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Dicamba Update: What Is Going On In the Ninth Circuit & What Is Going On With the Drift Class Action

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Dicamba has been back in the news lately in several areas. EPA recently moved to cancel registrations for three dicamba products, XtendiMax®, Engenia®, and FeXapan®, based on a ruling in the Ninth Circuit. Growers [had] till the end of July 2020 to use existing stocks. And Bayer, the parent company of Monsanto, recently announced settlement of around $400 million for class-action lawsuits filed against possible drift damage caused by the company's XtendiMax product. Although details of that settlement will not be known for a while, let's step back and get a sense of what this means for growers.

What are the dicamba drift lawsuits about?

Producers experiencing dicamba drift damage brought the current *In re Dicamba Herbicides Litigation* against the manufactures of the dicamba-based herbicides XtendiMax and Engenia. With the federal claims, the plaintiffs argue that Monsanto and BASF Corporation violated § 1125(a) of the Lanham Act in marketing both XtendiMax and Engenia dicamba-based herbicides. The plaintiffs also allege that state claims focused on negligence claims in product design, failure to warn of negligence in the design, failure to warn of the dangers, and poor training sales of representatives for the two dicamba-based herbicides.

Only one of the federal lawsuits has gone to trial on similar claims in *In re Dicamba Herbicides Litigation*. A federal jury in *Bader Farms, Inc. v. Monsanto Co.* awarded a Missouri peach grower $265 million in damages, $15 million in actual damages, and $250 million punitive damages. The defendants are currently appealing this decision.

What is in the settlement?

The exact terms of the settlement are currently unknown. The plaintiffs and defendants have agreed in principle to settle claims of yield losses due to dicamba damage from 2015 to 2020. About $300 million of the settlement will cover specific losses to soybean growers during that period. Another $100 million of the settlement will go towards non-soybean damage and include the plaintiffs' attorneys' fees.

Who will be eligible?

What still is not known is how broad the eligibility will be. We do not know if this will be nationwide or limited to the class action lawsuit states. As mentioned above, we currently know the settlement will cover yield losses due to drift damage from 2015 to 2020. We will have to wait for the final

In Dry Weather, Watch for Silk-Clipping Insects in Corn

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Figure 1 (left). *Japanese beetles feeding on corn silks.*
Figure 2 (right). *Silk regrowth after clipping.*

It is not unusual to see groups of Japanese beetles feeding on corn silks, which is known as "silk clipping" Figs. 1 and 2). While Japanese beetle numbers tend to peak in July, there are multiple beetles that may clip corn silks, and with later maturity field and sweet corn silking in August, it is important to still be on the lookout But how much of a concern is silk clipping, what should you be looking for, and what should you do about it?

Silk clipping is often not as much of a concern as it initially appears. If silks are clipped after pollination, which occurs within the first 4-5 days of silk emergence[1], kernel set will not be affected[2]. If clipping reduces the number of kernels, the kernels may develop to be larger and offset the reduction in number[2]. However, under drought conditions, yield loss from silk clipping is more likely[2,3].

Drought slows silk emergence and pollination, which means there is a longer window where silk clipping can hurt yield. Indeed, severe drought stress can cause incomplete silk emergence and cause a mismatch between pollen shed and silks that results in nearly blank cobs[1]. Drought can also make it harder for plants to compensate for poor pollination[1]. If leaf rolling begins in the early morning and continues until evening[1], the field is stressed enough to be of concern and it is important to scout for silk clipping beetles during the first several days of silk emergence.

The culprits. Japanese beetles are the most noticeable silk clippers in Maryland because they are large, shiny, and congregate in groups (Fig. 3). They are a sporadic pest[4] and their populations will vary yearly. However, their populations may be higher in corn following sod, soybean, or perennial ryegrass or clover covercrops[4]. Other beetles that may clip silk include the western, northern, and southern corn rootworm adults (Fig. 4)[5]. Western corn rootworm (WCR) has several look -alikes that do not clip silks, so make sure check the stripes; WCR will not have crisp black stripes, but instead has smudged stripes.

Scouting. Silking typically begins 3 days after tasseling[5], so plan your scouting accordingly. You want to evaluate the silk stage and pollination. Silks naturally senesce about 10 days after emergence, browning and drying out. At this point, pollination can no longer occur[1]. To determine if green silks have been successfully pollinated, you can dissect the ear and do a shake test. Pollinated silk starts to discolor and drop away at the base of the silk where it attaches to the ear. Bob Nielson with Purdue Extension has produced a great video describing the pollination shake test: https://www.youtube.com/watch?v=K7DiwD4N0T0&feature=youtu.be

Figure 3 (left). *Japanese beetle.* ***Figure 4 (right).*** *Adults of southern corn rootworm (left), western corn rootworm (middle), and northern corn rootworm (right).*

You should scout if pollination is incomplete. When scouting, make sure you sample both the edges and the interior (at least 40 feet into the field); while you may see alarming numbers of Japanese beetles on the edge of the field, there are usually much fewer inside the field[2]. Sample a minimum of 20 corn plants in 5 locations spaced evenly though the field. Count the number of beetles per ear and measure the length of the silks.

Thresholds. For Japanese beetles, three conditions need to be met to before an insecticide application will pay off: 1) there are three or more beetles per ear, 2) silks are clipped to less than ½ inch in length, 3) and pollination is less than 50% complete[4] (most silks in the field are still green and/or shake test indicates about half of the silks are still attached). Conditions are similar for rootworm beetles, but the threshold is five or more beetles per ear.

Treatments. Because broad-spectrum insecticides may cause flare ups of other pests (for example, aphids or spider mites), only spray if thresholds are met. Pollen -shed is a time when there are large numbers of beneficials in the corn field doing important pest control work (Fig. 5), and foliar sprays may decrease their numbers.

Figure 5. *Lady beetle larva eating corn pollen.*

For Japanese beetles, consider a perimeter spray if most of the damage is on field edges (where they tend to feed more heavily). Japanese beetles are difficult to control, but pyrethroids should provide some control (e.g., Baythroid®, Brigade®, Warrior II®, Hero®, etc.). Good adult corn rootworm control has been found for indoxacarb products (e.g., Steward®), pyrethroids (e.g., Warrior II®, Brigade, etc.), and neonicotinoid pyrethroid mixes (e.g., Endigo®)[6,7]. When using insecticides, always consult and follow the label.

If silk clipping by Japanese beetles is a consistent problem, consider cultural controls like avoiding ryegrass and clover cover crops. Because female beetles lay eggs more easily into soft ground, it is also possible to reduce egg laying in nearby fields by pausing irrigation during the peak of Japanese beetle activity[4].

Additional Resources:

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