

MANAGING SEEDLING DISEASES USING POST EMERGENCE FUNGICIDES

G.B. Padgett and E. Burris

LSU Agricultural Center, Northeast Research Station
Winnsboro, LA

Abstract

Seedling diseases can devastate cotton stands and reduce yield if not managed. If fungicides are used they must be applied as seed treatments or in-furrow at planting. Consequently, managing these diseases after planting with fungicides is not possible. Therefore, two experiments were conducted to evaluate the efficacy of fungicides on seedling diseases when applied to emerged cotton. Experiments were conducted at the Louisiana State University Agricultural Center (LSUAC) Northeast Research Station near St. Joseph and LSUAC Northeast Research Station, Macon Ridge Branch near Winnsboro.

At the Macon Ridge Branch, double treated cottonseed (Stoneville 373) was planted (5 seed / foot) 16 April in a field with a Gigger silt loam. The field was planted to corn the previous year. Standard chemical and cultural practices for cotton production were implemented according to Louisiana Cooperative Extension Service recommendations. Experimental plots were four rows (38-inch spacing) by 45 feet. Treatments were replicated three times and arranged in a randomized complete block design. Fungicide treatments were as follows: 1. Double treated seed, 2. Terraclor Super X 2E (3 pt/A, applied in-furrow), 3. Folicur 3.6F (7.2 fl oz/A, foliar applied), 4. Quadris 2.08F (12.8 fl oz/A, foliar applied), and 5. Terraclor Super X 2E (3 pt/A, applied in-furrow) followed by Quadris 2.08F (12.8 fl oz/A, foliar applied). Foliar treatments were applied 4 May when cotton had 1-2 true leaves. Stand counts were made 15, 21, 27, and 39 days after planting. Plots were spindle picked on 18 September.

Cotton (cv. Stoneville 474) was planted (4 seed / foot) at the LSUAC Northeast Research Station on 14 April in a field with a Bruin Silt Loam. The field was planted to cotton the previous year. Double treated seed was used for all plots, except for the nontreated control. Nontreated plots were planted using nontreated 'black' seed. Experimental design and maintenance were the same as describe for the previous experiment. Plots were 4 rows (40-inch spacing) by 45 feet. Treatments included those evaluated at the Macon Ridge location as well as four additional treatments: 1. Black seed (nontreated), 2. Moncut 50WP (3 lb/A, foliar applied), 3. Terraclor Super X 2E (3 pt/A, applied in-furrow) followed by Moncut 50WP (3 lb/A, foliar applied), and 4. Terraclor Super X 2E (3 pt/A, applied in-furrow) followed by Folicur 3.6F (7.2 fl

oz/A, foliar applied). Foliar treatments were applied 8 May when cotton had 1-2 true leaves. Stand counts were made 45 days after planting and plots were spindle picked on 9 September.

Seedling disease pressure was moderate. Stand at the Macon Ridge location did not vary among treatments until 39 days after planting. The lowest stand was observed in the double treated seed (1.55 plants/foot) or Folicur (1.55 plants/foot) treatments. The best stand was obtained when cotton was treated with Quadris (2.75 plants/foot). Stand at the Northeast location was poorest in the nontreated cotton (0.55 plants/foot) and best when double treated seed was used followed with an in-furrow application of Terraclor Super X (1.79 plants/foot). Yield did not differ significantly among fungicide treatments at any location.

While no differences were observed among fungicide treatments, preliminary indications are foliar applications of fungicides may have potential for managing seedling diseases. The rates and timings of these fungicides need to be determined, as well as, the economics of these treatments. Therefore, experiments will be conducted to answer these questions.