

**EPN Comments on Application by BASF
for a Pesticide Registration Allowing “Over-The-Top” Use of
Dicamba on Dicamba-Resistant Soybeans and Cotton**

Docket No.: EPA–HQ–OPP–2024–0154

July 2, 2024

The [Environmental Protection Network](https://www.environmentalprotectionnetwork.org) (EPN) harnesses the expertise of more than 650 former Environmental Protection Agency (EPA) career staff and confirmation-level appointees from Democratic and Republican administrations to provide the unique perspective of former regulators and scientists with decades of historical knowledge and subject matter expertise.

On June 4, 2024, EPA posted a notice providing an opportunity for public comment on an application by BASF seeking approval for a pesticide registration that would allow preplant, preemergence, or “over-the-top” (OTT) use of dicamba on dicamba-resistant cotton and soybean.

EPN previously wrote a letter to EPA¹ in which we set forth our concerns with dicamba registrations. While EPN appreciates the opportunity to address BASF’s new application, we continue to have significant concerns with the application. We think that EPA should either deny the proposed registration or impose an additional condition on the registration requiring BASF to provide money to fund an independently administered program that fully compensates anyone who sustains injury as a result of off-target movement of dicamba. We offer the following additional comments.

1. History of Dicamba Registrations

The first herbicide containing dicamba was registered in the United States in 1967. Dicamba herbicides can kill or damage a wide variety of broadleaf plants — not only weeds but also desirable non-target plants, including sensitive crops. Dicamba is also a highly volatile chemical; after application to soil or vegetation, it can volatilize, moving easily and rapidly as a vapor into the air where it can be transported considerable distances by wind currents. Once a sufficient amount of this vapor contacts a sensitive plant, it may cause visible symptoms or damage that may slow the growth of or kill the plant.

Dicamba was initially approved for use on a variety of food and feed crops, as well as for golf courses, turf, and similar-use sites. Because of the vulnerability of soybeans and cotton to dicamba, the pesticide’s allowed use on soybeans and cotton was limited to pre-plant and pre-harvest applications. Because pre-plant applications of dicamba were made primarily before sensitive non-target crops emerged, the offsite movement of volatile dicamba residues was not a significant issue.

In 2016, following the U.S. Department of Agriculture’s (USDA’s) regulatory approval of genetically-engineered (GE) soybeans and cotton that are resistant to dicamba, the EPA granted two-year conditional registrations for several dicamba products that allowed the use of the pesticide for weed control over the canopies of soybeans and cotton that were resistant to dicamba. Such applications over the canopies of the crops are referred to in these comments as OTT use. The stated benefit of use of dicamba

¹ <https://www.environmentalprotectionnetwork.org/letter-on-dicamba/>

on resistant soybeans and cotton was to provide growers with a resistance management tool, particularly as an alternative to glyphosate herbicides, because of significant weed resistance to that compound.

In approving the use of dicamba on widely-grown field crops, EPA was mindful of dicamba's volatility and the potential for the chemical to move off-site after application. To address this issue, pesticide registrants added ingredients to their formulations that were believed to significantly reduce the potential for volatilization. EPA also limited the initial registration to two years so that the agency could revise or terminate the OTT use of dicamba if off-site movement proved to be a problem.

Sadly, off-site movement of dicamba has proved to be a significant, continuing problem. In 2017 and 2018, state lead agencies and growers reported widespread and costly damage to tens of thousands of acres of non-resistant soybean and cotton crops and other crops and plants. Despite these reports, in October 2018, EPA approved additional two-year conditional registrations for three "reduced-volatility" dicamba products with some modestly more stringent restrictions on use. Neither the new formulations nor the additional use restrictions appeared to have much of an impact on off-site movement, and state lead agencies have continued to receive reports of damage to crops and plants not engineered to be resistant to dicamba.

Additional registrations allowing OTT use of dicamba were issued in subsequent years. Many of these featured additional restrictions aimed at reducing off-site movement, including but not limited to seasonal cut-off dates that prohibited use of dicamba on soybean or cotton in particular areas after particular calendar dates (hot weather is believed to be a factor that increases the likelihood of volatility). The OTT use is also now a "restricted use" under section 3(d) of the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), which requires that applications be performed by or under the supervision of trained, certified applicators. While EPN cannot say that these restrictions have not resulted in any lessening of off-site movement (and related damage), it does seem apparent that these restrictions have not provided the desired or necessary protection for those people who have been, and continue to be, harmed economically by off-site movement of dicamba.

2. Litigation Challenging Dicamba Registrations

Perhaps not surprisingly, EPA's registration actions allowing OTT use of dicamba have been challenged in a number of legal actions. In January 2019, the National Family Farm Coalition, Center for Food Safety, Center for Biological Diversity, and Pesticide Action Network North America filed suit against EPA to challenge the 2018 dicamba OTT registrations, arguing that the EPA's 2018 dicamba decision violated FIFRA and the Endangered Species Act (ESA). On June 3, 2020, the U.S. Court of Appeals for the Ninth Circuit ruled that EPA's 2018 conditional new use registrations of dicamba did violate FIFRA and vacated the registrations. (Because the registrations were vacated under FIFRA, the Court did not rule on whether the agency violated ESA.) The court's decision stated that "EPA substantially understated the risks it acknowledged, and it entirely failed to acknowledge other risks." The court's decision also noted that labeling restrictions were difficult or even impossible to follow.

EPA subsequently issued new dicamba OTT registrations, which were vacated by a District Court in Arizona on February 5, 2024. In that decision, the court seemed to express some skepticism about the appropriateness of the registrations under FIFRA, but invalidated the registrations because of a procedural infirmity. The court determined that EPA was required, but had failed, to provide an opportunity for notice and comment before making a decision on the applications.

3. Legal Standard for Registration

Under Sections 3(c)(5) and 3(c)(7) of FIFRA, EPA cannot grant an application for pesticide registration unless, among other things, the agency determines that the use of the pesticide will not result in “unreasonable adverse effects on the environment.” In Section 2(bb), FIFRA defines “unreasonable adverse effects on the environment” as (in part) “any unreasonable risk to man or the environment, taking into account the economic, social, and environmental costs and benefits of the use of [a] pesticide.” Thus, FIFRA requires EPA to engage in a risk-benefit balancing before registering a pesticide. EPA’s regulations make clear that EPA may not grant an application for registration unless EPA has determined that the proposed pesticide and use will not “cause unreasonable adverse effects on the environment.”²

4. Application of FIFRA Registration Standard to Dicamba Applications

In order to lawfully grant BASF’s pending application, EPA must determine that use of dicamba under the terms of the registration will generally not cause “unreasonable adverse effects on the environment” or, more simply, that the likely benefits of the proposed pesticide use will exceed the likely risks, i.e., the costs of off-target plant damage expected from the proposed use. Because of significant uncertainties concerning both the costs and benefits associated with the proposed uses of dicamba, EPN does not believe EPA can make a legally supportable decision to grant the application (unless EPA has significant new information of which EPN is unaware).

Dicamba presents, at first glance, a fairly simple framework for the required risk-benefit analysis and determination. The primary benefit of the proposed dicamba use is the weed control it provides to growers experiencing weed resistance in their cotton and soybean fields to other herbicides. EPN notes that this benefit may be compromised as weed resistance to post-emergence use of dicamba has been reported. The primary risk related to the proposed dicamba use is the impact on nearby people not growing dicamba-resistant soybeans and cotton to the extent that the dicamba volatilizes, moves off-site, and damages beneficial crops and other desirable plants. As noted earlier, the various restrictions imposed by EPA on the relevant uses of dicamba have not stopped the steady stream of plant damage reports reaching state lead agencies. However, EPN believes the significant uncertainties concerning the magnitude of both these benefits and risks prevent EPA from making any legally defensible determination that the benefits exceed the risks and will, therefore, not cause unreasonable adverse effects on the environment.

To date, there appears to be no EPA benefits assessment to support the proposed new uses of dicamba on cotton and soybeans. Moreover, EPN is unaware of the availability of the detailed information that would be required to conduct a benefits assessment for these new uses. In the absence of the information required for the benefits assessments, it is not possible to develop an accurate estimation of the economic value that the proposed dicamba uses provide to soybean and cotton growers. In addition, given the existing reports of weed resistance to dicamba on cotton and soybeans and the likelihood that more resistance will occur with further use, there will be a great deal of uncertainty associated with any benefits of the new uses.

In many circumstances, this lack of precision on benefits might not be an insurmountable barrier

² See, e.g., 40 CFR 152.112(e) and 152.114(d).

to registration. EPN is aware that EPA often “presumes” some level of benefits when making registration decisions, and EPN does not challenge the use of that presumption in appropriate circumstances. But when risks associated with a proposed use of a pesticide are not negligible, EPA must have a sound reason for relying upon only presumed or imprecise benefits. And when risks are substantial, as is the case for dicamba, EPN believes EPA must address benefits with much greater precision and clarity: relying on “presumed benefits” has no utility in such situations.

The risks posed by BASF’s proposed registration are far greater than negligible, yet they too seem to be very imprecise. EPN is not aware of any pesticide that has likely caused more off-site economic damage than dicamba has since the OTT uses on soybeans and cotton were registered. From 2016 until 2020, EPA and the registrants attempted to prevent off-site movement of dicamba by adding “anti-volatility” ingredients, restrictions on the timing of applications, and new directions for use. None of this appeared to come close to resolving the volatility problem with dicamba. Despite the registrants’ and EPA’s “tinkering” with the formulation and use directions over the last four years, EPN is unaware of any data or other information demonstrating that the issues with off-site movement have been resolved. At this point, it seems clear to EPN that neither EPA nor BASF has identified conditions that would allow the proposed uses of dicamba without resulting in significant off-site movement of and damage by the pesticide.

While EPA and the registrants are well aware that a large number of incidents of off-site economic damage were reported after the registration of OTT dicamba use on soybeans and cotton was approved in 2016, and that the number of actual incidents was likely much greater than the number of reported incidents, EPN is not aware that either EPA or the registrants has ever been able to identify with precision the amount of economic damage caused by the off-site movement of dicamba. EPN has not seen any identification of the likely extent of crops or ornamental plants affected by off-site movement of dicamba, nor has EPN seen any reasoned estimate of the likely economic damage (or reasonable range of damage) caused by this off-site movement. While the Ninth Circuit may have been correct that EPA has “underestimated” the economic harm caused by off-site movement of dicamba, EPN is more concerned with a perhaps more troubling issue: neither EPA, state agencies, nor pesticide registrants have identified any plausibly accurate estimate of the likely damage caused by dicamba over the past eight years. As best EPN can tell, dicamba appears to be causing considerable off-site damage, but we simply do not know how much damage has resulted, is continuing to result, or is likely to result from the past OTT and proposed uses of dicamba.

Instead of adequately quantifying the costs (and benefits) of OTT dicamba use, EPA seems to have based its registration decisions on the hope that measures designed to “minimize the level of volatilization” can justify continued registration. In doing so, EPA and registrants have allowed third parties to continue to be at risk so that growers continue to have access to dicamba to apply to their resistant soybeans and cotton. Leaving aside the question of whether this would be an appropriate outcome if EPA had adequate knowledge to conclude that the economic benefits to dicamba growers exceeded the economic harm to innocent third parties who have no voice or interest in dicamba use, EPN submits that this is simply unacceptable when EPA has little to no knowledge of the actual economic benefits and costs that will result if BASF’s current application is granted.

5. Possible Path Forward

EPN submits that EPA may not legally grant BASF’s current application, or any application allowing the proposed use of dicamba on soybeans and/or cotton, under conditions similar to those in existence when

EPA took dicamba registration actions between 2016 and today. EPA cannot grant such an application unless EPA can make a reasonably supported decision that the benefits associated with the application exceed the costs. To do that for dicamba under the present circumstances, EPA must be able to characterize the benefits and costs with far more clarity and precision than it has been able to do in the last eight years. It is very likely that any decision on BASF's application will lead to additional litigation, and EPN does not believe that a reviewing court will sanction an agency decision that is not based on an analysis that includes, at a minimum, much better information on the extent of off-site dicamba movement and the economic consequences likely to result from that movement.

Granting another registration similar to those granted in the past decade would also leave innocent third parties shouldering the economic consequences of the use of dicamba by others, while allowing dicamba-using growers to enjoy the economic benefits of dicamba use without themselves absorbing the full economic costs associated with that use. Further, EPN is aware that EPA has not addressed in detail the “social” costs and benefits associated with pesticide use, but FIFRA does specifically include social costs and benefits as ones to be considered in EPA risk-benefit determinations under FIFRA, and allocation of all the economic burden to non-users of a pesticide while the users enjoy all the economic benefits is an issue that EPA may wish to address (and that a court might obligate EPA to address).

As we noted earlier, in making registration decisions, EPA often assumes some level of benefits to justify granting an application that does not pose meaningful risks or costs. While EPN does not believe that EPA has sufficient information to structure a registration that would allow meaningful use of dicamba while precluding off-site movement and consequences, EPN is mindful of the fact that the principal consequences of off-site dicamba movement are economic (with the exception of endangered species issues which EPN is not addressing in this comment). For the past eight years, EPA has attempted, and failed, to mitigate those economic consequences by preventing off-site movement from occurring. But if off-site movement cannot be prevented, another solution may be possible.

As EPN noted in its 2021 letter to EPA³, EPA could condition dicamba registrations on the implementation of a compensation mechanism that would have registrants compensate third parties for any economic loss resulting from off-site movement of dicamba. Such a mechanism should be funded by registrants, but would be best administered by persons with some independence from registrants. Possibilities include (to the extent that they would be allowed to participate) personnel from agricultural universities, state governments, agriculture extension agents, or federal government. This condition could ensure that anyone suffering damage would quickly and efficiently receive an award that covers the economic injury they experienced — a much more efficient approach than the expensive, slow, and uncertain tort litigation process some growers are currently using. Such a condition would also give strong incentives for BASF to minimize off-target injury caused by its dicamba products. This could take the form of educational programs for users or research into additional formulation changes that might reduce off-target movement. Further, to the extent that compensation payments were required pursuant to a new registration, EPN expects the cost of the compensation program would be passed on to users in the form of a higher price for dicamba, squarely placing the burden on those who are ultimately responsible for the problem (and who enjoy any benefits flowing from the availability of dicamba).

³ <https://www.environmentalprotectionnetwork.org/letter-on-dicamba/>

The standard for compensation would have to be clear and the process of receiving payment relatively simple, but EPN believes developing such a mechanism would be quicker and easier than preventing off-site movement of dicamba has proved to be. EPN understands that dicamba causes a distinctive type of damage to plants, making the identification of the cause of reported plant damage relatively straightforward. Moreover, we believe that people who regularly assess claims under crop insurance programs are well-situated to determine the economic cost of plant damage caused by dicamba.

EPN would be happy to meet with EPA and/or registrants to discuss this subject further. But for today, it is enough to say that establishment of an appropriate compensation mechanism could sufficiently address the economic costs of dicamba use to allow EPA to make a risk-benefit, no unreasonable adverse effects determination that would allow the BASF application to surmount that hurdle. It would also allow the true costs of dicamba use to be borne by the users of dicamba instead of by third parties. If instead EPA and BASF wish to rely on a registration approach similar to that used for dicamba registrations since 2016, EPN submits that in the absence of significantly more and better data on the economic benefits and costs associated with the proposed uses of dicamba, EPA's only legally-supportable determination would be to deny the application.