. 83979-8, and
Biomite, EPA Reg. No. 70506-610.

Moved: R. Berman
Second: N. Keleher
Discussion: None
In Favor: T. LaScola, N. Keleher, R. Berman, M. Moore
Opposed: None
Abstained: None

Motion: That the Pesticide Board Subcommittee has determined that the use of the following product

- Verify, EPA Reg. No. 83979-8, containing acetochlor,

may cause an unreasonable risk to man or the environment, when taking into account the economic, social, and environmental costs and benefits of their use. This determination is based upon the leaching potential and toxicological concern of these substance as defined in the "Protection of Groundwater Supplies from Non-Point Source Pesticide Contamination" Regulations. Therefore, the Subcommittee hereby modifies the registration classification of agricultural/commercial pesticide products containing acetochlor from general to restricted use for groundwater concerns.

Moved: R. Berman

Second: N. Keleher
Discussion: None
In Favor: T. LaScola, N. Keleher, R. Berman, M Moore
Opposed: None
Abstained: None

B. NEW ACTIVE INGREDIENT

Discussion of registration approval for the product containing the new active ingredients *Nerolidol* and *Farnesol,* formulated in Biomite (EPA Reg. No. 70506-610) and labeled for mite control on agricultural crops, ornamental plants, and in professional landscape settings.

Miller presented information on the new active ingredients n*erolidol* and *farnesol* formulated in the product Biomite, a biopesticide for controlling mites.

Nerolidol is 0.417% and farnesol is 0.167% of the liquid formulation by weight. Both are naturally occurring compounds originally isolated from essential oils of plants such as roses, citronella, and lemon grass. These parapheromones are now synthesized and can act as mite attractants that may be coformulated with miticides.

Handling Precautions: The Biomite label signal word is 'Warning', due to risks of substantial but temporary eye damage and skin irritation. Baseline PPE are required that fully cover skin, including chemical resistant gloves and protective eyewear in the form of goggles, face shield, or safety glasses. Agricultural workers are prohibited from entering treated areas without protective clothing during the Restricted Entry Interval (REI) of 4 hours or until sprays have dried.

Environmental protection language is standard for water: no allowed direct applications to water surfaces, areas where surface water is present, or intertidal areas below the mean high-water mark. Care must also be taken not to contaminate water when cleaning equipment or disposing of rinsate.

Biomite is a minimum risk biochemical miticide that controls a number of mite types. Allowed crop uses are grape, hops, certain nuts, stone fruit, pome fruits, and various cucurbits. It can also be used on ornamentals and nursery plants. The Biomite label indicates it may be used alone, but ideally in rotation with other miticides as part of an Integrated Pest Management plan.

Particularly relevant to Massachusetts, the label notes that it has efficacy under cool environmental conditions early in the season, with best results when infestations are low to moderate in scale. Application rates are 1-2 quarts of product per 100 gallons of spray solution, and it should not be applied with surfactants or via any type of irrigation system. Tank mixing with other pesticides is allowed. Maximum allowed spray volumes can range from 150 to 600 gallons of spray solution/acre, depending on the crop.

Human Health Assessment: Farnesol and nerolidol are classified as Toxicity Category IV for acute oral toxicity and Category III for acute dermal toxicity, primary eye irritation, and primary dermal irritation. The lack of toxicological endpoints observed in rat studies resulted in no dose response assessments being required. The chemicals themselves are categorized as Toxicity Category II for acute inhalation toxicity. However, acute studies performed on end-product Biomite determined it to be Category IV for inhalation toxicity and thus respirator language was not required on the label for this product. EPA notes that any new products proposed in the future will need to consider the ingredients' acute inhalation toxicity rating. Both ingredients by themselves are dermal sensitizers, though Biomite was not found to be due to the low amounts of the active ingredients present. Biomite is Category III for acute oral toxicity, based on the rat LD50.

No developmental toxicity studies were required since farnesol and nerolidol are mite parapheromones, which are not expected to have any activity in mammals. Neither is known to be a mutagen in mammals nor chemically related to known mutagens.

The extremely low amounts from label use of this product have been determined to pose no significant exposure to humans. Therefore, based on lack of developmental toxicity, mutagenicity, and immunotoxicity evidence in mammals, minimal potential for exposure, and prior approvals for uses in and on food by the EPA, FDA, and WHO, these ingredients are not considered developmental toxicants.

Little or no residue is expected in or on food or feed commodities. Furthermore, farnesol and nerolidol are listed by FDA as GRAS substances (Generally Recognized As Safe). The FDA has classified both as food additives, and food tolerance exemptions for these ingredients have been in effect since 1987. Biomite has been registered federally since 2004 and no dietary issues have emerged.

The intended uses of farnesol and nerolidol are agricultural or professional and there will be no residential, school, or daycare exposure. Significant occupational exposure to the active ingredients in Biomite are not expected and label PPE have been determined to be sufficiently protective. Therefore, there are no residential or occupational risks of concern for humans.

Environmental Risk Assessment: EPA states that there are no known effects on terrestrial wildlife when the products are used in accordance with approved labeling. Farnesol and nerolidol act by a non-toxic mode of action and are only attractive to three specific mite groups.

Estimated residue levels for Biomite on fruit, assuming six applications and no field dissipation, were ~0.7 ppm, three orders of magnitude below avian acute and chronic dietary toxicity values. No risks to birds have been found.

The lowest aquatic organism toxicity value was 1.8 ppm, which is 1000x higher than the maximum modeled runoff concentrations. EPA anticipates no adverse effects to non-target plants or insects as both compounds are already found naturally in many plants. Farnesol and nerolidol are extremely volatile and undergo rapid biodegradation in soil and water, which makes mobility via runoff or soil movement unlikely to significantly expose non-target organisms. No ecological effects incidents have been reported to date. In sum, no unreasonable adverse effects to the environment are expected from label use of these compounds.

The agency has made a “No Effect” determination under the Endangered Species Act (ESA) for all listed endangered and threatened aquatic or terrestrial organisms, as well as designated critical habitats. No further analysis of potential risks to endangered or threatened species is deemed warranted unless relevant information is obtained during the re-registration review process.

Neither ingredient has undergone endocrine disruptor screening (via the EDSP), so in the 2021 Interim Registration Review Decision EPA has made no human health or environmental safety findings associated with that program. However, the agency will make an EDSP determination in the final registration decision.

Nerolidol and farnesol do not meet the criteria for being classified as potential groundwater contaminants in Massachusetts.

Motion: that the Pesticide Board Subcommittee approve the product registration for Biomite, EPA Reg. No. 70506-610, containing the new active ingredients nerolidol and farnesol, which have never before been registered in Massachusetts.

Moved: R. Berman
Second: T. LaScola

Discussion: None
In Favor: M. Moore, T. LaScola, N. Keleher, R. Berman
Opposed: None
Abstained: None

C. NEW BUSINESS

There was no new business brought forward.

D. ADJOURN

Motion: To adjourn the February 20, 2024, Subcommittee Meeting.
Moved: T. LaScola
Second: M. Moore
In Favor: M. Moore, T. LaScola, N. Keleher, R. Berman
Opposed: None