

SOUTHWEST COTTON HARVEST AID PERFORMANCE AND NARROW ROW OPTIONS

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Abstract

Cotton is produced in the Southwest (Texas and Oklahoma) under a wide range of environmental conditions, with annual acreage in excess of 5 million acres. Due to differences in rainfall and availability of irrigation, yields may range from <250 lb/A to >1250 lb/A. Cotton is harvested by both stripper and spindle pickers, depending upon the production region, with approximately 70-75% of bales stripper harvested. Harvest aid use varies between and within production regions, depending upon crop condition, weather, harvest method, and crop yield potential. In general, harvest aid treatments must be cost effective and work over a wide range of weather and crop conditions.

In South Texas, cotton is produced on approximately 880,000 acres in the Lower Rio Grande Valley, Coastal Bend, and Upper Gulf Coast. While cotton is predominantly picker harvested (80-85%) in the Lower Rio Grande Valley and Upper Gulf Coast regions, a slight majority (60%) is stripper harvested in the Coastal Bend. These regions are among the earliest in the United States, with planting beginning in March and harvest beginning in July-August. Late-season regrowth and damage from hurricanes are challenges to timely harvest. Standard harvest aid practices include Dropp combinations, followed by a desiccant if cotton is stripper harvested. Growers prefer a once-over treatment.

The Central Texas Blacklands region planted approximately 200,000 acres in 2000. This cotton is predominantly stripper harvested with the standard practices involving a defoliant such as Def + Dropp, Ginstar or low rates of Cyclone followed by a desiccant. Cyclone is used as a once-over desiccant treatment in lower yielding fields. Regrowth can be a problem in wet years, but overall excellent harvest aid performance was reported in 2000.

The Brazos Bottoms account for approximately 70,000 acres which is 40% irrigated. For picker harvested cotton produced in this region, common treatments are Prep + Folex + Dropp, Prep or Finish + Ginstar, and Folex + Dropp. A desiccant may be applied sequentially to these treatments to improve results. Major weather challenges include late-season rainfall and hurricanes. Regrowth is a problem and good plant coverage is sometimes difficult to achieve.

In Southwest Oklahoma, approximately 300,000 acres were planted in 2000 with 75% of the acreage dryland. Irrigated cotton is planted to both stripper and picker varieties. For stripper harvest of cotton yielding less than 1 bale/A, single or sequential Cyclone applications are commonly used. For higher yielding stripper cotton, Prep or Finish in combination with a defoliant such as Def/Folex or Ginstar, followed by a desiccant are effective treatments. For picker harvested cotton, similar treatments are used, but a desiccant is not applied.

Producers on the Texas High and Rolling Plains typically plant 4.5 million acres annually with 95% being stripper harvested. This production includes full irrigation, limited irrigation and dryland cotton. Higher yielding irrigated cotton treatments include Prep or Finish in combination with Def/Folex or Ginstar followed by a desiccant. Cotton-Quik + Ginstar followed by a desiccant is another effective treatment. When boll opening is not needed, a defoliant followed by a desiccant or sequential desiccant treatments are used. Typical treatments for dryland cotton, depending on

yield potential, include a defoliant followed by a desiccant, sequential desiccant treatments, or a once-over desiccant treatment. In the region, Ginstar has been a very effective, consistent defoliant and is used in a wide range of treatment combinations. Because of cool conditions, regrowth is generally a limited problem. Activity of harvest aid materials may be reduced due to cool temperatures or drought stressed plants.

Harvest aid treatments for ultra-narrow row cotton (UNR) would be similar to those used for traditional production in stripper areas. In picker areas, additional use of a desiccant will probably be needed to sufficiently dry the crop for UNR harvesting.