BACKGROUND

On October 31, 2018, the U.S. Environmental Protection Agency reregistered three dicamba herbicide products for use on dicamba tolerant soybeans as Restricted Use Pesticides (RUP). The three product labels are Engenia®, XtendiMax® With VaporGrip® Technology and FeXapan® With VaporGrip® Technology. EPA has classified the three product registrations as RUPs in order to provide additional safeguards for how the products were applied and what pre- and post-application activities were required of applicators. The reregistration is effective for the 2019 and 2020 application seasons. Some changes were made to the labels specific to record-keeping requirements and application standards. While most of the new label language is logical and understandable, the Nebraska Department of Agriculture (NDA) believes it would be helpful to provide additional guidance to applicators on some terms found in the three labels. It should be noted that the information listed below applies to any labeled use of the RUP dicamba products, not just for dicamba tolerant soybeans, and could also apply to any other dicamba herbicide labels that EPA might register in the future for use on dicamba tolerant crops.

LABEL TERMS

**Boom Height:** All RUP dicamba labels require boom heights at or below 24 inches above the top of the surface being treated. NDA recognizes most spray boom systems vary in height when fully extended due to equipment design, and advises applicators to make sure all sections of the spray boom are capable of being lowered to this distance above the crop canopy. NDA also advises applicators to consider applying hilly or terraced fields in manners that reduce or avoid the ends of spray booms bouncing up as the terrain changes.

**Equipment Rinse Water Management:** All pesticide labels provide specific language or guidance on how to properly manage equipment rinsates. Many labels direct the user to dispose of equipment rinse water “on-site”, or to dispose of chemical waste “in compliance with local, state or federal guidelines”. NDA advises applicators that disposal of remaining pesticide tank material “on-site” means sprayed in the field to which the application was made, not dumped at the field edge or released on a parking area at the mixing and loading area back home. NDA advises applicators that any unapplied material returned to the mix/load site, or equipment wash/rinse water generated over a loadout pad are considered waste pesticides. Collection of these wastes should be used at a future time as makeup water on the same crop or site of application allowed by the label. Applicators should note that Title 128, Nebraska Hazardous Waste Regulations, is the state regulation covering the proper disposal of pesticide waste that cannot be applied according to label directions.

**Equipment Cleanout Procedure:** RUP dicamba labels require applicators to ensure that spray equipment is clean before using the product and after the product is applied. Cleaning equipment prior to loading with dicamba assures that the materials in previous loads do not negatively impact the performance of the dicamba or the crop being treated. The intent of the labels registered by EPA and NDA for 2019-2020 require spray systems to be cleaned following the procedures found on the RUP dicamba labels before using the
herbicide the first time, as well as after the application. NDA advises applicators that all mixing, loading and transportation equipment used for dicamba applications are also potential sources of contamination and should be treated the same as spray equipment when it comes to cleanout before changing product mixes.

**Sensitive Areas, Sensitive Crops and Residential Awareness:** Sensitive areas are defined in the Engenia label as bodies of water and nonresidential, uncultivated areas that may harbor sensitive plant species (other than crops). The Engenia label for 2019-2020 identifies residential areas as sensitive, whether or not they harbor sensitive crops or plants. All three RUP dicamba labels list a number of broadleaf crops that are sensitive to dicamba; however, not all sensitive crops are listed. NDA advises applicators that any dicamba sensitive plant grown as a crop is considered a sensitive crop. Applicators are encouraged to consult the DriftWatch website for a listing of enrolled sensitive crops in their area. The website address is [https://ne.driftwatch.org/map](https://ne.driftwatch.org/map).

**Neighboring or Adjacent:** The RUP dicamba labels for 2019-2020 use the terms “neighboring sensitive crops and residential areas” or “adjacent fields” for those areas requiring protection from spray drift. However, the labels do not define a specific distance; instead, they defer the decision to the applicator. Since the RUP dicamba labels require applicators to maintain a 110- or 220-ft buffer from downwind sensitive crops or residential areas, NDA believes the terms “neighboring” or “adjacent” should use the same distances, as a minimum, for purposes of scouting and documenting all nearby sensitive areas. Therefore, if using Engenia, applicators should scout and document all nearby sensitive crops and residential areas within 110 feet in any direction of the target site, but use either 110 or 220 feet for XtendiMax or FeXapan, depending on the rate of application. These are minimum distances, and applicators should document other nearby sensitive crops or residential areas that are further than 110 or 220 feet away if conditions warrant.

**Daytime Application Hours:** The revised labels for 2019-2020 further restrict applications such that applications may not be initiated earlier than one hour after sunrise and must terminate no later than two hours before sunset. Since visible sunrise and sunset can be obscured by clouds, trees or terrain, NDA advises applicators to consult with the National Oceanic and Atmospheric Administration (NOAA) Solar Calculator found at [https://www.esrl.noaa.gov/gmd/grad/solcalc/](https://www.esrl.noaa.gov/gmd/grad/solcalc/) to determine a precise and official source in determining local sunrise/sunset for purposes of label compliance. The intent of restricting spray applications during daylight hours is to avoid spraying during a possible air temperature inversion event.

**Measuring Wind Speed, Wind Direction and Temperature:** The RUP dicamba labels require wind speed, wind direction and air temperature must be measured at the start and finish of any application at boom height. NDA recognizes many applicators use technology that accesses nearby or regional weather stations for this purpose; however, the RUP dicamba labels require these readings must be made at boom height, which means an off-site weather station reading does not comply with this label provision. NDA advises that wind direction should be recorded as the direction from which the wind is coming, not the direction it is going. Most hand-held weather instruments record wind direction as a compass heading or as abbreviations such as SW or NE. NDA advises applicators to record the compass direction as the equipment shows it, and avoid trying to interpret a compass reading into a direction abbreviation. NDA advises applicators to document the device used and if practical, take a photograph of the reading at the start and finish times of the application as proof positive what the real-time weather was doing before and after the application.
ENDANGERED SPECIES PROTECTION

All three RUP dicamba labels have sections that direct the applicator to take steps, when necessary, to protect endangered species or their habitat. While this language has been in many labels for a number of years, this is the first time Nebraska has actually had habitat listed on an EPA Endangered Species Protection Bulletin (ESPB). The following are important aspects of what this means to pesticide applicators in certain areas of the state.

• Any application of RUP dicamba in an area listed on an ESPB must comply with additional restrictions listed on the bulletin.
• Bulletins can be accessed either on EPA’s website or by calling a toll-free phone number and asking for a copy of the bulletin. The website address is http://www.epa.gov/espp/. The toll-free phone number is 1-844-447-3813.
• Applicators will need to know the specific location for the field they intend to spray with dicamba, since the ESPBs are scaled to field legal descriptions. An applicator will either need to enter the legal description or nearby community, or provide the legal description to the person answering the toll-free phone line.
• At most, applicators may be required to set back 57 feet (17.5 meters) on all sides of the intended target field, if the field is found to be within the protected area of the bulletin. This will be required whether or not the field is actually near an endangered species habitat, and in some cases, may be miles away from the habitat, but still included within the protected area of the ESPB. Note in the image below, fields in Buffalo County north of the Platte River are included in the habitat area, but fields north of the Platte River in Dawson County are not. Any field in the shaded area where the RUP dicamba herbicides are applied would need to maintain a 57’ buffer around all borders of the field. In some cases, entire counties are identified as protected areas.