

Tips for Managing a Cereal Rye Cover Crop in Cotton

Bill Robertson – Cotton Extension Agronomist

Tom Barber – Extension Weed Scientist

When to plant: August 15 to November 15 (Central and South Arkansas)

August 15 to November 1 (North Arkansas)

Seeding rate: 35 – 45 lbs/A drilled or 56 – 70 lbs/A broadcast
(56 lbs per bushel)

When to terminate: 2 – 4 weeks prior to planting

How to terminate: 1.0 lb ai/A glyphosate

Benefits	Potential Adjustments		Observations
Produces large amounts of biomass	Produces large amounts of biomass	Select a southern cereal rye variety <ul style="list-style-type: none"> • Elbon Rye (OK) • Wrens Abruzzi Rye (GA) 	Soil structure improved
Easy to terminate	Requires deeper setting and slower speed when planting cotton	Spread cereal rye over the top of the cotton prior to defoliation	Internal drainage of soil improved
Reduces soil loss	Rolling terminated cereal rye prior to planting cotton will require significant planter modifications to achieve desired stand	Early planting at defoliation by air adds \$6 - \$7/A, but allows for greater biomass production as a result of more favorable temperatures	Soil health improved <ul style="list-style-type: none"> • Lower soil temp • Increase biological activity • Earthworm population increases
Scavenges nutrients			
Improves soil organic matter			
Physical barrier <ul style="list-style-type: none"> • Weeds • Retains moisture • Reflects heat • Reduces crusting • Reduces sand blasting 	Can be rougher at planting because of root crowns. Can roll green to address crowns and existing stalks as green rye will stand back up	Late planting after harvest with fertilizer buggy can impact the potential to develop desired biomass as a result of cooler temperatures	Effective rooting depth of cotton improved
	A coulter mounted ahead of planter units will increase the ability to achieve desired stand of cotton		Water infiltration from rainfall and irrigation improved
Allelopathic properties <ul style="list-style-type: none"> • Smaller the seed the more susceptible • Most effective if residue left on soil surface • High levels released as rye starts dying until it is dead 	Consider early burndown timing application to address broadleaf weeds to facilitate a clean stand of cereal rye lessening issues with green bridge	Spread cereal rye with fertilizer buggy on freshly hipped rows to ensure soil covers seed with next rain for uniform germination and emergence	Furrow irrigation water movement down the row slowed
	Termination timing is important in managing allelopathy	Using a 40 ft swath on fertilizer buggies may present a challenge in reducing flow of seed to achieve desired seeding rate. We have experienced very good results in our tests using a 60 ft swath on a Willmar buggy to spread 1.0 bu/A	Irrigation efficiency improved and eases irrigation management
	Can be difficult to achieve desired stand of cotton in wet spring using conventional cotton planter with no modifications		Weed control benefits may be reduced if cereal rye is terminated too early
Reduces thrips			Fertilizer efficiency improved and eases fertility management
Fits many rotations			Sediment and nutrient loss from irrigation reduced