

MCFA

Minor Crop Farmer Alliance

Via Electronic Docket Submission <http://www.regulations.gov>

July 20, 2026

Amy Blankinship, Director
Ecological Fate and Effects Division
Office of Pesticide Programs
Environmental Protection Agency
1200 Pennsylvania Ave., N.W.
Washington, D.C. 20460

Re: Comments of the Minor Crop Farmer Alliance on the *Draft Fungicide Strategy to Reduce Exposure of Federally Listed Endangered and Threatened Species and Designated Critical Habitats from the Use of Conventional Agricultural Fungicides*.
Docket No. EPA-HQ-OPP-2026-2973.

Dear Ms. Blankenship:

These comments regarding the Environmental Protection Agency's ("Agency" or "EPA") *Draft Fungicide Strategy to Reduce Exposure of Federally Listed Endangered and Threatened Species and Designated Critical Habitats from the Use of Conventional Agricultural Fungicides* ("draft Strategy") are submitted on behalf of the Minor Crop Farmer Alliance ("MCFA") members and supporters.^{1,2}

MCFA is an alliance of national and regional organizations and individuals representing growers, shippers, packers, handlers, and processors of various agricultural commodities, including food, fiber, turfgrass, nursery and landscape crops. MCFA's members are extremely interested in the development and safe use of pest management tools including crop protection chemicals that are environmentally sound, safe for applicators, workers and the public, and do not represent an unreasonable adverse risk to humans and the environment, including non-target organisms such as pollinators, and endangered and threatened species. While our commodities are often called "minor crops" or "specialty crops," they contribute to the diverse, healthy and highly nutritious diets available for the global population, and to safe and aesthetic surroundings for our homes, schools, and places of business. These U.S. farmers grow more than 500 types of fruit, vegetable, tree nut, flower, ornamental nursery, and turfgrass crops in addition to the major bulk (row) commodity crops. Specialty crop production accounts for more than \$75 billion, or approximately 30% of total U.S. crop receipts.

¹ MCFA members appreciate the Agency extending the original comment period for 21 days, although, as recognized by the Agency, this is significantly less than the 90-days extension numerous stakeholders originally requested.

² MCFA appreciated the opportunity to comment on the previous ESA strategies. Not surprisingly, many of the issues associated with those previous strategies for which comments were provided, continue to be relevant to the draft Strategy. Consequently, we are incorporating by reference those previous comments in this comment. For the Agency's convenience, a copy of those comments is attached. This is not to suggest that progress has not been made on a host of issues. However, there are certain themes that continue to need additional attention (as well as some new issues) in the draft Strategy.

As recognized by the Agency, fungicides are widely used by and play an integral part in the disease management efforts of specialty crop growers.³ Overall, if finalized as proposed, the draft Strategy will have varying impacts on specialty growers throughout the country, ranging from being able to comply with the potential restrictions without significant adjustment of their agronomic practices to not being able to use their preferred fungicide because of additional restrictions resulting from an inability to feasibly accumulate the required runoff/erosion mitigation point totals or achieve the spray drift buffer reductions specified by the draft Strategy. Adverse impacts may also be experienced because the restrictions such as those involving the timing of applications may negate a grower's ability to use the fungicide to control target pests.⁴ Obviously, this could have significant negative economic consequences for their farm operations, although the extent of those impacts cannot be fully known until the draft Strategy is finalized and specific requirements are incorporated into affected fungicide product labels.

While this draft Strategy builds on the framework established by previous strategies, it introduces several key refinements. Unlike the plant-centric Herbicide Strategy and invertebrate-centric Insecticide Strategy, this draft Strategy explicitly evaluates population-level impacts on a broad range of vertebrates, including listed birds, mammals, fish, amphibians, and mussels. Furthermore, a key difference in this draft Strategy from the previous Strategies is this draft Strategy's inclusion of measures to protect species that may inhabit agricultural fields. The previous Strategies focused on off-field risks, to a large degree assuming that endangered plants and vertebrates were unlikely to be present in treated areas. While the expanded on-field species focus is unique to fungicides, the underlying methodologies for treated seeds, drift reducing agents, and usage data are inferred to carry over and influence future updates to both herbicide and insecticide frameworks.

Overview

The Agency is to be commended for continuing to build on the number of potential runoff/erosion mitigation options that may be available to an affected grower. Substantial progress has been made by the Agency on this issue. These options will help growers in addressing label conditions that ultimately apply to fungicide product labels because of the

³ According to data collected by the U.S. Department of Agriculture (USDA) through the Census of Agriculture, it is estimated that fungicides account for approximately 10% of the total agricultural acres treated with pesticides. This does not reflect non-agricultural use (i.e., homeowner use).

⁴ Weather can significantly impact the risk of fungal infection. Effective fungal management and control can require fungicide applications to occur during relatively tight time periods. Restrictions that delay fungicide applications or preclude the application of a necessary fungicide can lead to significant crop loss for the affected grower. In fashioning restrictions, the Agency needs to take this into account.

Agency requiring these mitigations either as part of the registration process for new chemicals or as an outcome of the registration review process.⁵

However, there are areas of the draft Strategy that warrant additional discussion and will be further discussed below. Briefly stated, these include:

- The need to refine the exposure modeling/assumptions,
- Consideration of adjuvant technology to help reduce drift,
- Seed treatments as an important fungicide delivery approach,
- Mitigations to help address buffers for airblast treatments,
- Refining pesticide use limitation areas (PULAs) and listed species maps, and
- Continuing need for educational and training outreach programs.

I. The need to refine the exposure modeling/assumptions.

As expressed in MCFA's comments on the prior draft strategies, it is believed that opportunities exist to refine exposure assessments including modeling and the assumptions used in those models.⁶ The Agency should strive wherever possible and appropriate to get away from using screening level assumptions. Some of the assumptions in the models being used are unrealistic and unduly conservative. For example, some models assume that a listed species feeds exclusively on commodities grown on treated fields which contain the maximum concentration of residues theoretically possible. The model does not consider the decline of residues. This makes the model's output less reliable and not reflective of real-world experience associated with the use of a fungicide. When reliable data from higher tiered studies such as mesocosm and microcosm studies, or field studies or actual monitoring data are available to help inform the Agency on residue persistence, thereby refining the exposure assessment, those data should be used. Likewise, available reliable information regarding a listed species, including their life cycle, feeding behavior and diet, should be incorporated by the Agency into its assessment models. In short, the goal should be to use the best scientific and commercial data available to help assure that conclusions from an exposure assessment are reliable and robust.⁷ Because fungicide usage patterns are highly regional, concentrated in areas with sufficient moisture and rainfall for fungal pressure, incorporating usage data would have more significant impacts on the draft Strategy's outcomes than it did for the Herbicide or Insecticide Strategies.

⁵ There is a concern that the Agency will be less inclined to revisit the application of the draft Strategy approaches regarding the need for mitigation in the context of an individual chemical review, whether involving an application for a new registration or an existing chemical. Consequently, the draft Strategy once finalized will have impacts on affected growers, although the timing of those impacts may be postponed until the conditions are applied to the registration of the fungicide they would like to use. As such, the Agency should, wherever possible, acknowledge that the parameters/conditions/assessments reflected in the draft Strategy are rebuttable based on reliable data in the context of any specific fungicide registration or registration review action.

⁶ The Agency is to be commended for recognizing that farm pond models significantly overestimate pesticide concentrations in waterways, and therefore, deciding it is appropriate to apply a 10-fold reduction on the concentration factor in moving waters.

⁷ It is understood that the registrant community through their representative associations will be including in their comments on the draft Strategy suggestions regarding modeling refinement opportunities. Additionally, the USDA has offered various refinements for the Agency's consideration. Given the substantial expertise these stakeholders have engaged in this issue, the MCFA strongly encourages the Agency to consider those comments and further engage on the appropriateness of adopting the suggested refinements.

It should also be noted that the overall assessment process could be enhanced by the Agency providing greater clarity regarding what constitutes “population level impacts.” The ESA strategies have been designed to avoid population level impacts on a listed species, rather than avoid impacts to an individual of a listed species. We believe that is the appropriate focus, to help avoid jeopardy of a species. However, it would be helpful for the Agency to provide clarity either by defining the term, or by specifying the parameters surrounding the use of the term.⁸

The Agency should incorporate further refinements into multiple components of the risk assessment to better quantify the potential for population-level impacts and the associated magnitude of reduction in exposure necessary for listed species protection, including:

- Appropriate use of toxicological effects endpoints and population-level models,
- Aquatic exposure modeling that explicitly accounts for geographically specific scenarios, Percent Cropped Area and Percent Crop Treated, and pesticide use in proximity to habitat,
- Use of higher tier risk assessment methods, including probabilistic analyses and quantitative weight of evidence methods, and
- Providing more technical details concerning the assumptions and analysis methods used throughout the draft Strategy to increase transparency to stakeholders.

II. Consideration of adjuvant technology to help reduce drift.

The Agency is to be commended for considering the incorporation of adjuvants as a spray drift mitigation option. As the Agency reviews possible adjuvants for use with specialty crop applications, it needs to be certain that such adjuvants do not adversely affect the specialty crop’s condition or quality. Some researchers have noted that certain oils can impact the quality of the specialty crop.

MCFA appreciates the Agency proposing significant spray drift reductions for use of certain oil emulsion drift reducing adjuvants for ground applications and for the use of certain guar gum at particular rates and spray volumes for ground applications. At a minimum, the final Strategy should reflect the adoption of these mitigation options. We continue to believe that such technology can be helpful in reducing spray drift. However, we encourage the Agency to reconsider the available data to determine whether it is sufficient to demonstrate that use of these adjuvants can also help reduce spray drift resulting from aerial applications. The manufacturers of those products believe that reliable data demonstrates their products’ effectiveness in controlling drift from such applications. If upon review, the Agency concurs, then those products should be included in the mitigation options.

⁸ We appreciate the complexity of assessing risk for listed species at the population level. Multiple tools and approaches (such as population modeling) already exist that can be used to assess effects at the population level. Population modeling was recommended by the National Academy of Sciences for endangered and threatened species risk assessments, which integrate species-specific life-history traits and their ecological interactions, and realistic exposure profiles are available for risk assessment purposes. Since species-specific models cannot be developed for each species in a reasonable timeframe, it is recommended that existing population models be used and adapted to become trait-based models.

The list of effective adjuvants should be expanded as much as possible. To that end, it would be helpful if the Agency could provide clear guidance/criteria regarding what data are needed to demonstrate the effectiveness of adjuvant products in minimizing drift. Then after reviewing such data, if it meets the Agency scientific standards, additional products and application methods can be approved for use by growers to reduce their spray drift buffers.

III. Seed treatments as an important fungicide delivery approach.

The availability of fungicide treated seeds is important in the agronomic practices of many growers. While many of them grow major crops (e.g., corn and soybeans), treated seeds are also used by some specialty crop growers (e.g. vegetable, sorghum, and sunflower growers). Its use helps avoid the potential in-field application of more fungicide products during the planting operation and during the growing season.

In the draft Strategy, the Agency indicates that it is considering whether additional action or restrictions are necessary for the handling of fungicide treated seeds. Some options are identified. The Agency recognizes that treated seeds fall within the treated article exemption.⁹ Whatever action the Agency decides to take in this area, clearly there is no need to disturb the regulatory approach it has followed under the exemption. That approach is authorized under the Federal Insecticide, Fungicide and Rodenticide Act, as amended (FIFRA). It recognizes that the active ingredient used in the treated seed has to have been extensively reviewed by the Agency, and based on extensive reliable scientific data, it has been determined to meet the conditions of registration including that it does not generally cause unreasonable adverse effects on the environment. The Agency's approach recognizes that the interstate distribution and use of treated seeds is also regulated by the U.S. Department of Agriculture (USDA) under the provisions of the Federal Seed Act. Under the USDA requirements, if a seed has been treated, its shipping container has to be labeled such that it discloses that the seed has been treated, provides the commonly accepted name of the chemical used to treat the seed, provides any appropriate cautionary statements to protect humans and other vertebrates concerning its use, and has a declaration of any process used in the treatment to protect the public. Regulations have been issued to implement these requirements. As EPA has repeatedly indicated, its assessment of the treating pesticide comprehensively addresses the use of and exposure to the treating pesticide and to the article that is permissibly treated and distributed, sold, and used consistent with labeling instructions. In short, the Agency is well within its authority to continue to address treated seeds within the treated article exemption.

Within the context of the draft Strategy, considering the agricultural practices used by growers in planting their treated seed, it is not clear how or the degree to which the listed species would be exposed to the fungicide such that population impacts to the listed species would occur (at least as it relates to listed species consuming the treated seed). In the planting phase, the treated seed is planted to depths of 1-6" and then covered with soil. The treated seeds are far more expensive than untreated seeds, so that growers take care to plant them. They do not waste them. While some treated seeds may be on the top of the soil, the quantity of those seeds is minimal.

⁹ Some third parties try to create the impression that because of the treated article exemption, the Agency is precluded from evaluating the potential environmental impacts of the active ingredient incorporated into the treated seed. This is obviously not correct.

Additionally, potential runoff from treated seed is a non-issue because of the minuscule amounts of fungicidal product that is applied to each seed. It is hard to see how these seeds would constitute a risk of population impacts on listed species.

It is recognized that many years ago, some third parties raised concerns regarding the potential coatings that were in use to detach from the seed during planting, with the resulting dust thereby potentially becoming available to non-target species. However, seed coating technologies have improved significantly since those early concerns were raised. Advances in polymers and other coating components improve adhesion of the seed treatment to the seed surface resulting in more uniform treatment application to the seed, stronger coating integrity and significantly reducing the risk of treated seed dust or dislodging of residues. In addition, dust-reducing lubricants are now regularly used to ease friction and further prevent coating dust-off.

IV. Mitigations to help address buffers for airblast treatments.

MCFA appreciates the progress that has been made on expanding mitigation options for growers since the initial herbicide draft strategy was proposed, particularly in addressing off-field transport through runoff or erosion. However, issues continue with the spray drift buffers, particularly for growers who use airblast delivery systems. It is believed the underlying drift modeling assumptions regarding airblast applications the Agency is using are not reflective of many applications particularly for orchard crops. The default scenario for orchard airblast applications the Agency apparently relies on is a sparse canopy that reflects young and/or dormant trees. This is not representative of the conditions for some orchard crops, such as citrus, which essentially are evergreen. Dense foliage is always present when a pesticide is applied. As such, the model's assumption results in a very conservative and unrealistic assessment of the potential for drift.

For some growers, particularly those who need to apply fungicides via airblast, the drift mitigations offered may not be practical or feasible. For example, while perhaps somewhat helpful for a very small grower or locations with small strips of farmland, for orchard crops, reducing the number of rows treated to substantially reduce the buffer zone is not generally practical. The mitigation does not ensure that the target pests have been effectively addressed in all the actual areas where the target pests reside. Similarly, reducing application rates can have its own unintended negative effects beyond unacceptable efficacy, on disrupting effective IPM programs, and facilitating pest resistance.

There are some potential mitigation options the Agency should consider applicable to the spray drift requirements involving airblast applications. These include for example:

- Providing buffer reductions to applications in orchards/vineyards that have normal or dense foliage, in contrast to the “sparse” canopy condition used in the AgDrift modeling.
- For airblast applications in orchards, it is common practice to direct two-thirds of the spray volume to the upper half of the tree and one-third at the lower half. According to the [University of Florida-IFAS Extension](#) it is possible to achieve effective coverage directing one-half of the spray into the upper half of the tree and one-half at the lower half of the tree, which can also result in less drift. The Agency should consider the UF-

IFAS Extension research and if substantiated, provide mitigation points for growers employing that application technique.

- Spray pressure plays a significant role in droplet size released from the nozzle. Ranges of 200 to 300 psi are typical operating pressures for many airblast sprayers. However, evidence suggests growers can achieve equal or better coverage at pressure rates between 100 to 175 psi.¹⁰ Reducing the spray pressure is not possible in all scenarios and for all airblast equipment, but, when possible, the air pressure reduction should achieve buffer reductions.
- Air-In Spraying – California has supported research showing that employing a second airblast sprayer blowing only air into an orchard and running parallel with the airblast sprayer in the inner rows reduces drift. See, *Spray drift mitigation using opposing synchronized air-blast sprayers* - Van Steenwyk, et al., 2020 - Pest Management Science - Wiley Online Library.
- For situations where there is not a dense or tall tree canopy, reducing the power take-off (PTO) speed of sprayers. Lowering the PTO speed reduces fan revolutions per minute (RPM), decreasing air volume and velocity that carry small, drift-prone droplets out of the target canopy. There are several ways of reducing PTO speed without affecting the overall speed of the tractor, including the use of the Gear Up, Throttle Down (GUTD) method. This technique maintains the tractor's travel speed by using a higher gear but lowers the engine RPM (thus the PTO speed). It dramatically reduces fan speed, minimizes off-target drift, and can also cut fuel consumption.

V. Refining pesticide use limitation areas (PULAs) and listed species maps.

In addition to refining the underlying risk assessments, EPA also needs to continue its efforts to refine the Pesticide Use Limitation Areas (PULAs), and applicable maps in conjunction with the Services. As the Agency recognized, these PULAs can be overbroad, thereby sweeping into the regulatory restrictions program growers whose farm operations are not reasonably likely to affect listed species or their designated critical habitats. Consequently, there will be little benefit to listed species from such overreach, while at the same time needlessly impacting millions of agricultural production acres. In view of the potential impacts to affected growers, the Agency should implement its labeling restrictions only after such refinements are performed.

VI. Continuing need for educational and training outreach programs

The Agency will need to continue to develop education and training outreach efforts with the agricultural community on various aspects related to the proposed mitigations and implementation of the draft Strategy once finalized. Its implementation will not be easy for affected growers.

The draft Strategy is complex. Stakeholders will need training regarding the implementation of its various aspects. As the Agency is aware, many in the agricultural community have little/no familiarity with Bulletins Live! Two (BLT). Affected growers will need to be trained in how

¹⁰ <https://ohioline.osu.edu/factsheet/fabe-535>

BLT operates as well as what records they need to maintain to address any questions that regulatory authorities might have regarding compliance with label requirements.

Everyone is interested in being able to show that the draft Strategy can be successful in protecting listed species as well as maintaining sufficient disease protection techniques and tools for specialty crop producers. It is not clear at this point, however, how disruptive implementing the draft Strategy and the overall ESA program might be, and any additional incurred costs would come at a bad economic time for farmers given all the other factors that are influencing and increasing input costs.

We applaud the Agency for continuing to develop various calculators to assist growers in determining compliance with the fungicide strategy once finalized. We fully support the Agency taking steps that can help an affected grower comply with the provisions of the program, as long as what is offered is straightforward and can be used practically by the grower community.

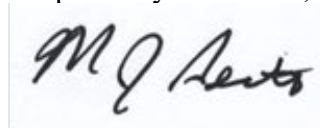
It is believed that it will take additional time, education, and training to implement an appropriate fungicide labeling program that recognizes the importance of minimizing the disruption to the affected agricultural community.

Conclusion

In summary, while representing significant improvement on the Agency's prior strategies, the draft Strategy still has the potential to negatively affect growers who use fungicides and additional refinements are needed. The Agency has a responsibility to conduct the appropriate analysis based on the best available scientific and commercial information to determine whether additional labeling mitigation measures are needed regarding the use of fungicides, i.e., whether such measures are necessary to assure that the pesticide use is not likely to jeopardize the existence of listed species or adversely modify its critical habitat, i.e., population directed impacts. While this is clearly a difficult and time-consuming task, once conducted it can lead to a program that is more rationally based.

MCFA appreciates the opportunity to continue to engage with the Agency in a constructive manner as it moves forward. Thank you for considering these comments.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "MJ Aerts", is enclosed within a light blue rectangular border.

Michael J. Aerts
Chair, MCFA Technical Committee