All Crops, September 29, 2003

**WHAT ARE YOU GOING TO DO ABOUT PIGWEED?**

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Our station superintendent, Jake Fisher, also farms on the weekend and that gives him good insight into the issues our growers face. He recently asked "what we were doing about pigweed?" He knew the answer (we're working on it), and we knew what he meant (KEEP working on it!). We are working on Palmer amaranth control in Corn, Rice and Soybeans, but especially want to mention cotton where we are being funded by the Cotton Incorporated State Support Program to specifically target pigweed problems.

It is always difficult to discuss pigweed. Ten years ago, pigweed was considered easy to control. A good recommendation was "spray something". Today we consider it difficult, and the most intensive treatments seem to fail. It is also strange to consider what's happened since Roundup Ready has become popular: Ten years ago morningglory was our biggest problem. Then we switched to glyphosate which is considered to be weaker on morningglory and stronger on pigweed. But, it's morningglory that's faded and pigweed that's capturing headlines?

Here's one more angle on pigweed: In Northern Missouri, growers complain of the "Waterhemp species" of pigweed, while we complain of the "Palmer amaranth species". These two pigweed have some differences, but the big similarity is they are both causing headaches. Waterhemp seems to be troublesome North of US Highway 60. Palmer dominates South of US 60. Reid Smeda (one of our Weed Scientists in Columbia) planted waterhemp at Portageville and it went away after three years.

In soybeans Roundup Ready has been the answer. If you have pigweed problems, Roundup Ready is probably the way to go. Just keep your eyes open; some of the waterhemp pigweed have been acting like they're glyphosate resistant. The chemists can't agree, on what's actually happening, but whatever you call it, it sometimes survives. Many say that Palmer amaranth is a good candidate to develop glyphosate resistance and it is. But while we've all been watching pigweed, "mare's tail" turned out to be the dark-horse candidate that won the resistance race.

Roundup Ready cotton has also been a God-send for pigweed control, but I'm not so sure that it isn't causing some of the pigweed problems. Roundup Ready cotton fields often have good pigweed control, with an occasional, big escape every 200 feet or so. These escapes die if you spray glyphosate on them, so they aren't resistant. What we are probably seeing is that plants right in the drill are physically missed by the post-directed spray. Also, the use of residual herbicides has declined greatly, and this let's Palmer amaranth continue to germinate. Palmer will grow up to a foot per week, and glyphosate has no residual activity, so an occasional plant does seem to be slipping by.

In cotton, we've had some good luck with early postemergence Dual-glyphosate mixes. With post-directed treatments, it's more important when you spray than what you spray. Again,

residual herbicides should be used in post-directed, hooded and layby treatments, but if you spray on time, most will work. We might want to consider making more applications of residual herbicides and fewer directed applications of straight glyphosate. Also, we still see benefits from preemergence herbicides, even though they aren't popular.

Palmer amaranth is also a problem in corn. In most cases, the cause is that most corn herbicides are designed for cooler Iowa weather. Our warmer, wetter, longer summers wear out the best herbicides, so that all kinds of late season weeds germinate when corn dries out stops shading the soil. Also, a lot of our pigweed have ALS resistance, and ALS chemistry is popular in corn.

Recently, Ford Baldwin mentioned Palmer as being troublesome in rice. The big cause there, is that Command happens to be a weak on pigweeds and Command has displaced propanil which is a good pigweed herbicide. (For the record, Facet, Ricestar, Regiment, Londax, Permit and Clincher also do not control pigweed). We've tended to ignore broadleaf weeds until flood up time, but maybe we need to be jumping on them sooner in a Command program. The flood will control pigweed, but if they are thick, they will severely inhibit rice growth before flooding.

We will continue to work on pigweed control programs and share our results. However, for the foreseeable future, and regardless of the crop, we should recognize the following basic truths:

- Many herbicides, provide excellent short term pigweed control.

-Success requires a well-planned program using more than one herbicide.

-In many cases, residual herbicides are key.

-Good weather and good luck helps.

-99% control of a million weeds leaves a lot to be desired.

We are always willing to discuss pigweed control options with growers so feel free to call. Just remember- we don't have sure-as-fire answers.