Important Components of Weed & Pest Control that Don't Involve Chemicals, Equipment, or even the Pest Itself—Your Employees and Your Custom Applicator

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I believe applicator awareness is often overlooked in weed and pest control. Communication and the needed instruction between a farmer and their own employees or a custom applicator can make the difference in a serious mistake that damages a current crop, affects a planned crop rotation next year, or perhaps amounts to 85% weed control instead of the near 100% that you otherwise would expect.

Part I: Your Employees

Here are some tips as you work with your on-farm weed control team…

- First, simply emphasize safety at all times. On the farm I grew up on, I will admit that didn't always happen. As a teenager I did some things that were stupid, and I wasn't 18 yet (minimum age now to be allowed to handle pesticides).
- Confirm and cross-check with your staff which chemicals and any additives are being used.
- Eliminate potential confusion about amount of chemical added to tanks, proper land speed, and issues involving calibration.
- Ride the rig with your staff as much as is needed to ensure they are properly trained.
- Communicate how important it is to fix plugged nozzles immediately (stop right there in the field!) and address other equipment issues; or in some cases that tank and system cleanout is conducted properly.
- Teach your staff to stop and CALL YOU if something doesn't look right. Imagine one of your staff spraying dicamba on 16" tall grain sorghum with a hooded sprayer. But the ground is rough and at the speed you are calibrated for the hoods are banging into the ground. Instead of calling you, your employee raises the hoods 6" and sprays the field. Now you have the risk that some crop loss may occur due to unacceptable contact of dicamba with the sorghum and potential blasted heads which don't fill very well.

Asking confirmation questions of your staff—there is a right way to do this…

A good way to double-check with your staff that proper chemicals and amount are being prepared for application is to ask what has been done. But how you ask will give you a more accurate indication of proper procedure and more likely identify if mistakes have been made.

Here is an example where you instruct your son/daughter or other employee to add a given amount, 2.0 gallons, of dicamba to a 300-gallon tank for spraying grain sorghum. Now you want to ask if they did it right.

- This is not a good question to ask: "*Did you add 2.0 gallons of Banvel to the tank?"* Why is this not a good question to ask?—because the employee can answer 'Yes' without revealing if they might have made a mistake. Maybe they *did* make a mistake. They added 2 jugs of Banvel (2.5 gallons each) to the tank. An employee might realize they made a mistake and be afraid to admit

it (even though the long-term consequences—severely damaged sorghum—are worse; but they might not know this could be a problem, or they will only be working for you through the summer then quit and go back to school, etc.). This question may not have revealed the error.

- Instead ask this question: *"What chemical and how much did you add to the tank?"* Now this is a question they can't answer 'Yes'. They have to tell you something. They will either guess (still might be right, but not likely), or they don't know, or they will tell you the wrong thing. Now you have a good chance of knowing if a mistake has been made. If the sorghum field hasn't been sprayed yet, you can avert a potential disaster.

Investing time and training in your employee that handles spray duties, and rewarding them…

For your family members (18 or older) or permanent staff that helps spray your crops:

- Have them study and train on your timeclock for their own pesticide applicator's license.
- Arrange for them to take the test.
- When they pass it give them one-time bonus ($250?) or an annual supplement. This tells your employee he or she has increased value as part of your team and that you value their new skills. Increased training and sense of value on the part of your employee might avert a crucial mistake that could cost tens of thousands of dollars.
- Have your newly licensed applicator help you maintain your records for TDA.

Part II: Your Custom Applicator

Here are some key tips for working with your custom applicator.

Be clear with any commercial applicator you hire and ensure they understand what is needed and they are following label guidelines. Confirm the rate of chemical you need applied. Are their additives needed like AMS or crop oil? If so, make sure. I especially encourage farmers hiring custom application work to know what the label calls for as a minimum of carrier volume, whether by air or ground rig. Expect—require—that your applicator use the minimum labeled rate for water per acre. This is important for coverage; make sure you get what you are paying for.

Some labels unfortunately state a too-low carrier volume rate. Here are examples that reflect different reasons why carrier volume may be too low and should be increased:

- Dupont's Prevathon, which better enables sorghum growers to attack worms in the whorl is labeled in Texas for 2 gallons per acre for aerial application. And likewise at 2 gallons per acre for aerial application for sunflower moth control in sunflower. Even Dupont staff in Texas disagree with this. It needs to be at least 3 gallons per acre, and probably more for optimal coverage. Unfortunately, since this is the labeled rate your custom applicator may balk without you paying more if you want 5 gallons per acre. This is a dilemma, but if you are serious about achieving good insect control then carrier volume must be considered. A poor application may require a second application.
- Transform for sugarcane aphid. If this insecticide becomes labeled again for use, Texas A&M AgriLife entomologists are in wide agreement that coverage is critical. The labeled rate for aerial application for Transform is 3 gallons per acre, but our entomologist agree this is a situation with SCA that you need to apply 5 gallons by air (or 15 or more gallons/acre by ground vs.; 5-10 gpa is labeled). So this is somewhat different situation than above in that SCA presents a special situation. Also, there is wide agreement among AgriLife entomologists that different additives

are merited (DowAgro agrees), but this information is not on the label, so you would need to relay this to your applicator to ensure they can follow best recommended practices.

- Weed control with thorough coverage. Small weeds, weeds that might receive protection from a partial crop canopy, difficult-to-control weeds. Thorough coverage enables labeled rates to work better. Some herbicides don't allow you a "second chance", e.g., you get one application due to growth stage, potential residual carryover, etc. As an applicator, a farmer or a custom applicator, I bet you sometimes calculate how many acres you can cover at a certain carrier volume or how much time you can save if you spray weeds at a lesser volume. It is appealing—you don't like to have to stop and fill up again. It is time, and that costs money, right? But remember the potential downside is likely much greater. Poor weed or pest control.

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For questions and information about improving your weed, insect, and disease control in Texas crops consult the following Texas A&M AgriLife Extension resources:

Weeds

- Dr. Paul Baumann, College Station, (979) 845-4880, p-baumann@tamu.edu
- Dr. Peter Dotray, Lubbock, (806) 746-6101, pdotray@ag.tamu.edu
- Dr. Joshua McGinty, Corpus Christi, (361) 265-9203, joshua.mcginty@ag.tamu.edu

Insects

- Consult the Extension entomology personnel directory at http://www.texasinsects.org/contact-main-page.html

Diseases

- Consult the Extension plant pathology personnel directory at http://plantpathology.tamu.edu/extension-programs/extension-faculty/

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