

AGRICULTURE SOLUTIONS

from **FMC**

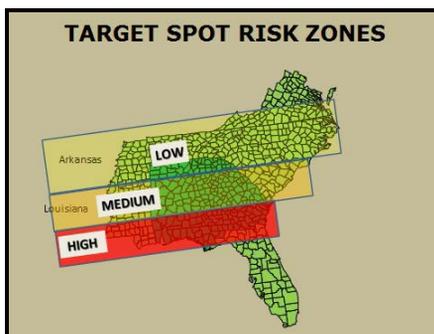
Controlling Target Spot in Cotton

Now that we have made it into early June, it is time to put the cotton planters away and start managing our cotton crop to increase yield and profitability. Typically, we think first about managing weeds, insects, fertility, irrigation, and growth regulators. However, much of the Midsouth cotton growing region is now facing a new challenge – specifically Target Spot disease management. Target Spot, also known as *Corynespora* leaf spot, is caused by the fungus *Corynespora cassiicola*. This disease is typically found first on the more mature mainstem and subtending leaves near the base of the plant and can be yield limiting. “Target Spot” gets its name from the irregular concentric rings that are encircled by dark brown or light brown lesions (see image).

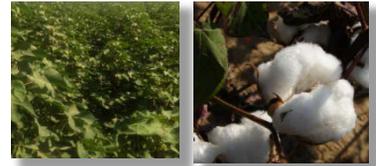


*Photo credit: Andrea Jones, University of Missouri

Target Spot lesions can vary in shape and size, but are typically larger than ¼-inch in diameter and more than one lesion can form on a single leaf. These lesions on the lower canopy impact the amount of photosynthesis that takes place and can lead to premature defoliation, resulting in decreased yields. Austin Hagan at Auburn University estimates that yield reductions due to Target Spot in South Alabama and Georgia can be as high as 200 lb/A, where this disease is more prevalent (see figure).



*Figure credit: Austin Hagan, Auburn University



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TOPGUARD EQ

**Target Spot Control
in Cotton**

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TOPGUARD[®] EQ

FUNGICIDE

Key Concepts

Risk Factors Influencing Target Spot

Cultural tactics, management factors, and growing environment are the primary risk factors to consider when determining your crops risk to Target Spot. Target Spot can over winter on existing cotton residue and several other host plants such as soybean, cucumber, sweet potato, and tomatoes. Therefore, crop rotation to a non-susceptible crop can greatly influence the prevalence of Target Spot. There is not any known cotton variety resistance to target spot, but the disease seems to be more prevalent in intensely managed, high-yielding varieties with 2+ bale yield potential. Managing input factors such as, nitrogen rates, irrigation amounts, and plant growth regulators are all good ways to prevent excessive vegetative or “rank” growth that is conducive for Target Spot development. However, if hot, humid, and wet weather conditions occur during the blooming period it is still likely that Target Spot will be present, especially in fields where Target Spot has been an issue in the past. If this does occur, chemical control options with fungicides need to be considered.

Timely Fungicide Application Can Be Effective

Fungicide applications have consistently reduced disease and defoliation due to Target Spot, but yield responses have been highly variable. The most consistent application timing has been applying fungicides twice in the growing season, the 1st and 3rd week of bloom or the 3rd and 5th week of bloom, depending on when the disease is first identified. Since Target Spot originates in the lower canopy, it is recommended that fungicides in cotton are applied at a minimum of 15 GPA with nozzles that provide adequate coverage.

Topguard[®] EQ fungicide is FMC's newest premix fungicide combining the highly systemic Group 3 fungicide flutriafol with the proven performance of the Group 11 strobilurin fungicide azoxystrobin. This unique combination provides resistance management and broad spectrum, long lasting disease control for cotton, corn (field, seed, and popcorn), soybeans, and many other crops commonly grown in the Midsouth. Topguard EQ fungicide's two modes of action are distinctly different. Flutriafol provides some of the longest residual control in its class and is very mobile in the plant's xylem. Once applied, flutriafol rapidly penetrates the waxy layer of the leaf and moves upward through the plant to provide disease protection from fungal attack. Azoxystrobin inhibits fungal respiration resulting in fungal cell death and as a secondary benefit reduces plant stress for improved overall plant health. Topguard EQ fungicide is a great fit for cotton growers looking to control Target Spot. Topguard EQ fungicide is highly systemic and rapidly moves upward in the plant which allows maximum whole plant protection from diseases.

Key Cotton Diseases Controlled:

Boll Rot, Anthracnose, Diplodia, and Fusarium
Cercospora Blight and Leaf Spot
Cotton Rust
Hardlock
Rust
Target Spot

Application Information:

Use Rate: **5 fl. oz./A**
Application Timing: 1st and 3rd week of bloom
Maximum Application Number: 3 per year
Maximum Use Rate Per Application: 7 fl. oz./A
Maximum Use Rate Per Season: 21 fl. oz./A
REI: 12 hours
PHI: 45 days

Action Items:

- Consider crop rotation and tillage in fields where Target Spot has been present
- Manage cotton for earliness and reduce excessive vegetative growth through managing inputs
- Choose stable, high yielding varieties that fit your growing conditions
- Scout early and scout often, look for signs of Target Spot at first bloom
- Apply fungicide at first sign of disease and make a sequential application 2 weeks later
- Coverage in the lower canopy is essential, minimum application volume of 15 GPA and use nozzles that proved adequate coverage

Always read and follow label directions. NOTE REGARDING RESTRICTED USE PESTICIDES: Anthem ATZ herbicide; Athena insecticide, Brigade 2EC Insecticide/Miticide, Brigade WSB Insecticide/Miticide, Brigadier Insecticide Capture 3RIVE 3D insecticide, Capture LFR Insecticide, Declare insecticide, Hero Insecticide, Mustang Insecticide, Mustang Maxx Insecticide, Pounce 25WP Insecticide, Stallion Brand Insecticide, Temity LFR Insecticide/Fungicide, Triple Crown Insecticide, Ethos XB Insecticide/Fungicide and Gladiator Insecticide/Miticide are **Restricted Use Pesticides**. NOTE FOR CALIFORNIA: Accurate Extra herbicide, Aim herbicide, Aim EC herbicide, Aim EW herbicide, Anthem herbicide, Anthem ATZ herbicide, Anthem Flex herbicide, Anthem MAXX herbicide, Authority Assist herbicide, Authority Elite herbicide, Authority First DF herbicide, Authority MAXX herbicide, Authority MTZ DF herbicide, Authority XL herbicide, Cadet herbicide, Chisum Herbicide, Command 3ME microencapsulated herbicide, Crusher Herbicide, Edition Broadspec herbicide, Edition Tankmix Herbicide, Marvel herbicide, Nimble Herbicide, Nuance Herbicide, Preemptor SC fungicide, Report Extra Herbicide, Solstice herbicide, Spartan 4F herbicide, Spartan Charge herbicide, Spartan Elite herbicide, Temity LFR Insecticide/Fungicide, Topguard EQ fungicide, Zeus Prime XC herbicide, Zeus XC herbicide, Capture 3RIVE 3D insecticide, Ethos XB Insecticide/Fungicide, Hero Insecticide, Mustang Maxx Insecticide, Display cotton harvest aid, Zoro Miticide and VGR Soil Amendment **are not registered for sale or use in California**. VGR Soil Amendment is not a pesticide. Beleaf and Carbine are trademarks of Ishihara Sangyo Kaisha, Ltd. Cercobin is a trademark of Nippon Soda Co., LTD. Sovran is a registered trademark of BASF. FMC, 3RIVE 3D, Accurate, Aim, Anthem, Athena, Authority, Brigade, Brigadier, Cadet, Capture, Chisum, Command, Crusher, Declare, Display, Edition, Ethos, Preemptor, Fracture, Fyfanon, Gladiator, Hero, Koverall, LFR, Marvel, Mustang, Nimble, Obey, Pounce, Report, Rhyme, Rovral, Shark, Solida, Solstice, Spartan, Stallion, Temity, Topguard, Topguard Terra, VGR and Zeus are trademarks and HatchTrak and Investing in farming's future are service marks of FMC Corporation or an affiliate. ©2016 FMC Corporation. All rights reserved. 11/16