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Bindweed Control Update

The late Dr. Allen Wiese once told me he was originally hired at Bushland, Texas in 1953, to find effective methods for controlling field bindweed. Since that time, bindweed has proven to be a fierce competitor to weed scientists, agronomists, chemists, and farmers. Hundreds of thousands of dollars have been spent on herbicides and tillage attempting to control the weed. Thousands of herbicides have been tested for its control, none of which has had the ability in a single application to eradicate the weed while being economically feasible and environmentally safe. Dr. Wiese used to say, "Diligence and patience were the two most effective ingredients for controlling bindweed." This is still very true today.

Lately, I am getting more than the usual number of phone calls on bindweed control. I think there are three reasons for this: 1) bindweed seems worse this year than usual, 2) excitement and uncertainty about the use and effectiveness of the new herbicide Paramount[®], and 3) questions concerning the availability and effectiveness of the bindweed mite.

Is bindweed worse this year than normal? Probably not. It likely seems worse because annual weeds are not as bad this year due to a lack of significant rainfall since soil temperatures were high enough to allow for germination. Annual weeds will often camouflage the presence of bindweed.

Paramount[®]

Although Paramount[®] has recently been labeled for use in parts of Texas, it is not a new herbicide. It has been labeled as Facet[®] for use in rice for a number of years. We have been doing research with the herbicide on bindweed control in fallow since the mid 80's.

However, much of the early work was at rates higher than are currently approved. Paramount[®] is NOW labeled to be applied prior to planting and post emergence in sorghum in 14 Texas counties (see box). It has not been labeled for use in other counties primarily because of concerns of drift injury to cotton. One misconception is that Paramount[®] is very volatile. This simply is not true. Any off target movement of Paramount[®] will be a result of physical drift which can occur with any herbicide. Paramount[®] has also been labeled in 80 counties in Texas prior to planting wheat in the fall. All of the counties in the Panhandle and South Plains Extension Districts are included under the label with the exception of Garza and Mitchell counties.

The good news concerning Paramount[®] is it is an effective bindweed control herbicide. How much more effective it is than our standard traditional herbicides will largely depend on how it is used. Like other herbicides, it has its strengths and weaknesses.

Two main weaknesses of Paramount[®] are the cost and the failure to control other weeds such as pigweed.

Texas counties labeled for Paramount[®] use in sorghum		
Randall	Potter	Armstrong
Hartley	Moore	Hutchinson
Carson	Dallam	Gray
Hansford	Oldham	Ochiltree
Roberts	Sherman	

In my opinion, Paramount® should be thought of as primarily a bindweed herbicide with some activity on small crabgrass and barnyardgrass. To provide control of broadleaf annual weeds, add Clarity®, 2,4-D, Peak®, or atrazine to the treatment.

Preplant and Post Bindweed Control in Sorghum

Because of the expense of Paramount®, my recommendation is to use Landmaster® or 2,4-D to control bindweed prior to planting sorghum. These two herbicides should provide about the same control as Paramount® during the summer and at less cost. Once sorghum is planted, Paramount® could be used for spot treatment of bindweed. However, if a broadcast treatment is needed, Clarity® or 2,4-D will provide good in season bindweed control. Paramount® could be used, but our tests have not shown it to be superior to 8 oz of Clarity® or 1 pt of 2,4-D Amine during the season. It is also much slower than these two traditional herbicides. Our research has not shown an appreciable advantage in bindweed control the following year when Paramount® is used in the summer over traditional herbicides. A summary of bindweed control from three studies conducted in 1999 can be found at <http://soil-testing.tamu.edu/publications/833144-2000-16.PDF>.

HERBICIDE COSTS	
Clarity®	\$11.25/pt
2,4-D Amine	\$2.50/qt
2,4-D LV6	\$2.25/pt
Tordon®	\$10.25/pt
Landmaster®	\$9.25/54 oz
Paramount®	\$17.84/5.33 oz

Fall Application Prior to Wheat Planting

When the crop rotation is wheat/sorghum/fallow, Paramount® should be the herbicide of choice for fall application. Paramount® will give you as good or superior control of bindweed, more than any other product on the market. The only other treatment that might be comparable is 1 pt each of Clarity® and Tordon®. This treatment runs the risk of injuring wheat if applied too near wheat planting. It is also more expensive than a 5.3 oz/A rate of Paramount®. The current BASF recommendation is to use 5.3 oz/A Paramount® in the fall and follow this with a 3 oz/A treatment in each of the next two years. Our research indicates that this program will go along way in reducing a population of bindweed.

Bindweed Mite

Many of you by now have heard about the biological control work being done with the bindweed mite, *Aceria malherbae*. The project is being directed by Dr. Jerry Michels at Bushland, Texas. The mite is similar to the wheat curl mite but its only host is bindweed. The mite injures bindweed by producing galls on leaves, petioles, stems and roots. Infested plants are yellowed, have deformed leaves, reduced vigor, and new growth is often killed. The mites can kill whole plants, limit seed production, and reduce its spread. It over-winters on the roots of the bindweed. The mite was released at over 70 sites last year across the Panhandle. Establishment occurred at about 50% of the sites. These sites will be reevaluated this summer. It is still unclear how much control can be achieved with the mite and how it will interact with herbicides or tillage. However, since the mites are free, any good they do will certainly be welcome. Plans are being made to establish mite nursery sites in 21 counties of the Texas Panhandle. Once these nurseries are established, mites will be made available to anyone in the county who wants them.

