OFFICE OF CHEMICAL SAFETY AND POLLUTION PREVENTION

WASHINGTON, D.C. 20460

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MEMORANDUM

SUBJECT: Implementation Resource and Application Day Scenarios for Users of Over-The-Top (OTT) Dicamba Products in Soybean and Cotton (PC# 100094, 128931)

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INTRODUCTION

As part of the registration decision for Over-The-Top (OTT) dicamba products to be applied to dicamba-tolerant (DT) cotton and DT soybean, EPA has developed a suite of mitigations to address ecological risks associated with runoff/erosion, spray drift, and volatility from OTT dicamba use. Commenters on the 2025 OTT dicamba proposed decision indicated that label complexity may be an issue for users of OTT dicamba products. This document may serve as a resource for states, registrants, educators, and other groups that interact with OTT dicamba users to utilize to develop materials to assist growers or applicators with implementing mitigations associated with use of OTT dicamba products. Section 1 of this document organizes tasks into those that can be completed prior to the growing season, one week prior to application, or must be completed the day of application. Section 2 provides multiple scenarios to illustrate how volatility mitigations can be implemented at the field level.

Section 1. TASKS TO COMPLETE AHEAD OF AN OTT DICAMBA APPLICATION

PRIOR TO THE GROWING SEASON

Obtain Restricted Use Pesticide License

OTT dicamba products are classified as Restricted Use Pesticides (RUP), meaning that they can only be used by certified applicators. Additionally, OTT dicamba product labeling also prohibits use by uncertified applicators under the supervision of certified applicants, which is more restrictive than standard labeling for RUP products.

For growers or applicators who need to become certified or renew their certification, or growers or applicators whose license has lapsed and no longer have their certified applicators license, there are generally multiple opportunities prior to the growing season to get their certified applicator license. The opportunities to obtain a certified applicator's license vary by state.

The Association of American Pesticide Control Officials (AAPCO) maintains a list of regulatory officials by state that can be contacted for more information about becoming a certified applicator. More information including the list can be obtained at:

https://www.epa.gov/pesticide-worker-safety/how-get-certified-pesticide-applicator

https://aapco.org/2015/07/28/resources-2/

Furthermore, most states maintain a Pesticide Safety Education Program (PSEP) through the state's university that assists in the training and education of certified pesticide applicators. A list of the land grant PSEPs and their respective websites can be found at:

https://www.epa.gov/pesticide-worker-safety/pesticide-safety-education-programs-0

Complete Dicamba-Specific Mandatory Training

Prior to applying OTT dicamba products, pesticide applicators are required to complete dicamba-specific annual training in the calendar year of application. Training will generally be provided through the registrants/manufacturers of the three registered OTT dicamba products: Bayer, BASF, and Syngenta. The registrants/manufacturers of OTT dicamba products offer self-paced online training modules that can be completed by growers or applicators. There may also be in-person trainings or virtual group training courses that satisfy the training requirements. Pesticide applicators can check with the state in which applications will be made to determine acceptable dicamba-specific trainings.

Frequently Asked Questions about OTT dicamba training requirements can be found at:

https://www.epa.gov/ingredients-used-pesticide-products/dicamba-training-requirements-frequently-asked-questions

Although this website may reflect training requirements for previously registered OTT dicamba products at the time of this registration, EPA intends to update it soon after registration to reflect training requirements for the new OTT dicamba products.

Check "Bulletins Live! 2" (BLT) to Determine Fields in a Pesticide Use Limitation Area (PULA)

The 2026 OTT dicamba registration differs from previous OTT dicamba registrations in that it requires spray drift and runoff/erosion control measures to protect nontarget species including listed species. OTT dicamba users must visit EPA's Bulletins Live! 2 (BLT) website at most 6 months prior to planned OTT dicamba application to determine if they are in a Pesticide Use Limitation Area (PULA) and view Endangered Species Protection Bulletins for their geographic area.

Bulletins Live! 2 can be found at:

https://www.epa.gov/endangered-species/bulletins-live-two-view-bulletins

In the BLT website, OTT dicamba users will enter the location of the fields/farms where OTT dicamba products will be applied, as well as the planned application month, and the EPA registration number of the OTT dicamba product that they will be applying. The following are OTT dicamba products with associated registration numbers:

Tavium™ Herbicide – EPA Registration Number 100-1753
Stryax™ Herbicide (Formerly Xtendimax) - EPA Registration Number 264-1241
Engenia™ Herbicide – EPA Registration Number 7969-507

If the geographic area is within a PULA where OTT dicamba products are planned for application, then the user must obtain that bulletin and follow the additional application restrictions outlined in the bulletin.

EPA has developed a tutorial for BLT users to understand and better use the system. The tutorial for using Bulletins Live! Two can be found at:

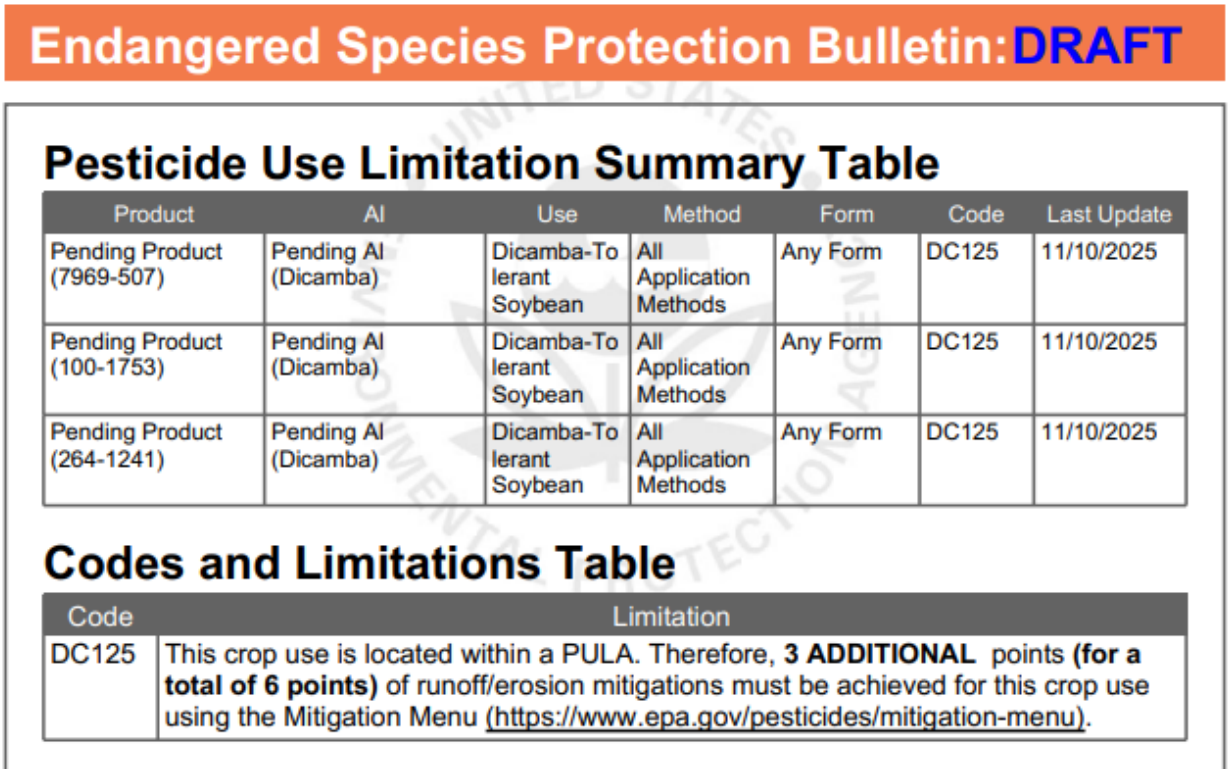
https://www.epa.gov/endangered-species/bulletins-live-two-blt-tutorial

EPA has also hosted a webinar to help users visualize BLT, and the video is accessible here. Slides from this webinar are available to users and may be printed for reference.

Recording: https://www.youtube.com/watch?v=o0UQCTwjfNI

Slides: https://www.epa.gov/system/files/documents/2023-11/bulletins-live-two-slides.pdf

Figure 1. Example of Endangered Species Protection Bulleting obtained from Bulletins Live! Two.



Endangered Species Protection Bulletin: DRAFT

Pesticide Use Limitation Summary Table

Product	AI	Use	Method	Form	Code	Last Update
Pending Product (7969-507)	Pending AI (Dicamba)	Dicamba-Tolerant Soybean	All Application Methods	Any Form	DC125	11/10/2025
Pending Product (100-1753)	Pending AI (Dicamba)	Dicamba-Tolerant Soybean	All Application Methods	Any Form	DC125	11/10/2025
Pending Product (264-1241)	Pending AI (Dicamba)	Dicamba-Tolerant Soybean	All Application Methods	Any Form	DC125	11/10/2025

Codes and Limitations Table

Code	Limitation
DC125	This crop use is located within a PULA. Therefore, **3 ADDITIONAL** points **(for a total of 6 points)** of runoff/erosion mitigations must be achieved for this crop use using the Mitigation Menu (https://www.epa.gov/pesticides/mitigation-menu).

Consider Downloading or Printing Out Recordkeeping Sheets

Growers or applicators can create their own recordkeeping data sheets or use recordkeeping sheets provided by either the manufacturers or state agricultural extension agencies to be used during the growing season.

Address Runoff/Erosion Mitigations

Growers can achieve mitigation points through geographic mitigation relief points, permanent field characteristics, and implementing in-field and adjacent to field mitigation measures that reduce runoff and erosion. OTT dicamba products require 3 runoff/erosion mitigation points on the labeling for both DT cotton and DT soybean in all areas where the products may be used and 6 total points in certain PULAs.

Full EPA Runoff/Erosion Mitigation Measures can be found here:

https://www.epa.gov/pesticides/mitigation-menu

Prior to the growing season, growers can determine the required number of runoff/erosion mitigation points for each field under their management by checking the label and BLT. Growers can then implement any of the necessary mitigation measures to achieve the required number of points in order to use OTT dicamba products as part of their weed management plan for their DT cotton and DT soybean. These mitigations must be in place at the time of application of OTT dicamba products.

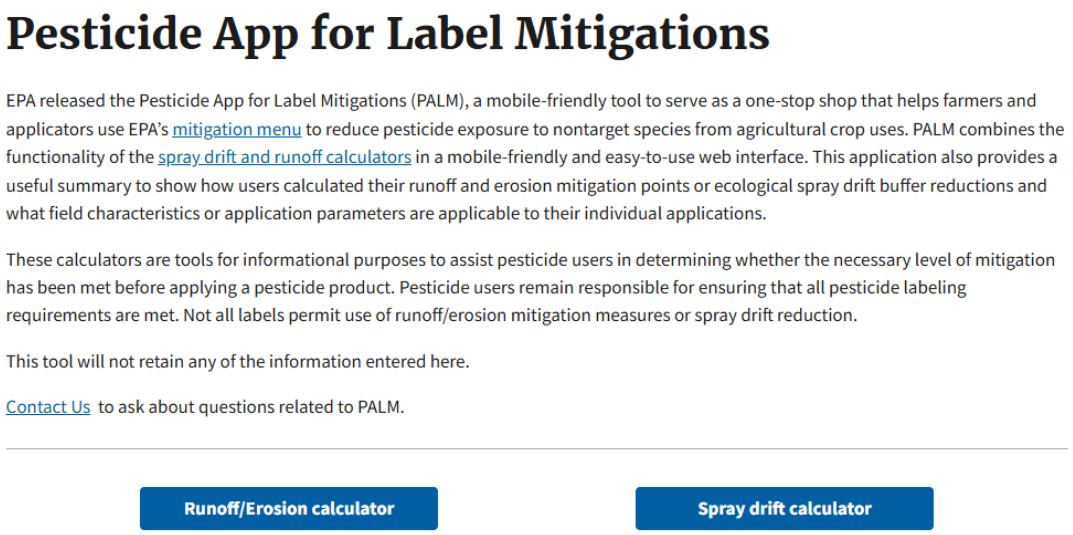
Growers can utilize EPA's newly released Pesticide App for Label Mitigations (PALM) to easily account for and document runoff/erosion points for each field that they manage (Figure 2).

PALM can be found here:

https://www.epa.gov/pesticides/pesticide-app-label-mitigations

Users of OTT dicamba products may have mitigation measures, such as grassed waterways or vegetative filter strips, already installed on fields where OTT dicamba applications will be made. Similarly, growers may already utilize practices, like cover crops, as part of their current cotton and soybean management programs. Users of OTT dicamba products can achieve mitigation points for current practices, provided they meet the requirements described on the mitigation menu.

Figure 2. Landing page for EPA's PALM app.



Prepare for Spray Drift Mitigations

OTT dicamba labeling requires a 240-foot downwind buffer for OTT dicamba applications. While wind direction can change throughout a day, the prevailing winds in an area generally come from the same direction. Growers, from experience or by consulting local agricultural weather sources, can determine the likely downwind portion of their field prior to the growing season and document their likely 240-foot downwind buffer in preparation for the upcoming growing season.

EPA has provided options to growers to reduce their spray drift buffers (Table 1). These options are a subset of the spray drift buffer reduction options outlined in the EPA Mitigation Menu for spray drift. Qualifying practices include buffer reductions for OTT dicamba applications to small fields, the establishment of windbreaks, hedgerows, or artificial screens, and the use of directed sprayer application equipment, including hooded sprayers, row middle sprayers, and drop nozzles. No downwind buffer is required if use of the buffer reduction options results in a buffer reduction ≥100% or use of the buffer reduction options results in a buffer <10 feet, after rounding to the nearest 5-foot increment.

Table 1. Buffer reduction options for reducing downwind buffer distance for OTT dicamba products

Option	Qualifying Practice*	Reduction in Buffer Distance	Actual Buffer Distance (ft)
Small Field Size/ Reduce treatment area	Treatment area of 1/10 acre to 1 acre	75%	60
	Treatment area of >1 acre to 4 acres	35%	156
	Treatment area of > 4 acres to 10 acres	15%	204
Downwind Drift Barrier	Basic windbreak/hedgerow/artificial screen	50%	120
	Advanced windbreak/hedgerow/artificial screen	75%	60
Use of directed sprayer equipment	Over-the-top Hooded Sprayer	50%	120
	Row-middle Hooded Sprayer	75%	60
	Sprays below crop canopy using drop nozzles or layby applications (difference between the crop height and release height is ≥ 1 ft, and that there are more than 4 consecutive rows of crop on the field that meet this parameter)	50%	120

*More information and definitions of qualifying practices in this table can be found at the EPA Mitigation Menu website: https://www.epa.gov/pesticides/mitigation-menu-measure-descriptions.

Users are allowed to include certain areas as part of their spray drift buffer only if those areas are immediately adjacent/contiguous to the treated field in the downwind direction. These areas are:

- Untreated portions of the treated field;
- Roads, paved or gravel surfaces, mowed areas adjacent to field, and areas of bare ground from recent plowing or grading that are contiguous with the treated area;
- Areas present and/or maintained as a drift buffer reduction measure as listed on the buffer reduction table above, such as vegetative windbreaks and hedgerows;

- On-farm contained irrigation water resources that are not connected to adjacent water bodies, including on-farm irrigation canals and ditches, water conveyances, managed irrigation/runoff retention basins, farm ponds, and tailwater collection ponds; and
- Areas present and/or maintained as a runoff/erosion measure as listed on EPA's Mitigation Menu website, such as vegetative filter strips (VFS), field borders, grassed waterways, vegetated ditches, riparian areas, managed/constructed wetlands, or other areas of intentional habitat improvement.

OTT dicamba users should note that applications are not allowed if sensitive plants are planted on an adjacent downwind field or area as described on the label.

Find Appropriate Volatility Reducing Agents (VRAs) and Drift Reduction Agents (DRAs)

All applications of OTT dicamba products must be tank mixed with an approved drift reduction agent (DRA). The DRA must be an oil emulsion drift reducing adjuvant that constitutes 0.3% volume-to-volume and minimum spray volume of 15 gallons/acre. Growers must ensure that they use a DRA that meets these specifications.

All applications of OTT dicamba products must also be tank mixed an approved VRA at the appropriate rate. The user must check the registrant's label-specific website for a list of qualified VRAs and VRA application rates.

Plan ***ALL*** Dicamba Applications

Users of OTT dicamba products are allowed to use a maximum of 1.0 lbs acid equivalent (a.e.) per acre per year of ***all*** dicamba products, including both OTT and non-OTT dicamba products, in DT soybean and DT cotton per year. This means that growers planning two OTT dicamba applications at 0.5 lbs a.e. per acre would not be able to use dicamba for preplant burndown weed control. Conversely, if a grower uses a preplant burndown of dicamba at 0.5 lbs a.e./ acre, regardless of product, he or she would be limited to 0.5 lbs a.e./acre of OTT dicamba later in the season.

ONE WEEK BEFORE APPLICATION

Check for Additional Labeling or State Restrictions

Users of OTT dicamba products are required to check the manufacturer's website no more than 7 days before application to determine if there is any additional product labeling or state restrictions affecting use of OTT dicamba products. Users should also be aware of any state-specific restrictions under state law.

Prepare Measurement Tools

In order to make applications of OTT dicamba products, applicators will be required to measure both air temperature and wind speed at boom height at each application site. Applicators should obtain a thermometer and a device to measure windspeed and ensure that they are in working order.

Prepare for Application

OTT dicamba products have very specific application requirements that users should be aware of. Applicators should ensure that sprayers have the appropriate nozzles to apply coarse and coarser droplets and are properly calibrated to deliver a spray volume of at least 15 gallons per acre of spray volume.

Application parameters that applicators should remember when planning OTT dicamba application:

Spray Volume	15 gallons per acre, minimum
Ground Speed	15 miles per hour, maximum
Boom Height	24 inches above crop canopy
Droplet Size	Coarse or coarser
Windspeed	3 -10 miles per hour
Inversion	Do not make applications at night. Applications may only be made starting one hour after sunrise and ending two hours before sunset. Do not apply this product outside of this time frame. Do not spray during a temperature inversion.[1]
Rainfall	Do not apply during rain. Do not apply when soil in the area to be treated is saturated (if there is standing water on the field or if water can be squeezed from soil). Avoid making applications when rainfall is expected before the product has sufficient time to dry (minimum 4 hours).

[1] Temperature inversions restrict vertical air mixing, which causes small, suspended droplets to remain in a concentrated cloud. This cloud can move in unpredictable directions due to the light variable winds common during inversions. Temperature inversions are characterized by increasing temperatures with altitude and are common on nights with limited cloud cover and light to no wind. They begin to form as the sun sets and often continue into the morning. Their presence can be indicated by ground fog; however, if fog is not present, inversions can also be identified by the movement of smoke from a ground source or an aircraft smoke generator. Smoke that layers and moves laterally in a concentrated cloud (under low wind conditions) indicates an inversion while smoke that moves upward and rapidly dissipates indicates good vertical air mixing.

DAY OF APPLICATION

To address volatility concerns with OTT dicamba applications, dicamba OTT labeling requires volatility mitigations based on temperature, instead of calendar dates associated with previous OTT dicamba registrations (Table 2). All applications require a qualified VRA at the appropriate rate. For Applications between 85˚ F and below 95˚ F, the standard, and in addition users will only be able to treat 50% of the combined DT cotton and DT soybean acreage under their management within a county in a single day. The "user" is the person or entity (grower) that is managing the crop on the land on which the product is being applied. If the user is not the applicator, it is the responsibility of the applicator to ensure that they have communicated with the user to obtain information on the number of DT cotton and DT soybean acres managed by the user. Applicators/users must wait two days to treat the remaining DT cotton and DT soybean acreage, meaning that no additional acres may be treated the day of or the day after treatment.

OTT dicamba applications are not allowed at or above 95˚ F.

Table 2. OTT dicamba cutoff temperatures, DRA and VRA requirements, and additional mitigation

Two-Day Max Predicted Temperature	Drift Reduction Agent Needed	Volatility Reducing Agent Needed	Additional Mitigation
<85˚ F	Yes	Yes	No
≥85˚ F - <95˚ F	Yes	Yes	Do not treat more than 50% of DT cotton and DT soybean acres managed by the user within the county
≥95˚ F		No applications	

Check Predicted Maximum Temperature for Day of Application and Day Following

OTT dicamba labeling requires applicators to get the predicted maximum temperature for the day of application and the day following application from a National Weather Service (NWS) forecast for the location of the field.

Forecasts from NWS can be obtained at:

www.weather.gov

The predicted maximum temperature will determine any additional mitigation needed to make an application (Table 2).

Measure Wind Speed at Boom Height

Applicators may not apply unless windspeed is between 3 and 10 MPH. If windspeed is less than 3 MPH or greater than 10 MPH, application cannot be made. Windspeed must be measured again prior to refilling the spray tank.

Measure Temperature at Boom Height

Before making an OTT dicamba application, applicators must also measure the temperature at boom height. The temperature at boom height, along with the forecasted daily maximum temperature for the day of and the day after application, will determine any additional mitigations necessary to apply at the measured temperature. See table 2. Temperature must be measured again prior to refilling the spray tank.

Section 2. APPLICATION SCENARIOS

While many of the requirements to apply OTT dicamba products can be satisfied prior to the growing season, the ability of growers to apply OTT dicamba products on their intended day of application will largely depend on both the predicted temperature for the day of application and following day, and the temperature measured at boom height at the time of application and when refilling the spray tank. The interaction of the predicted temperatures and measured temperatures can lead to multiple application scenarios which are discussed below. All of these scenarios assume that the applicator has satisfied all of the other mitigation measures discussed previously, as well as any labeled mitigations not discussed in this document.

Scenario 1 - Both Predicted and Measured Temperatures Remain Below Threshold

	Day of Application	Day After Application
NWS Predicted Maximum Temperature	82 °F	81 °F
Temperature at boom height before application	77 °F	
Temperature at boom height prior to refilling spray tank	82 °F	

In this scenario, the NWS forecasts for maximum temperatures for the day of application and the day after application are both less than 85 °F. The temperature at boom height for the first application of the day is 77 °F prior to application and 82 °F after the application is finished. The beginning temperature and temperature prior to refilling the spray tank remain below 85 °F.

Result: The applicator mixes an approved VRA at the appropriate rate with the OTT dicamba product for each application of the day. There are no restrictions on the acreage to be treated. The field is treated as planned.

Scenario 2 – Incorporation of 50% Acreage Restriction - Predicted Temperature

	Day of Application	Day After Application
NWS Predicted Maximum Temperature	86 °F	89 °F
Temperature at boom height before application	86 °F	
Temperature at boom height prior to refilling spray tank	90 °F	

In this scenario, the user (grower) has 1,000 acres of DT soybean in the county and does not grow any DT cotton in the county. The NWS forecasts for maximum temperatures for the day of application and day after application are between 85 °F and 95 °F. The measured temperatures at the beginning of the application and prior to refilling the spray tank are also between 85 °F and 95 °F. To apply between 85 °F and 95 °F, applications are restricted to 50% or less of a user's total combined DT soybean and DT cotton acreage for that county where OTT dicamba products are being applied.

Result: The applicator mixes an approved VRA at the appropriate rate in the tank with OTT dicamba product. The applicator treats a maximum of 500 acres of DT soybean in the county. The applicator then waits at least two days to treat the remaining 500 acres of DT soybean in the county subject to conditions on the day of treatment. When returning to treat the remaining 500 acres of DT soybean the applicator must again check the air temperature at boom height prior to application and again prior to refilling the spray tank.

Scenario 3 – Incorporation of 50% Acreage Restriction – Measured Temperature

	Day of Application	Day After Application
NWS Predicted Maximum Temperature	84 °F	84 °F
Temperature at boom height before application	84 °F	
Temperature at boom height prior to refilling spray tank	87 °F	

In this scenario, the user (grower) has 1,000 acres of DT soybean in the county and does not have any DT cotton in the county. The NWS forecasts for maximum temperatures for the day of application and the day following application are both below 85 °F. The measured air temperature prior to application is below 85 °F. However, the measured temperature prior to refilling the spray tank is greater than 85 °F.

To apply between 85 °F and 95 °F, applications must be restricted to 50% or less of a user's total combined dicamba-tolerant (DT) soybean and DT cotton acreage within the county where the OTT dicamba is being applied. In this case, if the acres treated in that day exceed 50% of the growers combined DT cotton and DT soybean acreage in that county, then no further applications may be made until two days have elapsed. However, if the total acres treated in that day have not yet exceeded 50% of the user's total DT cotton and DT soybean acres in the county, the grower may apply up to the 50% of total DT cotton and DT soybean acres threshold to apply OTT dicamba products between 85 °F and 95 °F.

Result(s): The applicator mixes an approved VRA at the appropriate rate in the tank with OTT dicamba product. The applicator had treated 600 acres of DT soybean when the measured temperature rose above 85 °F prior to refilling the spray tank. The applicator stops applying OTT dicamba and returns to treat the remaining acreage in the county after two days have elapsed.

If less than 500 acres of DT soybean in the county under management by the user had been treated, the applicator can continue to treat up to 500 acres of DT soybean.

<u>Scenario 4 – Measured Temperatures Above 95°F</u>

	Day of Application	Day After Application
NWS Predicted Maximum Temperature	93 °F	94 °F
Temperature at boom height before application	93 °F	
Temperature at boom height prior to refilling spray tank	97 °F	

In this scenario, the NWS forecasts for maximum temperatures for the day of application and the day following application are both below 95 °F. However, the measured temperature when refilling the spray tank exceeds 95 °F.

Result: Acreage restrictions apply, as in Scenario 3. Once the applicator sees that measured temperature at boom height exceeds 95 °F prior to refilling the spray tank, applications must stop for the day.

Scenario 5 – Predicted Temperatures Above 95°F

	Day of Application	Day After Application
NWS Predicted Maximum Temperature	96 °F	96 °F
Temperature at boom height before application	n/a	
Temperature at boom height prior to refilling spray tank	n/a	

In this scenario, the NWS forecasts for maximum temperatures for the day of application and the day following application are both equal to or above 95 °F.

Result: OTT dicamba applications cannot be made. Even if the temperature is equal to or below 95 °F the day of the potential application, the predicted temperature for the day after would preclude treatment.