

2019 Dicamba Use in INDIANA

FREQUENTLY ASKED QUESTIONS

Updated: January 30, 2019

On October 31, 2018, the U.S. Environmental Protection Agency (EPA) announced that registrations for **Engenia, Xtendimax and FeXapan** herbicides were extended through December 20, 2020. This also marks the third time in the last three years that EPA revised the use directions on these labels. Most of the label revisions have been the result of record numbers of off-target movement (drift) complaints filed in major soybean producing states in 2017 and 2018.

The following frequently asked questions and answers have been developed by the Office of Indiana State Chemist (OISC) to address many of the issues that have been raised over the last several years, regarding legal use of agricultural dicamba-containing products in Indiana. Updates to these FAQs are posted at <https://www.oisc.purdue.edu/pesticide/dicamba.html>.

1. **Are there any Indiana restrictions on the purchase and use of "older formulation" dicamba products (NOT Engenia, Fexapan, or Xtendimax)?**

Yes, all agricultural herbicides containing dicamba were classified as **State Restricted Use Pesticides (RUPs)** in Indiana, effective 2018. Regulatory requirements for older formulation dicamba products include:

- a. Sale only by OISC-registered RUP Dealers.
- b. RUP Dealers must keep sales records for two years.
- c. Purchase only by certified and licensed Private Applicators (farmers) and Commercial Applicators (Category 1).
- d. Use and application only by Private Applicators (farmers), non-certified applicators supervised by a certified applicator, Commercial Applicators (Category 1), or Registered Technicians supervised by Commercial Applicators.
- e. Applicators must keep application records for two years.
- f. These products may **NOT** be applied to dicamba-tolerant soybeans.

THE FOLLOWING APPLY TO ENGENIA, FEXAPAN, AND XTENDIMAX ONLY

2. **Are there any Indiana state-specific restrictions on the use of these products in 2019?**

No, in spite of a considerable amount of work already conducted to develop state restrictions intended to minimize dicamba off-target movement, no state-specific restrictions will be implemented by OISC in 2019. This state effort included, a work group appointed by the Indiana Pesticide Review Board (IPRB) to evaluate the record number of dicamba off-target movement complaints and incidents in Indiana in both 2017 and 2018. The work group noted that in spite of extensive mandatory applicator training prior to the 2018 application season, the dicamba complaint numbers actually increased in 2018.

In an effort to address this regulatory problem, the work group recommended that OISC consider imposing both a June 20, 2019 application cutoff date and specific ¼ mile to ½-mile downwind

setbacks when applying near sensitive crops and residential plants. Based on a review of the science related to these products and the complaints, OISC and the work group agreed that these additional state restrictions might reduce dicamba complaint numbers by at least 50% from previous levels. Similar restrictions had been imposed in some other states during the 2018 application season, with some success.

However, subsequent consultation with Indiana agricultural leaders has caused OISC to conclude that postponing implementation of any state-specific restrictions may be a prudent concession for 2019. Industry leaders have suggested to OISC that the 2019 federal label revisions may reduce the incidence of off-target movement to acceptable levels, without additional state restrictions. They also asked OISC to consider economic impacts to 2019 soybean growers that have already made seed and herbicide purchase decisions for this year, the issue of fairness to Indiana growers if there are no similar restrictions in surrounding contiguous states, and the data that suggests the overwhelming majority of the 2017 and 2018 complaints involved exposure to non-DT soybeans rather than other dicamba sensitive crops and plants.

OISC agreed that as an alternative to state imposed restrictions for 2019, establishing a clear negotiated measurement of success would be preferable to setting an arbitrary improvement level of 50% dicamba off-target incident reduction. The process for developing the evaluation measure for the 2019 application season was initiated at the January 22, 2019 Indiana Pesticide Review Board (IPRB) meeting. Completion of that process has been targeted for the scheduled April 8, 2019 IPRB meeting. Although a specific regulatory action level of off-target incidents has not yet been identified by the IPRB, the current Board expectation seems to be some number much more in line with off-target incidents comparable to other agriculturally ground-applied herbicides.

In summary, although Indiana is not currently pursuing state restrictions on the use of these products, 2019 is expected to be a pivotal year for evaluating whether these herbicides can be used according to current application practices and result in no more than acceptable levels of off-target adverse effects.

3. Will there be any changes to how OISC responds to complaints of off-target movement of these dicamba products in 2019?

Yes, there will be a few changes to OISC complaint response procedures in 2019. In 2017 and 2018, OISC expended an estimated \$1.2 million dollars annually on dicamba complaint response and related compliance implementation. OISC is unable to maintain that level of resource commitment to this one product indefinitely, not to mention all of the other equally or more important pesticide compliance issues that have been ignored or short-changed during this intensive dicamba response period. In addition, in 2017-2018, 92% of the over 270 dicamba complaints involved visible symptomology on non-DT soybeans. OISC investigation procedures do not and cannot document yield impacts on pesticide-exposed crops. Industry members continue to provide anecdotal information to OISC that there may not have been significant yield impacts from the OISC-documented exposures in these investigations. Therefore, in 2019, OISC plans include:

- a) Invest more heavily in dicamba complaint response for off-target movement to crops and plants other than non-DT soybeans. Crops and plants specifically targeted for increased monitoring and investigation will include tomatoes, vegetables, grapes, melons, gardens,

ornamentals, flowers, trees, and organic crops that may not be marketable if dicamba residues are present.

- b) Respond to complaints of exposure to soybeans with a process that confirms dicamba exposure symptomology without attempting to document with forensic evidence the actual cause of the off-target movement.
- c) If a non-DT soybean exposure complainant is insistent on a full forensic investigation, OISC will ask the complainant to provide a significant amount of upfront information and detail about the suspected or known dicamba users in their immediate area before initiating a misuse investigation.
- d) Work with stakeholders to identify a measurement of success for safe and effective application of these dicamba products in 2019 and beyond.

4. **Who can purchase and use Engenia, Fexapan, and Xtendimax Herbicides in 2019?**

Only these three dicamba herbicides are approved for use on dicamba-tolerant soybeans in 2019. The 2019 labels state, “**RESTRICTED USE PESTICIDE** for retail sale to and use only by Certified Applicators.” This is a change from the 2018 labels. This means that in Indiana only fully certified and licensed **Private Applicators** (farmers) and **Commercial Applicators** (Category 1) can purchase OR use these products during 2019 and 2020. Registered Technicians and other non-certified applicators working under the supervision of a certified applicator may no longer purchase or use these products.

5. **Do mixers, loaders, handlers, and spray equipment cleaners need to be certified applicators in 2019?**

Yes, anyone who is responsible for any part of the use and application process, which includes mixing, loading, application, or cleaning dicamba application equipment, must become a certified and licensed private applicator or a commercial applicator (Category 1). Workers are not required to be certified and licensed if they are involved in nothing more than transportation of unopened dicamba containers, transportation of “hot loads” that were mixed by a certified and licensed applicator, or unloading of a pre-mixed “hot load” directly from the transportation vehicle into a spray rig. Details on becoming certified and licensed are available at <https://www.oisc.purdue.edu/pesticide/1.html>.

6. **Do I need to be "dicamba trained" in 2019 to use these products?**

Yes, the 2019 labels state, “prior to applying this product in the 2019 growing season and each growing season thereafter, all applicators applying this product must complete dicamba or auxin-specific training.” OISC will refer to this training as MANDATORY DICAMBA TRAINING.

7. **Who can provide MANDATORY DICAMBA TRAINING?**

Unlike in 2018 when only OISC-approved trainers provided mandatory dicamba training in Indiana, in 2019 the training will be the responsibility of the product registrants (*BASF, Bayer/Monsanto, and Corteva/DuPont*). OISC recommends that you contact your supplier for details. Mandatory dicamba training presented by any of these registrants will qualify you to purchase and use any of the three dicamba/soybean products. Details will be posted by

registrants on their respective web sites, including, <https://www.engeniastewardship.com/#/>; www.FeXapanApplicationRequirements.DuPont.com; and <http://www.roundupreadyxtend.com/stewardship/education/Pages/default.aspx>

8. **If Purdue Cooperative Extension Service and OISC will not be providing or coordinating the mandatory dicamba training this year, Where can I find details on when and where to get this training?**

It is likely that mandatory dicamba training sessions may be tagged on to the end of some 2019 CCH and PARP programs. These sessions will normally be tagged onto the end of programs so that applicators not needing mandatory dicamba training will be free to leave, if desired. Such PARP and CCH programs may also include a short **DICAMBA UPDATES** segment presented by someone other than the product registrant. Attendance at a dicamba updates session is not required to purchase or apply these products in 2019. **DICAMBA UPDATES training does not qualify as the mandatory dicamba training required by the label.**

9. **Will I receive a certificate after completing the training?**

Whatever evidence of completing the MANDATORY DICAMBA TRAINING that the registrants choose to provide to the trainee will be the evidence of training recognized by OISC. When conducting dicamba compliance inspections and investigations in 2019, OISC investigators will ask to see the evidence of training provided to the applicator. OISC will not be keeping dicamba training records for 2019, as was done in 2018. The applicator will be solely responsible for keeping that proof of training.

10. **Will dicamba training from another state satisfy the label requirement in Indiana?**

Yes. Either registrant training or state-mandated training from another state will satisfy the mandatory dicamba label requirement in Indiana. However, it will be the responsibility of the applicator to provide proof of training to OISC, if requested.

11. **Will OISC-accepted dicamba training satisfy requirements in other States?**

You should contact directly the other state pesticide regulatory agencies to see what training they require or will accept. Contact information for those states is available at <https://aapco.org/2015/07/28/resources-2/>.

12. **Is training a one-time event, or do I need training every year?**

Even if you received MANDATORY DICAMBA TRAINING last year, you must complete it again this year and next year to be able to legally purchase and use these products. In addition, starting in 2019, you must be a fully certified and licensed commercial applicator (Category 1) or a private applicator to purchase or use these products.

13. **Will OISC investigators check my application and training records?**

Yes, OISC has the authority, under the Indiana pesticide law to inspect your pesticide purchase and application records. In addition, the labels for these products instruct, “records must be made available to State Pesticide Control Officials.” The practice of checking these records is normally associated with a misuse investigation, but OISC may also do some routine purchase or application record checks. It should also be noted that the anticipated enforcement response for any dicamba applicator who is unable or unwilling to provide proof of having completed the MANDATORY DICAMBA TRAINING might be a yearlong suspension or revocation of their Indiana applicator certification.

14. **Have the dicamba record keeping requirements changed for 2019?**

Yes, in 2019, the applicator must create the required records within 72 hours (three days) of the application. In 2018, the applicator had at least 14 days to create application records. In addition, the 2019 records must also include the target crop planting date, the buffer distance calculation, and a record of the time during the application that spraying was stopped due to shifting wind directions or wind speeds. If you use the record keeping form developed by Purdue Pesticide Programs in PPP-119, you will satisfy the 2019 dicamba record keeping requirements for Indiana.

15. **The newer product labels require that I keep a record of when I checked DriftWatch for the presence of nearby sensitive crops or sites. Can I also use that site to check for the presence nearby non-DT soybeans?**

In 2018, the location of row crops like non-DT soybeans could not be mapped in DriftWatch. However, effective January 1, 2019, a new FieldWatch feature called **CropCheck** will allow growers to map row crops like soybeans, cotton, and corn that may be sensitive to some nearby pesticide applications. Access CropCheck through www.driftwatch.org. Note that checking CropCheck for nearby non-DT row crops does not eliminate the requirement for the applicator to insure those neighboring crops are dicamba-tolerant before application.

16. **Are there any application timing restrictions on the use of these products?**

Yes, these products may be applied pre-plant, at-planting, pre-emergence, and post-emergence (in-crop) in dicamba-tolerant soybeans. However, for post-emergence use, the 2019 labels prohibit application later than **45 days after planting or the R1 growth stage**, whichever comes first for the target soybean crop. Additionally, no applications are permitted at night or during the period **two hours before sunset through one hour after sunrise**.

17. **I have heard that mixing these products with adjuvants or tank-mix partners that lower the pH of the spray solution below pH 5 will increase the potential volatility. Is that true?**

Yes, all of the product labels alert the applicator to this apparent fact. In addition, the Engenia label states, “**DO NOT** add adjuvants that will further decrease pH or acidify the spray solution.” Therefore, to do so would be a label violation. It should also be noted that additional University research is currently being conducted to evaluate if some of the label-approved tank mixes may be reducing pH to problematic levels.

18. **Are there still prohibitions against spraying when wind is blowing toward sensitive crops and plants?**

Yes, the 2019 Engenia label states, “**DO NOT** apply when wind is blowing in the direction of neighboring sensitive crops or residential areas.” The 2019 labels for Fexapan and Xtendimax both state, “**DO NOT APPLY** this product when the wind is blowing toward adjacent non-dicamba tolerant sensitive crops; this includes Non-Dicamba Tolerant Soybean and Cotton.” Although the Engenia label specifies the need to protect residential areas while the Fexapan and Xtendimax labels do not, the label-posted list of sensitive crops subject to this wind direction application restriction includes the catchall term “other broadleaf plants.” Therefore, these protections must be applied to both sensitive plants and crops on both agricultural and residential properties. The downwind application prohibition applies to both.

19. **What does “neighboring” and “adjacent” mean?**

Again, in 2019, the registrants and EPA failed to define or clarify these important label terms. Therefore, for purposes of uniform implementation and compliance in Indiana, OISC will consider “neighboring” and “adjacent” to mean any of the following:

- a) Abutting, adjoining, bordering, contiguous, flanking, juxtaposed, skirting, touching;
- b) The absence of any field between the target dicamba field and a non-target sensitive crop or residential plants; or
- c) In close enough proximity to the target field to result in off-target exposure symptoms. Experience has demonstrated that off-target exposure symptoms are most prevalent in non-dicamba tolerant soybeans within ¼ mile and any other sensitive crop or sensitive residential area plant within ½ mile of the downwind edge of the last dicamba-treated row of the target field. OISC will use these ¼ and ½-mile parameters when evaluating applications for potential enforcement actions, when off-target exposure occurs.

20. **Is there a list of sensitive crops and plants?**

Yes, the labels provide a partial list of these crops and plants. Sensitive plants include, but are not limited to, plants in both agricultural and residential areas such as non-DT soybeans and cotton, cucumber and melons (EPA crop group 9), flowers, fruit trees, grapes, ornamentals including greenhouse-grown and shade house-grown broadleaf plants, peanuts, peas and beans (EPA crop group 8), peppers, tomatoes, and other fruiting vegetables, potato, sweet potato, tobacco, other broadleaf plants, and including plants in a greenhouse.

21. **Do sensitive crops include adjacent or neighboring organic crops?**

Yes, although certified organic crops are not listed on the label as an example of a sensitive crop, the fact remains that any pesticide residues in these crops, whether damaging or not, might make these crops unfit for sale, use, or consumption as organic. Therefore, certified organics are sensitive crops.

22. I have seen the term sensitive areas on these labels. What are sensitive areas?

Sensitive areas are different from sensitive crops or sensitive residential areas. Sensitive areas include bodies of water and nonresidential, uncultivated areas that may harbor sensitive plant species. Sensitive areas also include endangered species protection areas. Applicators are required to consult <http://www.epa.gov/espp/> to determine if they intend to apply in a county with dicamba-protected endangered species. Currently in Indiana, only Harrison and Posey Counties have endangered species protection areas, relative to dicamba.

23. The 2019 labels still have mandatory buffer requirements. Non-sensitive crops and areas are important because they are acceptable for use as part of the calculation for the out-of-field buffer area. What are non-sensitive crops and areas?

Non-sensitive crops and areas include paved or gravel surfaces; roads; mowed and/or managed areas adjacent to fields, such as roadside rights-of-way; areas covered by the footprint of a building, silo, shade house, feed crib, or other manmade structure with walls and a roof; agricultural fields that have been prepared for planting; and planted agricultural fields containing asparagus, corn, dicamba-tolerant cotton, dicamba-tolerant soybeans, sorghum, proso millet, small grains, and sugarcane (*the applicator is responsible for ensuring that the crops are dicamba-tolerant*).

24. Are the 2019 buffer requirements the same as on the 2018 labels?

No, there are several significant changes. First, mowed and/or managed areas adjacent to the field, such as roadside rights-of-way, may now be included as part of the buffer calculation. Second, in 2019, it is specifically the applicator's responsibility to confirm that the neighboring/adjacent crops are in fact dicamba tolerant before considering them as non-sensitive crops. Lastly, a 57 foot omnidirectional (all sides) buffer must be maintained in counties where dicamba-sensitive endangered species are present (currently Harrison and Posey Counties).

25. Are the sizes of the downwind buffers the same in 2019 as they were in 2018?

Yes, the applicator must always maintain a 110-foot (or 220-foot) downwind buffer between the last treated row and the nearest downwind field/area edge (in the direction the wind is blowing). Applicators can still use out-of-field non-sensitive crops and areas in the total buffer distance calculation. Note that the 110-foot downwind buffer is not intended to protect downwind sensitive crops and plants from off-target dicamba exposure. The buffer is intended to protect other sensitive areas, such as water bodies and endangered species habitat. The downwind

application prohibition and the 110-foot downwind buffer requirement should not be confused with one another.

26. Is a buffer required on just one side of a dicamba-treated field?

Sometimes yes, but often times buffers are required on several sides. Applicators should remember that buffers will often be required on two or more downwind sides of a target field if wind direction is not constant and non-target sites are not positioned completely perpendicular to one another. A 45-degree wind direction would require a buffer on two downwind sides.

27. Are downwind buffers required next to in-field grass/vegetative waterways?

No, downwind dicamba buffers would not be required next to these in-field areas. U.S. EPA and OISC have concluded that grass waterways should be treated the same as Conservation Reserve Program (CRP) areas. Both CRP and grass waterways include voluntary conservation agricultural areas that could be used for cropland production. Therefore, buffers are not required to protect these voluntary conservation practice areas.

28. If I own a wooded lot downwind of my target field, do I need a downwind buffer?

Yes, regardless of who owns the wooded lot, it is label-defined as a sensitive uncultivated area that may harbor a sensitive plant species. Therefore, even an adjacent wooded lot that you own or control is required to have a downwind spray buffer.

29. These new dicamba labels prohibit application during a temperature inversion. How can I determine if a temperature inversion exists in or near my target field prior to application?

Just like other weather measurements, there is no one official method to determine if temperature inversion conditions exist in a field. However, temperature inversion indicators can include nights with limited cloud cover and light-to-no wind, ground fog, smoke not rising, dust hanging over a road, or the presence of dew or frost. Just like other weather data documentation, a time, date, and GPS-stamped photograph taken in the field from your smartphone can serve to supplement and support your determination that an inversion did not exist. In addition, tools to help you identify the likelihood of a temperature inversion can include smoke generators in the target field, phone apps, and the Inversion Tester by Spoton®. *(PLEASE NOTE THAT MENTION OF ANY SPECIFIC EQUIPMENT OR DATA SOURCE IN THIS DOCUMENT DOES NOT SUGGEST ENDORSEMENT OR APPROVAL BY PURDUE UNIVERSITY OR THE OFFICE OF INDIANA STATE CHEMIST.)*

30. Weather apps are now available to help an applicator predict and measure weather. Are these apps certified or official-enough for my weather measurements?

It is important that you understand that these apps rely on weather data collected at weather stations that may or may not be close to your target application field. Most of these apps use computer software to estimate the weather conditions at your location. Therefore, there will be some margin of error or inaccuracy. While not perfect, these weather-predicting apps are usually better than an applicator's guess or estimate made without measuring equipment used at boom height in the target field at the times of application. Research on the in-field reliability of weather apps is available at <https://vimeo.com/309554246/b04fd38bf2> or on the OISC Dicamba Update website page under [Ground Truthing Weather Apps for Wind Speed and Temperature Inversions](#).

31. **I have a spray injection system that allows me to keep my dicamba and my other on-sprayer herbicides and adjuvants in separate tanks. The point of injection for each tank is at the spray boom. Can I use the same spray system for dicamba and other herbicides or adjuvants if those other products are not on the list of label-approved tank mixes?**

No, you cannot use the injection spray system to circumvent the tank mix restrictions. The labels of these products require that the entire spray system, including tanks, pumps, booms, lines, screens, and nozzles be cleaned according to label directions, both before and after application. Therefore, since it is impossible to clean the spray booms before or after injection of these dicamba products, this type of application is prohibited. Even very small amounts of dicamba left in spraying systems have caused significant cross contamination and non-target impact issues.

32. **I have a spray injection system that allows me to keep my dicamba and my other on-sprayer herbicides and adjuvants in separate tanks. The point of injection for each tank is at the spray boom. If the other tank mix partners (both herbicides and adjuvants) are approved for tank mixing on the dicamba label, can I turn off the dicamba flow to my spray boom and be legal while spraying the non-dicamba components of my tank mix to the required downwind buffer area?**

Yes. If tank mix partners on your spray rig are label-approved for use with the new dicamba products and if you can successfully turn off the flow of dicamba before you get to the buffer area, you can spray the buffer without first cleaning out your spraying system. However, it is highly recommended that you turn off the flow of dicamba before you actually get to the downwind buffer area to allow the dicamba left in the spray boom to purge itself from your rig.

33. **I have a container of Engenia, FeXapan, or Xtendimax left over from 2017 or 2018. Can I follow the 2017 or 2018 label directions to apply it in 2019?**

No, you cannot use the old previous year label directions. You must follow the 2019 label directions. The Indiana state registrations for the 2017 and 2018 products have already expired. Those one-year registrations expired on December 31 2017 and 2018. Indiana law states that it is a violation to knowingly purchase or use a pesticide not registered under IC 15-16-4. In 2019, applicators cannot use the old-labeled product unless it has been relabeled with the 2019 label.