

WEST PLAINS IPM UPDATE

News about
Integrated Pest
Management in
Hockley,
Cochran, and
Lamb Counties
from
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General Update

Welcome to 2017! I trust you had a Merry Christmas and a Happy New Year. Well that was a long harvest season and for most well worth it I hope. Thank God for the winter moisture we have received. It looks like we will have some soil moisture to start with this spring.

We held our West Plains Ag Conference here in Levelland a few days ago and had a good crowd. Wes Utley, our Ag Agent, did an excellent job of putting together a good program of our Extension Specialist from Lubbock. This conference brought some excellent information to the producers in attendance.

There were many things discussed at the conference which all producers need to give thought to and make decisions on from managing insect pests in cotton, managing disease and nematodes, being good stewards with new weed control technologies, making variety selections, and laws and regulations.

The following pages are a great discussion of herbicides labelled for cotton in a preplant period.

PREPLANT HERBICIDE BURNDOWN 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 pre-plant weed control.

Continued

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 Flex, Roundup Xtend, or Glytol cotton variety).

TANK MIXTURES. This product may be tank-mixed with 2,4-D, Valor or Rowel, and FirstShot prior to planting (see restrictions on the 2,4-D, Valor or Rowel, 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 per acre.

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 such as mustard, shepherdspurse, henbit, and horseweed, and early emerging summer annuals such as kochia and Russian thistle.

Clarity. Do not use as a preplant burndown in this area due to soil residual concerns to cotton. 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.

Gramoxone Inteon. Gramoxone Inteon (paraquat) is a restricted use pesticide due to acute toxicity, so appropriate Personal Protective Equipment (PPE) is critical when handling, mixing, and spraying this herbicide. Use 1 to 2 pints preplant or at-plant, but before crop emergence. Since this is a contact-type herbicide, thorough coverage on weeds 1- to 6-inches in height is important for effective control. The use of flood-type nozzles may result in reduced weed control because of inadequate spray coverage. According to the label, "when spraying less than 20 gallons of spray carrier per acre, use only flat fan nozzles..." and use a nonionic surfactant. Gramoxone Inteon may be tank mixed with several herbicides that have residual control, including Caparol, Cotoran, Cotton-Pro, Diuron, Dual Magnum, and Prowl. Follow mixing order instructions on the label and maintain constant agitation. One of Gramoxone Inteon's greatest strengths is the control of Russian thistle (tumbleweed) to help "start clean". <http://www.cdms.net/ldat/ld77A041.pdf>

Valor, Rowel (flumioxazin, group 14 herbicide). According to the Valor label (<http://www.cdms.net/LDat/ld3LL041.pdf>) and Rowel (<http://www.cdms.net/ldat/ldC2U000.pdf>) labels, 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 (25%) + tribenuron (25%)]. According to the FirstShot label (<http://www.cdms.net/ldat/ld87I001.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). In addition, another 7 days must be extended when used on high pH soils (>7.9).

Afforia™ is a group 2 and 14 herbicide that is a premix of flumioxazin (40.8%), thifensulfuron (5%), and tribenuron (5%). According to the label (<http://www.cdms.net/ldat/ldBUU002.pdf>), this product may be used for selective burndown and residual weed control. Residual properties require rainfall or sprinkler irrigation to activate the herbicide. Best control is obtained if applied to moist soil and followed by rainfall or irrigation (~1-inch) before weed germinate. If moisture is insufficient to activate the herbicide, a rotary hoeing or shallow cultivation should be made after emergence of the crop while weeds are small enough to be controlled by mechanical means. Afforia may be tankmixed with several herbicides, including glyphosate, paraquat, dicamba, and 2,4-D. Be aware of plant back restrictions for all herbicides applied preplant. When Afforia is applied at 2.5 lb/A, there is a 30-day crop rotation interval. Where Afforia is used on light textured soils, such as sands and loamy sands, extend the time to planting by 7 additional days. Where Afforia is used on high pH soils (>7.9), extend time to planting by 7 additional days.

Leadoff® is a group 2 herbicide that is a premix of rimsulfuron (16.7%) and thifensulfuron (16.7%). According to the label (<http://www.cdms.net/ldat/ld2AA010.pdf>), this is a selective herbicide for burndown and residual control of certain annual grass and broadleaf weeds. Do not plant cotton less than 30 days following a 1.5 ounce rate or less than 60 days following the >1.5 to 2 ounce rate. The maximum use rate in cotton is 2 ounces per acre. Leadoff may be tank mixed with full or reduced rates of other preplant herbicides registered for use in cotton (e.g. Firstshot). Do not apply more than a total of 0.5 oz ai rimsulfuron per acre per crop from all sources. Do not apply to coarse textured soils (sand, loamy sand or sandy loam) with less than 1% organic matter. **In Texas west of I-35, the rotational interval to cotton is 10 months.**

Aim EC. Aim may be used as a burndown treatment in cotton no later than one (1) day after planting. Use rates are weed species (and weed size) specific and range from 1 to 2 fluid ounces per acre. Make applications to actively growing weeds up to 4-inches in height or 3-inches in rosette diameter. A nonionic surfactant (0.25% v/v), crop oil concentrate (1 to 2% v/v), or methylated seed oil is required. Aim may be tank mixed with other preplant burndown herbicides such as glyphosate (Roundup), glufosinate (Liberty), paraquat (Gramoxone Inteon), and 2,4-D. <http://www.cdms.net/ldat/ld5L1018.pdf>

ET®X. ETX may be used as a burndown treatment in cotton for control of several broadleaf weeds. For best results, use ETX on weeds less than 4 inches in height, or rosettes less than 3 inches in diameter. Use rates range from 0.3 to 1.25 fluid ounces per acre. Use the higher rates and spray volumes for control of larger weeds. Use a minimum of 5 gallons of carrier volume if applied by air or 10 gallons if applied by ground. Make applications to actively growing weeds up to 4-inches in height or 3-inches in rosette diameter. The addition of a crop oil concentrate (COC) at 1 to 2% v/v is recommended for optimum control. Use the higher COC rate for larger weeds or in low moisture conditions.

<http://www.cdms.net/ldat/ldB6O002.pdf>

PREPLANT INCORPORATED HERBICIDE 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 is a selective herbicide used for control of annual grasses and small-seeded broadleaf weeds. It may be applied using water or liquid fertilizer as the carrier, or impregnated on dry bulk fertilizer. Broadcast application rates of liquid formulations 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 to 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 incorporation 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 incorporation 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. Although the length of time from application to incorporation is longer for Prowl, producers are encouraged to incorporate as soon as possible to avoid herbicide loss due to volatility. 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.

See You On The Radio

IPM Radio Program Aglife on Fox Talk KJTV, radio 950 AM, on Wednesdays from 1:00 to 2:15 pm.

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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