What you should know about newly approved dicamba formulations

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The label to spray dicamba on Xtend soybean and cotton has arrived. Specifically, the dicamba products that will be labeled are XtendiMax from Monsanto and Engenia (label expected in the future) from BASF.

I have made no bones about the need for new tools to help manage Palmer amaranth. Clearly we have seen that dicamba used in a system can be an effective Palmer amaranth tool.

However, as we all too clearly saw this summer, dicamba is a complex herbicide. It can readily move great distances and injure crops and vegetation if sprayed like a normal herbicide. There are two big reasons dicamba can be so much more impactful to off-target vegetation.

The first is that many broadleaf plants are very sensitive to ultra-low rates of dicamba. The second is that dicamba is much more volatile than many other herbicides.

Dicamba is not glyphosate with respect to injuring broadleaf plants at crazy low rates. Glyphosate at rates of 1/8 of the 1.0-pound rate — which is a very stout drift rate — will show 20 percent visual injury to plants like tomato, tobacco and soybean.

Dicamba, on the other hand, will show 20 percent visual injury with drift as low as 1/1500 of the 0.5-pound Banvel rate on several crops. That kind of sensitivity to rates so low is a real game-changer with respect to how much more careful dicamba must be stewarded compared to glyphosate.

That is also why the labels for the dicamba formulations that can go over the top (Engenia and XtendiMax) specify that Turbo Teejet Induction (TTI) nozzles must be used. Those nozzles limit the number of fine droplets to less than 3 percent. Fine droplets are typically considered to be less than

200 microns (100 microns is about the width of a human hair). Fine droplets can take many minutes to fall to the target after application and are the ones most likely to drift.

If glyphosate were being applied, those “fines” would often not be a big deal because they could not deliver a large enough rate to cause injury symptoms to most neighboring broadleaf plants. However, with dicamba that is not the case.

Another factor is dicamba is much more volatile under hot and humid conditions than most other herbicides. In other words, in the salt forms we know as Banvel and Clarity, dicamba can change into a gas 6, 12, 24 or even 72 hours after it is sprayed and then move off target with a slight breeze.

These volatilization events are ultra-low concentrations and only occur under very hot and humid conditions. Any herbicide other than dicamba or 2,4-D, at very low concentrations would not show injury to off-target vegetation.

That is why, for this technology, the new lower volatile formulations must be used in order to mitigate volatilization. Remember that although these new formulations have lower volatility, they are still volatile.

In my first glance at the Xtendimax label, I was surprised to see fewer restrictions than we first saw in the open comment period. It would appear the EPA is going to let states tailor stewardship for use within their borders. In most of the Mid-South states, expect stewardship training to be mandatory.

In Tennessee, during stewardship training we are going to stress the label requirements for Engenia and XtendiMax be followed. Most importantly, these lower volatile dicamba formulations are the only ones that can be used and must be sprayed with the TTI tips. Moreover, the boom height will need to be kept just 24 inches above the target. That last point is perhaps the biggest challenge for applicators.

Even following the label, some dicamba injury is likely to occur in neighboring fields. Therefore, not every field will be a good fit for Xtend soybeans. Fields where tobacco, tomatoes, or other sensitive plants are next door would best be planted to LibertyLink, Roundup Ready or conventional crops. A field of a neighbor you may have drifted on recently might be another reason to plant a non-Xtend soybean variety.

I know farmers want to go all one technology to keep from spraying, say, Liberty on Xtend soybeans. However, one is better off messing up their own fields due to a misapplication than drifting dicamba on a 60-acre tobacco field that will cost a lot of heartache and possibly a $600,000 lawsuit.

Finally, folks, we’ve already used our mulligan with this technology. If it is not stewarded well, then it is most likely that we will force the EPA’s hand and they will pull it.