Cotton PCG News
from Plains Cotton Growers, Inc.

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"Flag the Technology" App is Another Tool for Cotton Producers and Applicators

Friday, April 28, 2017 By Mary Jane Buerkle

Producers should take note of the "Flag the Technology" program, developed by Texas A&M AgriLife Extension in collaboration with the Texas Plant Protection Association.

The program is a system in which growers place colored flags relative to a specific technology or practice at entry points and other strategic locations around each field. This allows quick identification of the technology that may or may not be planted in a particular field. This way, as fields are treated, applicators and producers alike will be aware of what products are appropriate and safe to use in each field. A mobile app is available free on iTunes and Google Play.

The following are flag colors and uses:

White: Technology is tolerant to glyphosate herbicides;

Green: Tolerant to glufosinate herbicide, Liberty.

Yellow: Clearfield rice, sunflowers, wheat and canola which are tolerant to imidazolinone herbicides.

Teal: Tolerant to both 2, 4-D and FOP (ACCase) herbicides, or Enlist technology. The white stripes indicate tolerance to glyphosate, Roundup. For Enlist cotton traits and soybean fields, a green flag should be added to denote tolerance to glufosinate herbicide (Liberty).

Black and white checkered: Tolerant to both dicamba, Engina and Extendimax, and glyphosate, Roundup Ready Xtend.

Red: Extreme caution required. Indicates conventional crops with no herbicide tolerant traits as well as sensitive production areas such as vegetables, vineyards, apiaries and organic production.

For more information and to obtain flags at no charge, contact your local seed retailer or company sales representative.

Knowledge, Stewardship Key with New Technologies in Cotton

Friday, April 28, 2017 From Texas A&M AgriLife Extension

PCG EDITOR'S NOTE: Contributors to this article are Dr. Peter Dotray and Dr. Seth Byrd, Texas A&M AgriLife Extension – Lubbock; Dr. Josh McGinty, Texas A&M AgriLife Extension – Corpus Christi; Dr. Gaylon Morgan, Texas A&M AgriLife Extension – College Station; and Dr. Wayne Keeling, Texas A&M AgriLife Research – Lubbock.

On the Texas High Plains, we are just a few weeks away from putting cotton seed in the ground to start the 2017 growing season. By the time this article is published, cotton planters may already be visible. It seems like we have been talking about the launch of two new cotton herbicide tolerant technologies for a long, long time, and it seems like nothing new could ever come from an article at the final hours before the official launch. On the other hand, questions about these technologies continue to be asked and web sites that provide the latest information regarding nozzle selection and tank mix partners have been drastically updated since our multi-county meetings started in early January.

This article will provide a general overview of the new technologies, address FAQs, highlight updated information from the new product web sites, stress the importance of Best Management Practices, and the importance of application and technology stewardship.

The registration of new herbicide technology systems, which includes both the herbicide tolerant varieties and the labeled herbicides, show promise in improving the ability to protect yield potential while allowing a new approach to aid in controlling problematic weeds in cotton and soybean production.

One common misconception is that new herbicides have been discovered for use in new crop germplasm. While the herbicide tolerant traits in cotton and soybean varieties are new, the active ingredients in these herbicides have been on the market for over 60 years. Over the past six decades, 2,4-D and dicamba have been among the most commonly used herbicides in the United States, with approved labels in various grain crops, pastures, rangeland, and turf.

What is new about the herbicides in these technology systems is the improved way the active ingredients are formulated. These new 2,4-D and dicamba formulations significantly reduce the risk of off-target movement by dramatically decreasing the volatility of these products. Volatility is defined as the conversion of liquid herbicide spray solution to a gas form after the product reaches the soil or plant surface.

Physical spray drift, the off-target movement of spray droplets during application, is always a concern and making applications under appropriate environmental conditions remains a critical component of the success of any pesticide application. These new herbicide technology systems have passed a rigorous evaluation by the United States Environmental Protection Agency (EPA) and have much stricter application requirements and environmental restrictions than any previous EPA-registered herbicide in order to minimize any potential movement of these herbicides beyond the application area to protect susceptible plants. The application requirements for these new formulations include very specific language on application equipment and application methods including using only specified spray tips that produce very coarse-sized droplets that limit physical drift potential, maintaining proper boom height, low wind speed at application, awareness of wind direction towards susceptible plants and sensitive habitats, slower application speed, and higher volume of spray solution that must be used when these herbicides are applied. Spray buffers, which are areas left untreated along the margins of fields, are also required to provide additional protection of neighboring crops and natural habitats when sensitive plants are downwind. These restrictions limit the conditions during which applications can legally occur to greatly minimize the risk of drift of these herbicides into sensitive areas.

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From the cotton variety perspective it's important to understand the differences between the new technologies. The 2,4-D resistant cotton from Dow AgroSciences is called Enlist (included in the W3FE trait package) and will be included in several varieties from the PhytoGen Cottonseed brand. The dicamba resistant cotton from Monsanto is called XtendFlex (included in the XF and B2XF trait packages) and will be included in several varieties from Deltapine, Americot/NexGen, All-Tex/Dynagro, and Croplan Genetics brands.

Both the Enlist cotton and XtendFlex cotton are resistant to three different herbicides. They are both resistant to glyphosate (Roundup) and glufosinate (Liberty); however, the third piece, which is either 2,4-D-Choline **or** dicamba resistance, is unique to one but NOT both technologies. In other words, there is no 2,4-D-Choline and dicamba cross resistance. We can't spray the Enlist Duo (a new premix formulation containing 2,4-D choline plus glyphosate) on XtendFlex cotton and we can't spray the new dicamba formulations (Xtendimax with VaporGrip from Monsanto, Engenia from BASF, or FeXapan from DuPont) on Enlist cotton.

Our research shows that Xtendimax or Engenia used in XtendFlex cotton and Enlist Duo used in Enlist cotton will help control troublesome weeds including glyphosate-resistant Palmer amaranth. A "systems" approach will be critical for effective season-long control without increasing the selection pressure for the development of herbicide-resistant weeds. A systems approach may involve mechanical, cultural, chemical, and physical inputs. A systems approach also suggests herbicide inputs that involve different herbicide modes of action. These different modes of action can be used over the course of the growing season using the concept of "over-laying" residuals. These soil applied residual herbicides offer tremendous protection against weeds, especially during the critical early portion of the season, when weed competition is most detrimental to yield.

The first critical principle for effective weed management is starting clean. The use of tillage, preplant burn down herbicides, and the use of preplant incorporated dinitroaniline herbicides (Treflan and Prowl) will play a critical role in starting clean. When planting occurs in fields where weeds have already emerged, by the time planting is complete and the focus shifts to weed management, weeds may have grown to sizes that exceed successful control with following postemergence applications. Unfortunately, we are seeing many cases down state when small cotton is growing in fields that already contain 10- to 12-inch weeds.

Soil active herbicides applied at-plant (preemergence) and/or in tank mix or as part of sequential applications early-postemergence must be part of the dicamba-based or 2,4-D-based cotton system. Postemergence-directed and layby treatments may be needed to effectively manage weeds until the end of the season. Any weed escapes should be removed to eliminate the production of new seed for future weed infestations.

When applying new dicamba (Xtendimax, Engenia, FeXapan) or 2,4-D (Enlist Duo) formulations, growers must be aware of all application requirements including preplant and in-season herbicide use rates (per application and per season), targeted weed size, nozzle selection, ground speed, boom height, wind speed and direction, buffer requirements needed to protect sensitive areas and susceptible crops, and approved tank mix partners such as herbicides, adjuvants, and additives. Depending on the herbicide used, a few to several nozzle types are now available for use as well as opportunities for tank mix partners that will provide soil activity.

The following web sites will provide the latest information when making applications:
Xtendimax: *http://www.xtendimaxapplicationrequirements.com*
Engenia: *www.EngeniaTankMix.com*
FeXapan: *www.fexapanapplicationrequirements.dupont.com*
Enlist Duo: *www.enlisttankmix.com*

Of the new traits/technologies used on the Texas High Plains, we likely will initially have more acres planted to varieties with the XtendFlex trait than Enlist, mostly due to seed availability and the fact that producers have more experience with XtendFlex cotton varieties. Several XtendFlex varieties were included in the RACE Trials (on-farm variety trials) in West Texas in 2016 and many of them performed well in both irrigated and dryland environments. However, we also observed varieties without the XtendFlex trait perform well, so we have very good variety options from a yield perspective in both the XtendFlex and non-XtendFlex or non-Enlist categories. Another thing to consider is the seed costs with these new traits has increased at varying degrees and should be considered when making variety selection and placement decisions. Many of the dryland acres will likely continue to be planted using single stack (Roundup Ready Flex, GlyTol, Liberty Link), double stack (GlyTol plus LibertyLink), or conventional varieties to keep seed costs down. It's key for producers to consider the value of the given herbicide traits within varieties, but also to select the variety that will give the best return on investment from an input cost and yield/quality perspective.

Many cotton producers will be planting different types of herbicide resistant cotton varieties, those with auxinic herbicide traits and those without, as well as other crops that are highly sensitive to auxin herbicides, including grapes. Application stewardship has been a focus at our single and multi-county meetings this winter with the hopes that everyone is well-aware of the need to properly utilize these new technologies to avoid any issues with off-target movement to prevent damaging their neighbors' crops as well as their own. This has been a unified message delivered by AgriLife Extension and Research, as well as allied industry.

Texas farmers understand the importance of environmental stewardship on their, as well as their neighbor's land. In most cases, our current farmers are multi-generational farmers with intentions of passing the land onto their children and grandchildren. Many farmers not only grow cotton but produce other crops as well, and they realize that correct and safe use of these products is critical to the long-term success of their farm and the livelihood of the community where they live. The requirements that accompany these new herbicide technology systems are unlike anything previously imposed on pesticide applications and our farmers recognize as well as anyone the importance of using these new tools correctly and safely. Appropriate application stewardship will be a critical component to ensure these herbicides remain on the market beyond the 2-year registration that the new dicamba herbicides received and 5-year registration that the new 2,4-D Choline herbicide received.

Editor's Note:
"Cotton News", a weekly service of Plains Cotton Growers to the cotton industry and news media in the 41-county High Plains area, is mailed from Lubbock each Friday. Its contents are confined to news items and comments pertaining to the High Plains cotton industry which is so vital to U.S. all. Anyone interested in making comments about the contents of this column can call 806-792-4904 or Email PCG at: editor@plainscotton.org