

August 30, 2024

Ms. Anne Overstreet
Director
Pesticide Re-Evaluation Division
Office of Pesticide Programs
Environmental Protection Agency
1200 Pennsylvania Ave., NW
Washington, DC 20460

Submitted electronically via Federal eRulemaking Portal

**RE: Pesticide Registration Review: Proposed Decisions for Several Pesticides
(Dimethoate) (EPA-HQ-OPP-2009-0059-0075)**

Dear Director Overstreet,

As stakeholder groups representing farmers, retailers, co-ops, manufacturers, and other stakeholders, we write to comment on the proposed interim decision (PID) for dimethoate (EPA-HQ-OPP-2009-0059-0075). Dimethoate is a vital insecticidal tool for many U.S. crops and non-agriculture uses. We have great concern with EPA's proposal to restrict or terminate many important uses of dimethoate based use of overly conservative, unrefined Tier 1 models to determine ecological risks of dimethoate. Even more concerning is that this is the sole justification for proposing to curb or terminate uses, as EPA has determined that there are no human health risks of concern for dimethoate based on the Agency's revised human health risk assessment. As EPA advances its registration review effort, we urge the Agency to retain numerous existing uses and benefits of dimethoate, and to use more appropriate higher tiered ecological models and real-world data to more appropriately assess potential risks.

Uses and Benefits of Dimethoate

Insect pests can cause significant damage or even total crop loss if not quickly and effectively managed. Dimethoate has numerous important and critical uses, and can be an effective, affordable option for helping to control insect pests on numerous crops. These include controlling aphids in asparagus, which can inflict significant yield loss or plant death if not controlled.¹ Dimethoate also has critical uses in controlling numerous insect pests, including aphids, whiteflies, lygus bugs, and other pests in fresh and dry beans and pulses, which can inflict double-digit yield loss² and transmit secondary viruses, inflicting further yield loss.³ In wheat, dimethoate can help to control aphids (greenbugs), which can inflict direct yield losses of 35-40 percent and,

¹ Szendrei, Zsafia, and Alan Schrieber. Michigan State University-Extension, Washington State Asparagus Commission. September 14, 2011. *Check your asparagus field for aphids*. https://www.canr.msu.edu/news/check_your_asparagus_field_for_aphids

² Bogdan, Jennifer. Saskatchewan Pulse Growers. April 2023. *Aphids in Pulse Crops*. <https://saskpulse.com/resources/aphids-in-pulse-crops/>

³ Hartl, Tyler, Vivek Srivastava, Sean Prager, and Tyler Wist. March 18, 2024. "Evaluating climate change scenarios on global pea aphid habitat suitability using species distribution models." *Climate Change Ecology*. Vol. 7. <https://www.sciencedirect.com/science/article/pii/S2666900524000029>

like in beans and pulses, can also transmit secondary viruses.⁴ Similar to these, there are important uses in potatoes, citrus, tomatoes, sorghum, soybeans, cotton, sunflowers, Christmas trees, and other crops where dimethoate offers significant protective benefits.

It is important to note the uses alone are only part of the value in retaining this product. Dimethoate also plays an important role in resistance management (RM) and integrated pest management (IPM) strategies. Dimethoate is an organophosphate (OP) with a 1B insecticidal mode of action (MOA). Currently, many of the crops and non-agricultural uses described above have access to few or no other OP tools with this MOA. Individual pests may be able to develop resistance to a single MOA, however it is unlikely they will have resistance to multiple. By mixing insecticides with multiple MOAs, pesticide users can prevent individual pests with resistance to one MOA from reproducing and propagating that resistance throughout an entire pest population. However, by proposing to eliminate some crop uses of dimethoate, as would result from the PID, EPA would remove a vital tool with a unique MOA many farmers and other pesticide users can mix with other products to manage resistance pressures, accelerating resistance to other remaining insecticidal tools. With some pests, we are already observing these emerging pressures against other insecticidal product classes, such as pyrethroids.⁵

Dimethoate also serves as a tool for IPM strategies. Farmers and other pesticide users carefully manage the use of insecticides, as they risk increasing operational costs and pest resistance. Before using insecticides, growers and other users often use multiple IPM tactics to suppress insect spread or damage, such as scouting fields to ensure pests do not reach economically-damaging thresholds; properly draining or maintaining fields to keep plants healthy and reduce the risk of insect infestation or damage; when possible, maintaining beneficial species as a biocontrol for pests; minimizing overwinter habitat for insect pests; among other methods. However, insecticides, like dimethoate, are sometimes necessary and can help knock down insect pest outbreaks before they can spread to other fields or throughout a region. By curbing or removing dimethoate as a tool for some crops, it places greater pressure on other components of IPM strategies, increasing the likelihood of their failure and the need that other farmers and operations will require insecticide control tools. Furthermore, by losing a broader spectrum tool, like dimethoate, users may need to replace it with more than one other insecticide to control the same number of pests, increasing the total volumes of pesticidal active ingredient being used.

Dimethoate has numerous immediate benefits for farmers and other pesticide users, including controlling pests for which there may be few other effective management tools. However, dimethoate also offers other medium- to longer-term benefits through enhancing RM and IPM strategies, including preserving the efficacy of remaining insecticidal tools for users. Collectively, we estimate that these benefits are in the tens to hundreds of millions of dollars annually for farmers and non-agricultural users, which would be lost if EPA curbs or ends uses of dimethoate.

⁴ Kieckhefer, R.W., and J.L. Gellner. March 1, 1992. "Yield Losses in Winter Wheat Caused by Low-Density Cereal Aphid Populations." *Agronomy Journal*. Vol. 84, Iss. 2. P. 180-183. <https://acsess.onlinelibrary.wiley.com/doi/10.2134/agronj1992.00021962008400020011x>

⁵ Brown, Sebe. Louisiana State University-Ag Center. August 10, 2012. *Soybean Loopers and Redbanded Stink bugs in Soybeans*. <https://www.lsuagcenter.com/profiles/truffin/articles/page1567699441320>

Risk Assessment and PID Concerns

We are greatly concerned with the approach EPA has taken with its ecological assessment that has led the Agency to conclude uses should be curbed or eliminated, especially given the EPA did not identify any risks of concern in the revised human health risk assessment for dimethoate.

Regarding the ecological risk assessment, we are troubled that EPA is using unrefined Tier 1 ecological models designed for screening purposes to propose final regulatory outcomes.

Regarding Tier 1 models, EPA has stated:

In EPA's standard risk assessment framework, a tiered process is followed, which starts with a conservative screening risk assessment (Tier 1) to provide an estimate of the potential ecological risks associated with a pesticide use on a national or regional scale. A Tier 1 risk assessment allows for a conservative assessment to be generated quickly without exhausting human and technical resources in the process. A Tier 1 assessment has tradeoffs, such that it can overestimate the potential effects to individual species and habitats, and it is often not designed for smaller geographic scales.... refinements [have] enabled EPA to determine the potential effects to listed species and designated CH with higher confidence than the Tier 1 assessment would provide.⁶

By EPA's own attestation, Tier 1 models are conservative and designed to overstate ecological risks, which in this case has also led EPA to conclude the need to restrict or eliminate uses of dimethoate. We appreciate Tier 1 models can serve as an easy, high-level tool to screen for general risk. However, when tens to hundreds of millions of dollars of benefits are on the line, should EPA determine that an unreasonable risk allegedly exists using these conservative screening tools, the proper response and EPA's standard protocol should be to conduct a more thorough, higher tiered assessment to reduce the uncertainty as to whether that potential risk persists at more detailed levels.

The technical registrants have advised EPA similarly in previous comments in this docket that higher tiered assessments should be conducted, even offering refinements and data to alleviate EPA's workload and resources. Concerningly, in its response to comments, EPA spurned these recommendations without sufficient explanation as to why the Agency is arbitrarily choosing not to take a more refined approach to its risk assessment, using the best science and data available to the Agency, and verify whether genuine ecological risks exist. We strongly disagree with EPA's choice on this matter and advise the Agency to reconsider its approach.

Some overly conservative assumptions EPA has made could be easily refined, including using real-world usage data available to the Agency from multiple reliable data sources, including Kynetec USA, Inc., USDA, the California Department of Pesticide Regulation, among others. In its risk assessments, EPA assumes pesticide users and applicators are making the maximum number of dimethoate applications at the maximum application rate over the minimum reapplication period permitted by the label.⁷ These conservative assumptions not only drastically inflate ecological risks

⁶ Farruggia, Frank T. U.S. Environmental Protection Agency. Office of Chemical Safety and Pollution Prevention. March 10, 2023. 2,4-D Choline and Glyphosate Dimethylammonium: Tier 3 Refinement of 2,4-D Runoff Exposure to Wetland Plants and Revised Effects Determinations for Federally Listed Species for the Use of Enlist One and Enlist Duo on Genetically-Modified Enlist-Tolerant Cotton, Corn, and Soybean. P. 4. <https://www.regulations.gov/document/EPAHQ-OPP-2021-0957-0034>

⁷ Yingling, Hannah, José Meléndez, and Keith Sappington. U.S. Environmental Protection Agency. Office of Chemical Safety and Pollution Prevention. Environmental Fate and Effects Division. September 17, 2015. *Registration Review* -

but disagree with the real-world data provided by the above data sources as to how pesticide users actually use these products.

For example, the usage data EPA has reported in this docket derived from Kynetec data demonstrates an average annual usage rate of dimethoate on dry beans/peas from 2017-2021 of 0.39-.042 lbs./acre, with an annual number of applications of 1.0-1.2 annually.⁸ However, in its ecological risk assessment, EPA assumes dry bean/pea growers are applying 2.0 applications at a rate of 1.0 lbs./acre annually—a rate of more than double the actual annual average reflected by usage data.⁹ Similarly, the average annual usage rate from 2017-2021 for alfalfa based on Kynetec data was reported at 0.43 lbs./acre, with an average of 1.2 applications.¹⁰ Yet, EPA assumes in its ecological risk assessment that alfalfa farmers are applying 3.0 applications at a rate of 1.5 lbs./acre annually—more than three times the rate these growers are actually applying.¹¹ These assumptions have a significant impact in overstating predicted risks in the models.

Regrettably, the overly conservative approach EPA has taken with its ecological risk assessment greatly overstates risks and has led the Agency to erroneously conclude uses must be restricted or terminated to mitigate risks. Again, we disagree, and advise EPA to work with registrants to conduct more refined assessments where it believes risks may exist to confirm their veracity.

Obligation to Modify Uses as Necessary

Even if risks of concern continue to persist following higher tiered assessments, EPA can make modifications to retain uses. Even in this PID, EPA identified potential continued risks of concern to bees following a Tier 3 assessment and concluded that warning/best management practices language should be included on the label to mitigate these risks. We support this outcome and the process by which EPA came to this conclusion. EPA can and should take a similar approach verifying and mitigating existing risks before concluding uses containing millions of dollars in benefits should be terminated. In fact, we contend EPA has a legal obligation to take this collaborative approach. In two relatively recent instances with carbofuran and chlorpyrifos, EPA's actions were found by federal courts to be in contravention to the Administrative Procedure Act when the Agency opted to revoke all tolerances of those two active ingredients (effectively ending product uses), despite that EPA had evidence that at least some uses and tolerances could be safely maintained.^{12,13}

Preliminary Ecological Risk Assessment for Dimethoate (PC Code 035001; DP Barcode D4211I7). P. 88.
<https://www.regulations.gov/document/EPA-HQ-OPP-2009-0059-0079>.

⁸ Karn, Elizabeth, Andrew Lee, Brett Gelso, and Lindsey Hendrick. U.S. Environmental Protection Agency. Office of Chemical Safety and Pollution Prevention. December 19, 2023. *Assessment of Dimethoate (PC Code 035001) Usage, Benefits, and Impacts of Potential Mitigation in Certain Legumes: Dry Beans/Peas, Fresh Beans, Fresh Peas, and Fresh Lima Beans*. P. 6. <https://www.regulations.gov/document/EPA-HQ-OPP-2009-0059-0064>

⁹ Yingling, Hannah, José Meléndez, and Keith Sappington. *Registration Review - Preliminary Ecological Risk Assessment for Dimethoate*. P. 11.

¹⁰ Mallampalli, Nikhil, Brett Gelso, Andrew Lee, and Lindsey Hendrick. U.S. Environmental Protection Agency. Office of Chemical Safety and Pollution Prevention. December 21, 2023. *Assessment of Dimethoate (PC Code 035001) Usage, Benefits, and Impacts of Potential Mitigation in Alfalfa Grown for Hay or Seed*. P. 7.
<https://www.regulations.gov/document/EPA-HQ-OPP-2009-0059-0060>

¹¹ Yingling, Hannah, José Meléndez, and Keith Sappington. *Registration Review - Preliminary Ecological Risk Assessment for Dimethoate*. P. 11.

¹² Red River Valley Sugarbeet Growers Association v. Regan. No. 22-1422. (8th Cir., 2023)

¹³ National Corn Growers Association v. EPA. 613 F.3d. (D.C. Cir., 2010)

In the most recent ruling regarding the effective ban on chlorpyrifos use, but considering the previous ruling on carbofuran, the Eighth Circuit Court of Appeals wrote: “Consider carbofuran.... The EPA discovered the aggregate exposure was ‘above [its] level of concern,’ so it revoked all tolerances, including some that agricultural groups urged it to retain ‘if all else failed’.... The D.C. Circuit concluded that it was arbitrary and capricious for the EPA to cancel them all when it had ‘acknowledge[d] that exposure’ from some of them ‘[wa]s safe’... The takeaway is that the EPA must consider arguments that less than a full ban would do.”¹⁴ Likewise, we do not believe it is appropriate for EPA to consider significantly restricting or banning uses of an important product like dimethoate without first verifying these ecological risks genuinely exist, and then seeking to revise existing uses to address the Agency’s concerns.

Conclusion

Dimethoate is an important tool for many U.S. farmers and other users. It is relatively affordable, effective, and is a vital component to the insect management strategy of thousands of farmers and businesses across the country. We are greatly concerned EPA is arbitrarily proposing to curtail or end uses based on overly conservative ecological models intended for risk screening without doing its due diligence to verify that risks genuinely exist by using higher tiered modeling and using real-world data available to the Agency. This is even more troubling given that it is the sole justification for restricting uses, as EPA did not identify any risks of concern from the Agency’s revised human health risk assessment. Further, should risks of concern continue to exist following higher tiered assessments, we believe EPA has an obligation to work with stakeholders and technical registrants to revise uses to address these risks before proposing to eliminate them. We stand ready to assist EPA in this task given the importance of dimethoate to our organizations.

Sincerely,

Agricultural Retailers Association
American Farm Bureau Federation
American Soybean Association
American Pulse Association
California Citrus Mutual
California Specialty Crops Council
California Tomato Growers Association
Council of Producers and Distributors of Agrotechnology
Florida Citrus Mutual
International Fresh Produce Association
Michigan Asparagus Association
National Agricultural Aviation Association
National Asparagus Council
National Association of Wheat Growers
National Christmas Tree Association
National Council of Farmer Cooperatives
National Pecan Federation
National Potato Council
National Sunflower Association

¹⁴ Red River Valley Sugarbeet Growers Association v. Regan.

Nebraska Dry Bean Commission
Northern Pulse Growers Association
Northarvest Bean Growers Association
Texas Citrus Mutual
USA Dry Pea & Lentil Council
U.S. Dry Bean Council
U.S. Pea & Lentil Trade Association
Western Pulse Growers Association