

WEST
PLAINS
IPM
UPDATE

News about
Integrated Pest
Management in
Hockley and
Cochran
Counties from
Kerry Siders

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GENERAL SITUATION

As promised last month, I wanted to share some recommendations on herbicides for managing weeds in general where Palmer amaranth, a.k.a. pigweed, has already developed resistance or to limit resistance development to glyphosate.



Drs. Peter Dotray and Wayne Keeling, Texas A&M AgriLife Extension and Research respectively in Lubbock, just recently developed some materials which describe common herbicide inputs for cotton weed management on the Texas Southern High Plains. These recommendations are intended to be used as a guide, so always read and follow the label directions (<http://www.cdms.net/>) for complete details regarding rates, rotational restrictions, use of adjuvants, recommended carrier volumes and spray tip selections, etc.

Cotton Weed Management on the Texas Southern High Plains

By

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PREPLANT OPTIONS

One of the initial “keys” to effective, season-long weed management is to start clean. In conventional tillage, normal land preparation practices and herbicide incorporation, followed by a rod-weeder prior to planting should provide a clean start for uniform crop emergence and allow the crop to “get a head start” on the weeds. For growers in some type of reduced or no-tillage system, the use of tillage is replaced by burn down herbicides prior to or at planting. In this semiarid region, there are plant back restrictions to be aware of to avoid crop damage after planting. Below are a number of herbicide options labeled for use preplant.

Roundup (glyphosate) is a Group 9 herbicide based on the mode of action classification system of the Weed Science Society of America. The following information was obtained from the Roundup PowerMax label (<http://www.cdms.net/LDat/ld8CC010.pdf>).

USE INSTRUCTIONS. This product may be applied before, during or after planting cotton, but prior to crop emergence (unless it’s a Roundup Ready or Glytol cotton variety).

TANK MIXTURES. This product may be tank-mixed with 2,4-D, Valor, and FirstShot prior to planting (see restrictions on the 2,4-D, Valor, and FirstShot label). This product may also be tank-mixed with several herbicides and applied prior to emergence (see preemergence section) or postemergence (see postemergence section). Normal use rates of this product are 22 to 32 ounces.

Allow at least 1 to 2 weeks from application before any tillage operation is used to ensure adequate uptake and translocation.

2,4-D (a group 4 herbicide). Specific time, rate, and irrigation restrictions are essentially impossible to find on 2,4-D labels. In general, applications made prior to March 1 with any moisture accumulation (0.5 inches) should be enough to effectively dissipate the herbicide prior to planting. According to the Weed Management in Texas Cotton guide (ESC-008, 3/14), wait a minimum of 30 days following the application and a minimum of 1 inch rainfall or irrigation within a 24 hr period. A “normal use rate” of 2,4-D formulated at 4 pounds per gallon is 1 to 2 pints per acre. 2,4-D + glyphosate is an effective preplant burndown treatment to control winter weeds.

Clarity. According to the Clarity label (<http://www.cdms.net/LDat/ld797012.pdf>), do not make applications in regions with less than 25 inches of average annual precipitation.

Valor (flumioxazin, group 14 herbicide). According to the Valor label (<http://www.cdms.net/LDat/ld3LL041.pdf>), apply up to 2 ounces of product plus a tank mix partner (glyphosate) if weeds have emerged. Thirty days and 1 inch of rainfall or overhead irrigation must occur between application and planting in conventional tillage (21 days in no-till or strip-till when 1.5 to 2 ounces of product is used, or 14 days if 1 ounce is used). Include MSO or crop oil concentrate (COC).

Firstshot (thifensulfuron + tribenuron). According to the FirstShot label (<http://www.cdms.net/LDat/ld87I008.pdf>), apply 0.5 to 0.8 ounce/A as a burndown treatment to control emerged weeds prior to planting or 0.5 to 0.6 ounce/A when used in tank mixture with other herbicides like glyphosate or 2,4-D. There is a 14 day interval between application and planting. An additional 7 days must be added when used on light textured soils (sands, loamy sands and sandy loams). An additional 7 days must be extended when used on high pH soils (>7.9).

PREPLANT INCORPORATED OPTIONS

Trifluralin. The following information was found in the Trifluralin 4 EC Herbicide label by Helena Chemical Company (<http://www.cdms.net/LDat/ld4AR000.pdf>). Trifluralin may be applied using water liquid fertilizer as the carrier, or impregnated on dry bulk fertilizer. Broadcast application rates range from 1 to 2 pints/A and are based on soil texture (1 to 1.5 pints in coarse soils, 1.5 to 2 pints in medium soils, 2 pints in fine soils). Use higher rates within the rate range where greater weed populations are anticipated. To prevent loss of herbicidal activity, it must be incorporated within 24 hours after application.

The soil surface should be smooth to allow for uniform application and incorporation. Apply when the soil moisture is sufficient to allow the breakup of large clods and uniform mixing during the incorporation process. Soil compaction and/or non-uniform incorporation may occur if the soil is excessively moist.

In a soil bedding culture, trifluralin should be incorporated 2 to 3 inches in the final seedbed. If the application is made prior to bedding, apply and incorporate one time with recommended equipment. The bedding operation serves as the second incorporation. Do not expose untreated soil during post-bedding operations such as planting since removal of treated soil during planting may allow weed seed germination and establishment in the drill row. When applications are made after bedding, knock off the beds to planting height before application, and incorporate with recommended equipment that will conform to the shape of the bed. Again, do not expose untreated soil.

Use incorporation equipment capable of uniformly mixing the herbicide into the top 2 to 3 inches of the final seedbed. Improper incorporation may result in erratic weed control and/or crop injury. Incorporation equipment will mix Trifluralin 4 EC approximately half as deep as the equipment is set of operate. For example, a disc set to cut four inches deep will mix the herbicide within the top two inches of soil.

A tandem disc should be set to cut 4 to 6 inches and run at 4 to 6 MPH. A field cultivator should be set to cut 3 to 4 inches and operated at a minimum of 5 MPH. A rolling cultivator should be set to cut 2 to 4 inches and run at 6 to 8 MPH. Rolling cultivators are adequate for use on coarse and medium soils. With most equipment and methods of application, a second incorporation is required and may occur any time before planting. The second incorporation should be in a different direction, and to avoid bringing untreated soil to the surface, should not be deeper than the first. No information is listed for stalk cutters, which suggests that these are questionable implements for herbicide incorporation.

Apply and incorporate after January 1 when soil can be worked and is in a condition which allows thorough mixing to insure uniform incorporation. Ground cover, such as crop residues and existing weeds, can interfere with uniform soil incorporation. A manageable level of ground cover will allow uniform incorporation into the top 2 to 3 inches of soil. Excessive ground cover and crop residues should be reduced by appropriate soil tillage prior to application. Break up clods using tillage equipment prior to application.

Spread the fertilizer/chemical mixture with properly calibrated application equipment. Be certain the material is applied uniformly to the soil surface. Trifluralin 4 EC should be incorporated 2 times with impregnated on dry bulk fertilizer. The first incorporated should occur within 24 hours after application. The second application should be delayed 3 to 5 days after the first and be completed prior to planting

Trifluralin 4 EC may be applied by chemigation. Apply in sprinkler irrigation equal to 0.5 to 1 inch of water. Our experience suggests that a minimum of 1 inch of water should be used.

Prowl (pendimethalin). The following information was obtained from the Prowl 3.3 EC label (<http://www.cdms.net/LDat/ld867008.pdf>). Prowl 3.3 EC may be applied by ground or air and subsequent must take place within 7 days after application by rainfall, sprinkler irrigation, or mechanical tillage prior to weed seedling emergence. Use rates range from 1.2 to 4.8 pints/A depending on soil texture and tillage (conventional or minimum tillage: 1.2 to 2.4 pints/A in coarse soils, 1.8 to 2.4 pints/A in medium soils, 2.4 to 3.6 pints/A in fine soils; No-tillage: 1.8 to 2.4 pints/A in coarse soils, 2.4 to 3.6 pints/A in medium soils, 3.6 to 4.8 pints/A in fine soils). Incorporate into the upper 1 to 2 inches of soil up to 60 days before planting. Water or sprayable fluid fertilizer (such as 32-0-0 or 28-0-0) may be used as the carrier. Apply using 10 or more GPA water or 20 or more GPA liquid fertilizer (or 5 or more GPA by air). Prowl 3.3 EC may also be impregnated on dry bulk fertilizer. Use an implement capable of giving uniform incorporation. For surface incorporation, uniformly apply as a broadcast or banded treatment and incorporate within 7 days using 1 to 2 inches using sprinkler irrigation or shallow mechanical incorporation. A two-pass incorporation usually results in a more consistent result.

For use in minimum tillage or no-tillage systems, apply Prowl 3.3 EC alone or in tank mixes up to 45 days before planting. **Prowl H2O** (<http://www.cdms.net/LDat/ld6CT007.pdf>) may be preplant surface applied up to 15 days prior to planting, up to 60 days prior to planting and incorporation, and applied via chemigation. Rates range between 1 to 4 pints/A depending on soil texture and tillage.



Upcoming Meetings:

Pesticide Applicators Training & TESTING!

To obtain private pesticide applicators license from Texas Department of Agriculture

March 24, 8 AM, Extension Office - Levelland

Cost \$50. Please call to reserve you spot! 894-3159

See You On The Radio

IPM Radio Program Ag Talk on Fox Talk KJTV, radio 950 AM, on Wednesdays from 12:30 to 2:00.

Texas A&M AgriLife Extension in Hockley County Report on KLVT Levelland, High Plains Radio Network, radio 1230 AM, Wednesdays from 7:30 am to 7:45 am.

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