

US EPA ARCHIVE DOCUMENT

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MEMORANDUM

SUBJECT: Review of Requests by Oregon (01-OR-04) [Barcode: D271072 to use Pendimethalin (Prowl, AI: 108501) to Control Kochia and Redroot Pigweed on Mint

FROM: James G. Saulmon, Botanist
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TO: Libby Pemberton
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Conclusion:

We have reviewed the request by Oregon, for an emergency exemption to use pendimethalin on mint to control kochia and redroot pigweed. We find the situation in Oregon to be nonroutine. We also find little change in the weed control situation for kochia and redroot pigweed. That is, mint growers did not have adequate control of kochia and redroot pigweed in the past using registered herbicides. They currently still do not have adequate control of kochia and redroot pigweed. There is, is a tolerance for pyridate on mint; that crop is not currently on pyridate product labels and therefore is not available for use.

Biological Aspects:

We agree with the conclusions which BEAD reached in the previous review of the Sect. 18 request for pendimethalin use on mint grown in OR. As mentioned above, mint growers in this state are likely to continue to experience significant yield and quality losses in 2001 without pendimethalin. Due to weed resistance to registered herbicides like terbacil, significant economic losses are expected using currently available alternative controls. There is information from Rocky Lundy that suggests that even if pyridate were registered, it alone would not provide adequate control of kochia and redroot pigweed.

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CONCURRENCES							
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Economic Aspects:

In the application for the section 18, the state includes five years of historical data together with an analysis of the impact of kochia and redroot pigweed on net revenue without the use of pendimethalin. The predicted 35% yield loss together with a \$3.60 per pound price (quality) decrease estimate in year 2001 due to kochia and redroot pigweed without the use of pendimethalin, would cause Oregon 2001 mint to fall below its recent historical minimum, thus indicating affected growers would suffer significant economic losses.

The 35% yield loss claimed if no herbicide is used is reasonable on the basis of the data cited. Because the efficacy of a post emergence herbicide is sensitive to weed height at time of treatment, an application cannot always be made at the optimum time, and results may be varied. Therefore we are unable to quantify the expected yield loss if pyridate is used.

Expert Opinion

Expert opinion from Rocky Lundy, Executive Director, Mint Industry Research Council informs us that if and/or when pyridate is registered for use on mint, it will be used to control broadleaf weeds, including kochia and redroot pigweed. If pyridate were used to control kochia and pigweed without the use of pendimethalin, the yield loss would still exist even though it would not be as high as without any control at all. This would be due to several factors. Due to crop rotation, fear of phytotoxicity, environmental conditions such as weather etc., not all mint growers and mint acres are treated with just pyridate or prowl. Some acres are treated with prowl (pre-emergent) in dormant mint only, some would be treated with just pyridate (post emergent weeds), some with prowl and pyridate and some acres would not be treated with either prowl or pyridate.

Weeds in mint unlike other crops not only reduce the yield, but reduce the quality of the mint oil since they are distilled with the mint hay. In today's market which is at an all time low, the weedy oil is not salable. Research does show yield loss from weeds in mint treated with pyridate only. Prowl on the other hand is needed for this emergency beginning Feb.1 before the mint and weed seeds break dormancy.

Expert Opinion From Dr. Carol Mallory-Smith, Department of Crop and Soil Science, Oregon State University informs us that there are no effective, economically viable means of controlling kochia and redroot pigweed in mint. Populations of these weeds have reached economically devastating levels. Pyridate will control these weeds postemergence. However, experience with pyridate and pendimethalin shows that a preemergence application of pendimethalin followed by postemergence control with pyridate will provide better control. Control with pyridate in Eastern Oregon has had mixed results.

File name: f/user/share/sec-18/reviews/01-0R-04