

Herbicide applications in dryland cotton and peanut under hot and dry conditions

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In recent a few weeks, most of the south Alabama was warm and dry, mostly dry. We have not had any rainfall for over two weeks in a row and this is taking a toll on row crops. Many people cannot plant their dryland fields and the crops planted are suffering drought stress. I have received several calls and texts regarding the concerns of soil herbicides sprayed behind the planter may not get activated. So, I am writing this timely information sheet to further discuss this issue.

1. No chance of rain in forecast for the next 10-14 days. Should I still spray soil herbicides behind planter after I plant my dryland field?

I am a big advocate of using soil herbicides for weed control. However, in this case, I would suggest only spraying Gramoxone or Liberty behind the planter to smoke the weeds and start clean. We all know a fact for soil herbicides: it does not matter if it does not rain. They will not do you much good if there is no rain to activate them.

2. If I did not spray soil herbicides behind the planter, what do I need to do next?

My first thought is I hope you sprayed a good residual herbicide treatment in your preplant burndown application, so you may still have some herbicide residues in soil. If you did not spray any soil herbicide behind the planter, I would do postemergence treatment very timely when you know you will have a high chance of rainfall. Weeds will not germinate or grow much in a very dry situation, so spraying a residual herbicide such as Warrant, Dual Magnum, or Outlook with Roundup, Liberty, Enlist Duo or One, or Roundup + Dicamba within 3 days before you get a rainfall is very important. In peanut, you can spray either Warrant, Dual Magnum, Outlook or Zidua with a postemergence herbicide such as Cadre, Blazer or Cobra. Weeds always make a flush after the rain if it has been dry for a while. Therefore, I suggest growers spray residual and foliar herbicide before the rain and hammer them hard with a follow up treatment 14-21 days later if escaped weeds start to grow fast after the rain.

3. What do I need to do when I burn off emerged weeds behind planter and it is dry?

It is likely that these weeds are in a drought stress too, so they may not respond to herbicides super well. They also can grow thick leaf cuticle and wax layer so herbicide absorption will be lower than normal. I would suggest growers using crop oil concentrate or methylated seed oil instead of non-ionic surfactant (NIS) because oil-based surfactant may dissolve cuticle wax better and allow more herbicide to get into weed foliage. Adding liquid ammonium sulfate may increase control of certain weeds. If you happen to get a shower, although it may be a very small one, it

can still help you burndown weeds better after a little bit of moisture, and I would take advantage of that before it gets very dry again.

4. How much rain do I need to activate my soil herbicides?

Not a lot, 0.5 inch of rain can usually do it. For some soil herbicides, they can be activated with as little as 0.25 inch of rainfall. In a previous study, 0.5 inch of simulated rainfall was able to activate Brake, Reflex, Diuron, Cotoran and Warrant for pigweed control. However, with only 0.25 inch of rainfall, Brake + Reflex was the only treatment that provided over 90% pigweed control. See pictures below (pictures credit to SePro).

Palmer amaranth control after 0.25-inch total irrigation at 7 days after application



Brake 16 oz/A



Brake 16 oz + Reflex 12 oz/A

5. Which soil herbicide last longer on soil surface when there is no rain?

I probably have been asked this question a hundred times so far, so I decided to run a large study to evaluate persistence of common cotton and peanut residual herbicides on soil surface before they can see a rainfall. More results will be available later in the fall.

Questions? Please contact:

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