

Making the Case for Diligent, Proactive Herbicide Stewardship

herbicidestewardship.com



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Abstract

Due to the sensitivity of tobacco and many other high value crops to off-target auxinic herbicides, we began a comprehensive educational program in 2011 that stresses the importance of proper stewardship with the use of pasture herbicides. Our goals were to reduce the occurrence and impact of off-target damage to tobacco and other sensitive, high value crops; and to create educational materials and other tools to help with the diagnosis of suspected cases of off-target damage. The initial funding was obtained via grants for 2 years from Philip Morris International. Later, additional funding was obtained from Altria Client Services, Dow AgroSciences, DuPont Crop Protection, and Monsanto. We focused on four crops (tobacco, cotton, tomato and grape) and five herbicides (2,4-D, dicamba, aminopyralid, aminocyclopyrachlor and picloram) for the creation of educational materials and diagnostic tools. These include still images, time lapse videos and fact sheets, and we made them available through our initial website, herbicidestewardship.utk.edu; it became accessible in 2014. In 2015 the website was redesigned in an effort to make it more attractive and user friendly, and the address was changed to herbicidestewardship.com. In 2016 and again in 2017, severe problems with dicamba drift occurred in the Midsouth on numerous sensitive crops (including tobacco) as a result of in-crop applications of the herbicide in dicamba-tolerant cotton and soybean varieties. We made the decision in 2017 to completely reconstruct and broaden our website to include additional information directly addressing stewardship of the new dicamba and 2,4-D tolerant crop technology. The new version of the website will be available in early 2018. Use of our website has steadily increased since its inception. The website has been visited over 8000 times since it was launched. Visits came from The United States, China, Japan, Germany, Canada, The United Kingdom, India and Brazil.

Why we started the program

Off-target movement of pasture herbicides to sensitive, high value crops continues to be an issue. Damage can result in lost productivity for growers, expensive fines and/or lawsuits, and negative publicity for the industry. We began a comprehensive educational program in 2011 that stresses the importance of proper stewardship with the use of pasture herbicides. The program was created to reduce the occurrence and impact of off-target damage to tobacco and other sensitive, high value crops; and to make available tools to help with the diagnosis of suspected cases of off-target damage.

Enter Dicamba: 2016-2017

Drift Management

In trying to manage Palmer amaranth, cotton and soybean growers and commercial applicators in Arkansas, the Bootheel of Missouri, Mississippi, and Tennessee struggled to keep dicamba in the target field.

Official Dicamba-related Injury Investigations as Reported by State Departments of Agriculture (*as of October 15, 2017)



*Total: 2,268

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Off-target Ramifications

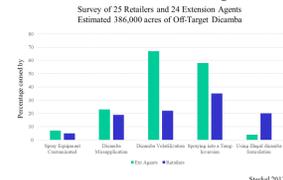
The new EPA rules are similar to Missouri and Tennessee emergency rules that went into place in early July 2017. Based upon the fact that many official dicamba drift complaints reported to those states' Department of Agriculture came in after their emergency rules were implemented, would suggest that off-target dicamba drift issues and complaints during the summer of 2018 will be significant. The ramifications of all this off-target dicamba are still being assessed and probably will be on-going for years to come.

Weed Control

Roughly 85% of cotton and over 60% of soybean varieties planted in these geographies in 2017 were Xtend varieties. The weed control, particularly Palmer amaranth, was very good.



Tennessee Extension Ag Agents and Retailers Estimates of Causes for Off-Target Dicamba



Training

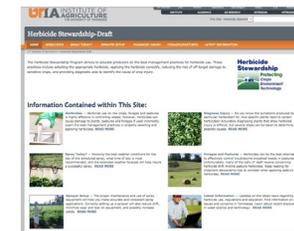
Unprecedented levels of dicamba stewardship training took place in all four states prior to the 2017 growing season. For example, in Tennessee alone there were 4,600 applicators who took a 30-minute dicamba stewardship training on-line module, there were 16 dicamba classroom training sessions that 2,300 applicators attended.

What has been done

Starting in 2011, four crops (tobacco, cotton, tomato, and grape) and five herbicides (2,4-D, dicamba, aminopyralid, aminocyclopyrachlor, and picloram) were selected for the development of educational materials and diagnostic tools. These tools include still images, time lapse videos, and fact sheets that were created and made available on our website herbicidestewardship.com. Pasture herbicide stewardship educational information has been presented at all county, area and statewide educational meetings and field days attended by cattle and tobacco producers since 2011. Additionally, we also created a pasture herbicide educational booth and each year it has been a part of trade shows associated with various field days and statewide educational events and association meetings attended by cattle and row crop producers and industry personnel.

Future plans

Our program, which initially focused on pasture herbicides, is being broadened substantially to also cover row crop herbicides. The new home page (currently under construction) for herbicidestewardship.com is shown below. This is the third iteration of the website since it was created in 2014, and we expect it to be fully operational during first quarter 2018. Our intention is for the website to be a comprehensive source of information to help producers, advisors, retailers and commercial applicators make better informed decisions regarding herbicide applications. Information on herbicide selection, sprayer set-up, and environmental factors affecting application decisions (is it a good day to spray?) will be included. Not surprisingly, a heavy focus will be on in-crop applications of dicamba to dicamba-tolerant row crops. We will continue to provide useful diagnostic aids, and a section covering the latest news on label changes, upcoming educational events, and other time-sensitive information is being added.



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