

October 7, 2022

Ms. Mary Reaves, Director
Office of Pesticide Programs Pesticide Re-Evaluation Division
United States Environmental Protection Agency
Submitted via www.regulations.gov

Re: Pesticide Registration Review: Atrazine Proposed Revision to Interim Registration Review, Docket No. EPA-HQ-OPP-2013-0266

Dear Ms. Reaves,

On behalf of Michigan Farm Bureau, thank you for the opportunity to submit comments on the Pesticide Registration Review: Atrazine Proposed Revision to Interim Registration Review, Docket No. EPA-HQ-OPP-2013-0266. Michigan Farm Bureau is our state's largest farm organization, representing more than 40,000 farming families across Michigan who work diligently to adhere to regulations, use crop protection tools responsibly, and protect worker safety, environmental quality, and the communities in which they live and grow the second most diverse variety of food, fiber, and fuel in the country. With such a wide variety of agricultural products, Michigan farmers need access to safe, effective and cost-conscious crop protection tools to keep the quality of their products high, keep food affordable and abundant for people around the country and the world, and protect the soil, water, air, and habitats around us. We urge the U.S. Environmental Protection Agency (EPA) to not adopt its proposed aquatic ecosystem concentration equivalent level of concern (CE-LOC) of 3.4 parts per billion (ppb), and instead continue science-based work and evaluation of CE-LOCs based on valid and well-documented studies reviewed and supported by EPA's Science Advisory Panel (SAP) before proposing future changes to the current 15 ppb CE-LOC for this important tool.

Michigan is a highly diverse agricultural state, ranking third in the nation for Christmas tree production, harvesting more than 1.5 million trees annually on nearly 37,000 acres. Michigan farmers grow nearly 300 million bushels of corn on 2.5 million acres. Michigan also produces 86 million pounds of sweet corn on 8,500 acres. Combined with nearly 2,000 acres of sorghum production, more than 6,000 acres of sod, and nearly 1 million acres of wheat,¹ Michigan farmers provide food and agricultural products for the world. Farmers in Michigan and across the country depend on safe, reliable access to crop protection tools to support this production, and atrazine is an essential part of that production, used on well over half the acres growing all crops atrazine is labeled for as an effective, economical control for weeds and managing herbicide resistance as part of integrated pest management programs.

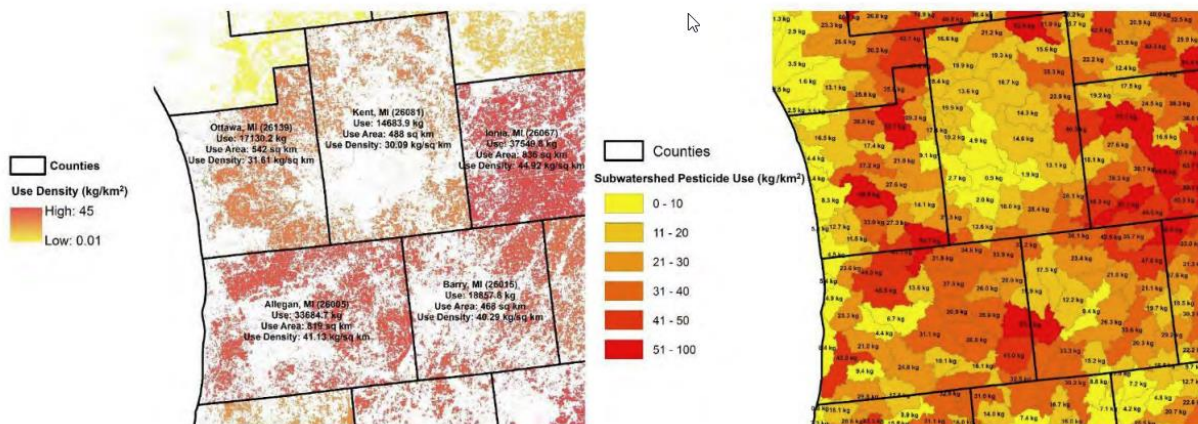
¹ 2019. Michigan Department of Agriculture and Rural Development. Michigan Agriculture Facts and Figures. Retrieved from: https://www.michigan.gov/-/media/Project/Websites/mdard/documents/business-development/mi_ag_facts_figures.pdf?rev=9ca97e867d0d40b392470b02a2694e50#:~:text=The%20state%20leads%20the%20nation,in%20diversity%20only%20to%20California.

2017. USDA National Agricultural Statistics Service, 2017 Census of Agriculture. Retrieved from: www.nass.usda.gov/AqCensus.

EPA's Proposal

In a memorandum released June 23, 2022 and registration review posted on July 5, 2022, EPA proposed to reconsider its Atrazine Registration Review for ecological risks to aquatic plant communities. The memorandum stated EPA was reevaluating its 2020 Interim Decision setting the CE-LOC for atrazine at 15 ppb after a petition challenging the interim registration was filed in the Ninth Circuit Court of Appeals. Claiming there was confusion over the CE-LOC and that setting the level of concern for aquatic plant species at 15 ppb was a policy decision not based on science, EPA stated it reevaluated previous studies on impacts to plant communities.² However, that reevaluation and dismissal of the 2020 Interim Decision does not take into account that the 15 ppb level of concern was based on analysis by EPA's SAP as well as feedback from stakeholders and scientists finding many flaws with the studies and modeling used to derive the lower 3.4 ppb level of concern. The SAP found that EPA's proposal to lower the level of concern for atrazine were based on invalid and incorrectly scored studies, and inappropriate weighting and evaluation of models. EPA itself noted no new information has been submitted to change that position. Therefore, to perform an internal review ending in an action to ignore the findings of its own expert panel is without merit.

Using a watershed regression model based on a tiny number of streams extrapolated out to every Hydrologic Unit Code (HUC) in the known atrazine use area, EPA assumed not only a projected atrazine concentration of pesticide in each waterway, but also the presence of and impact to sensitive plant communities in those waterways. For instance, Michigan had only *three* 60-day monitoring sites³ to determine a probability of exceeding CE-LOC concentrations in watersheds covering nearly 1.3 million acres of Michigan agricultural land. EPA assumed atrazine use in those watersheds using models where crops are grown and assuming a maximum application rate on every acre to determine application amounts in each of those watersheds:



(EPA, 2016).⁴

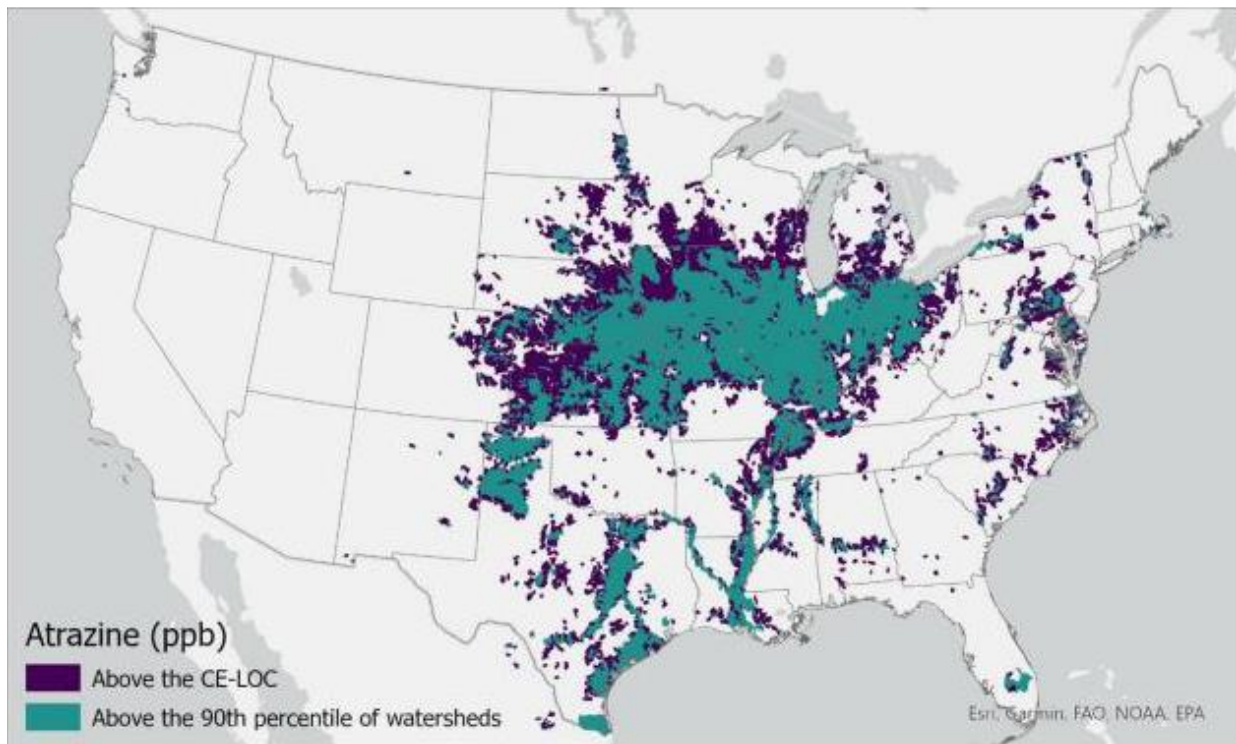
² 2022. EPA Proposed Revisions to the Atrazine Interim Registration Review Decision, Case Number 0062. Retrieved from: <https://www.regulations.gov/docket/EPA-HQ-OPP-2013-0266/document>.

³ 2016. EPA Refined Ecological Risk Assessment for Atrazine. Retrieved from: <https://www.regulations.gov/document/EPA-HQ-OPP-2013-0266-0315>.

⁴ 2016. EPA Refined Ecological Risk Assessment for Atrazine, p. 96. Retrieved from: <https://www.regulations.gov/document/EPA-HQ-OPP-2013-0266-0315>.

Combining recorded climate data with assumptions of runoff from those fields receiving estimated maximum rate application, EPA evaluated exposure to aquatic plants from a list of all aquatic plants found in North America, without determining if those species are present in the areas where atrazine was expected to run off into waterways and assuming that the greater sensitivity of plants to atrazine would therefore produce a level of concern also protective of animal species. Further, many of the studies considered as part of the modeling did not even identify which species were present or affected by given concentrations of atrazine. Despite acknowledging that if atrazine runs off into waterways it does so in highly variable concentrations due to rainfall intensity, slope, terrain, soil type and other factors and that populations of aquatic plants are highly variable in different habitats, EPA's process of assessing toxicity revolved around single-species toxicity studies conducted with acute exposure to represent the entire growth reduction rate for all plants in the watershed.⁵

All of this modeling and assumption together combined to form a level of concern for atrazine's potential to harm aquatic plant communities of 3.4 ppb and a range of the watersheds assumed to be exceeding that CE-LOC concentration. These were broken down into watersheds where atrazine concentrations were assumed to be between 3.4 and 9.8 ppb (shown in purple on the map below), and those where atrazine concentrations were assumed to be above 9.8 ppb (shown in teal on the map below):



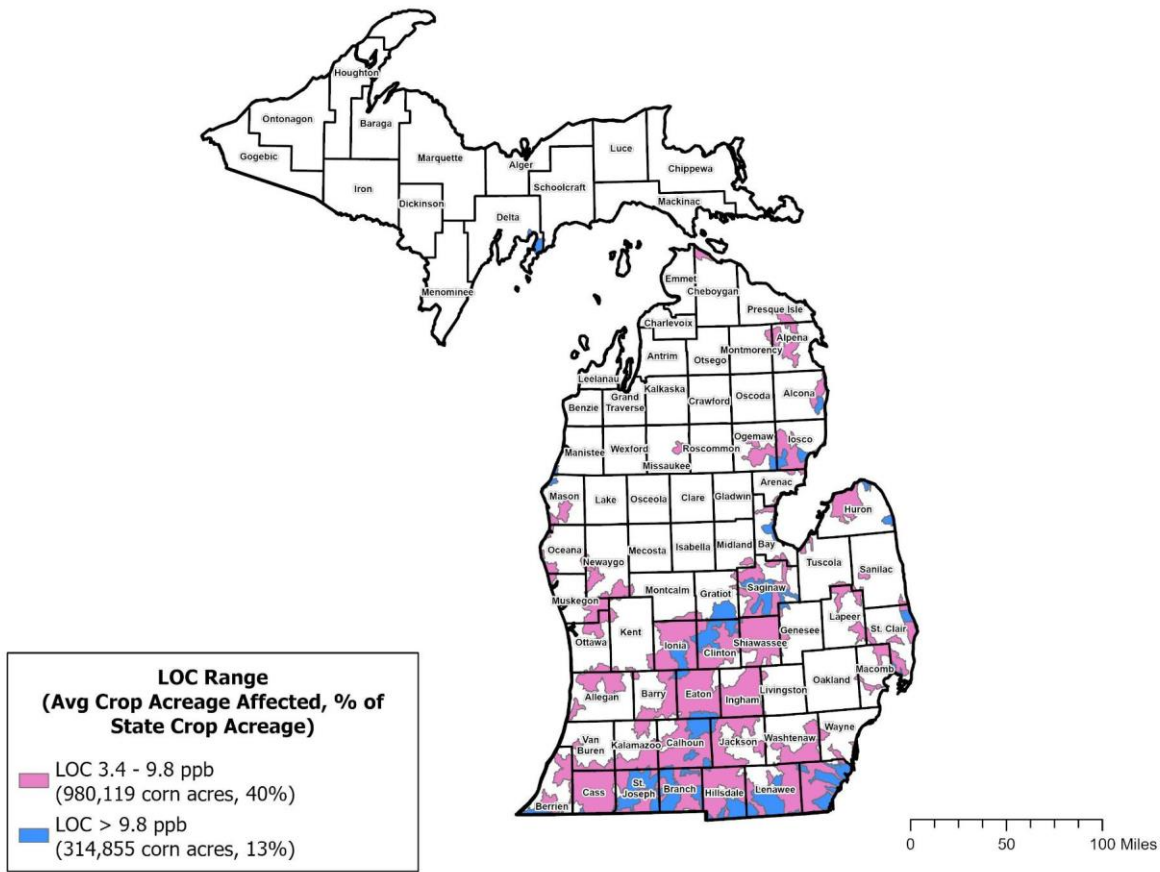
(Syngenta, 2022).⁶

⁵ 2016. EPA Refined Ecological Risk Assessment for Atrazine. Retrieved from: <https://www.regulations.gov/document/EPA-HQ-OPP-2013-0266-0315>.

⁶ 2022. Syngenta. Personal communication received from Mark White, July 28, 2022.

Looking closer at Michigan, the assumption of atrazine concentrations is much more visible, and is based on much less evidence even than the national average, considering the three monitoring sites were all based in the southeastern corner of the state:

WARP Average 60-day Upper 95% Prediction Interval (2006-2009)



(Syngenta, 2022).⁷

Once EPA had established the new, drastically lower CE-LOC for atrazine, it then proceeded to develop its proposal for registration, which includes both a reduction in allowed application rates, and a requirement for farmers to select practices from a “mitigation pick list” to incorporate along with their use. These proposed registration restrictions included for all atrazine uses:

- No application on saturated fields
- No application when it is raining or when rain is likely to occur in the next 48 hours
- No aerial application

Additionally for field corn, sweet corn, and sorghum growers, additional restrictions apply:

- Application rate will be reduced to 2 pounds per acre per year.
- Pick from the following mitigation measures:

⁷ 2022. Syngenta. Personal communication received from Mark White, July 28, 2022.

- No preemergence application
- Vegetated buffer strips
- Grassed waterways
- Field borders
- Irrigation water management
- Cover crops
- Contour buffer strips
- Contour farming
- Terrace farming
- Strip cropping
- Incorporation of atrazine applied
- No tillage

Sweet corn growers in the CE-LOC area would have to pick two of the mitigation measures. This would affect 6,998 acres (83% of Michigan’s production). Field corn and sorghum growers would have to pick two (if they’re in the lower concentration watersheds assumed to be 3.4 to 9.8 ppb of atrazine) to four (if they’re in the higher concentration watersheds above 9.8 ppb of atrazine) of the mitigation measures. This would affect 1.2 million acres of field corn – 52% of Michigan’s production, and 1,488 acres of sorghum (79% of Michigan’s production). Additionally, it is clear from the list that several of the practices would be difficult if not impossible to combine, such as no-pre-emergence application with no tillage, or requiring incorporation of applied atrazine with no tillage. With the restriction on aerial application for all users hampering use on Christmas trees and the proposal to pick practices such as contour or terrace farming that is not used in Michigan, the list of acceptable practices and methods for access to this important crop protection tool becomes very thin.

Impacts of EPA’s Proposal on Michigan Farmers

In another memorandum assessing benefits of atrazine and impacts of mitigation, EPA acknowledged atrazine is highly valuable to the farmers who use it, bringing an additional \$52 per acre in sweet corn, \$30 per acre in field corn, and \$16 per acre for sorghum, and its loss would reduce farmer operating revenue by more than 60% for field corn and 67% in sorghum. Sweet corn could suffer complete losses.⁸ In Michigan alone, this means access to atrazine can increase production revenue by up to \$75 million, and its loss could severely hamper or even eliminate more than 3.5 million acres of production of Christmas trees, field corn, sod, sorghum, sweet corn, and wheat.

The memorandum goes on to admit that lower application rates would reduce weed control and complicate herbicide resistance, making atrazine as well as other herbicides less effective, and that many of the proposed mitigation practices proposed in EPA’s pick list would also impact atrazine’s effectiveness, from preventing application and increasing weed infiltration due to rainfall restrictions, increasing costs from the inability to apply pre-emergence, increasing costs from tillage and damaging soil integrity from requiring incorporation, losing weed control from requiring reduced tillage where it is used particularly for sweet corn, raising production costs

⁸ 2022. EPA Assessment of the Benefits of Atrazine and the Impacts of Potential Mitigation for Field Corn, Sweet Corn, Sorghum, and Sugarcane, PC Code (080803). Retrieved from: <https://www.regulations.gov/docket/EPA-HQ-OPP-2013-0266/document>.

from requiring cover crops and irrigation water management, and decrease production area from requiring vegetative filter strips.⁹

An example of how difficult access to atrazine will become in this proposed registration can be seen from looking at a field corn grower in Michigan where concentration of atrazine in the local watershed is assumed to be above 9.8 ppb (any one of the farmers in the nearly 315,000 acres covered by the 9.8 ppb or above range in the CE-LOC). This farmer would be faced with difficult decisions. First, their annual application rate would be reduced to 2 pounds per acre per year, and they would be prohibited from aerial application, application on saturated fields, and application when rain is predicted in the next 48 hours. Most of southern Michigan averages near 140 days of precipitation spread over every month of the year, which dramatically lowers the number of acceptable days for application. The farmer would then be forced to pick four mitigation practices. Contour farming, terrace farming and contour buffers are rarely practiced in Michigan because of the limited number of places where slopes and topography make it an appropriate practice. This leaves:

- No preemergence application, which is difficult to impossible to combine with no tillage since tillage is important for farming systems that do not apply pre-emergence pesticides
- Vegetated buffer strips, field borders, strip cropping, or grassed waterways, which remove land from production and which are often duplicative of each other and therefore unable to be stacked (many field borders in southern Michigan are defined by waterways since Michigan depends on extensive surface and subsurface drainage to allow farming)
- Irrigation water management, which is not available to any farmer who does not irrigate (on average, only 20% of Michigan's agricultural land is in irrigated farms)¹⁰
- Cover crops, which requires significant additional expense and have questionable value as a deterrent for runoff of atrazine anyway when atrazine cannot be applied pre-emergence and has a short enough toxicity span in the environment that the soil and runoff benefits from cover crops would have limited if any effect on atrazine loss
- Incorporation of atrazine or no tillage, which is again difficult to combine with each other, so the farmer must choose one or the other

Atrazine's safety and effectiveness has been demonstrated by more than 7,000 scientific studies over its many years as an effective crop protection tool, so requiring these burdensome and expensive restrictions on farmers is not only damaging to their ability to continue farming, but is also unnecessary for environmental protection. Further, farmers have made huge strides in reducing erosion, nutrient loss, carbon loss, and water runoff from farm fields thanks to practices like reduced or no-till management. These practices will become more difficult to maintain if atrazine access is limited or effectively eliminated due to additional cost burdens or poor timing of those restrictions. Reduced tillage is made possible by the replacement of tillage and cultivation with safe and effective herbicides to control weeds, and the resulting soil health benefits are vital to protecting the quality of waterways from sedimentation or nutrient overloading.

⁹ 2022. EPA Assessment of the Benefits of Atrazine and the Impacts of Potential Mitigation for Field Corn, Sweet Corn, Sorghum, and Sugarcane, PC Code (080803). Retrieved from: <https://www.regulations.gov/docket/EPA-HQ-OPP-2013-0266/document>.

¹⁰ 2017. USDA National Agricultural Statistics Service, 2017 Census of Agriculture. Retrieved from: www.nass.usda.gov/AgCensus.

Conclusion

We urge EPA to remove its proposed registration requirements for atrazine and return the CE-LOC value for atrazine to 15 ppb. EPA should conduct future reviews of the registration of this product using well-established science, making use of the feedback and advice of its Science Advisory Panel, and using the extensive existing data for use as well as collecting actual data on waterway concentrations. Toxicity to aquatic plant species should be assessed according to actual risks to actual plants located in waterways where atrazine runoff actually occurs, and should take into account actual concentrations based on local conditions. CE-LOC values should be based on this well-established science and not on broad assumptions. If mitigation measures are considered for future registrations, EPA should collect and incorporate feedback from farmers to understand appropriate practices, where they are implemented, what practices can and cannot be combined, and make mitigation lists that make sense and are affordable for the growers who must implement them. Thank you for considering our comments. We are happy to discuss solutions further and look forward to EPA's reconsideration of the data it has collected. Please feel free to contact me with any questions.

Sincerely,



Laura A. Campbell
Senior Conservation and Regulatory Relations Specialist
Michigan Farm Bureau
Office: 517-679-5332; Cell: 517-420-7936
lcampbe@michfb.com
www.michiganfarmbureau.com