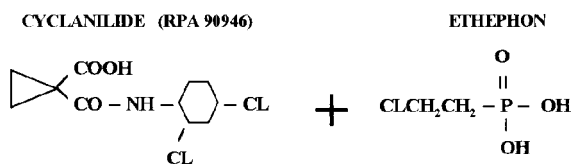


**FINISH™ COTTON
HARVEST-AID
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Abstract

FINISH™ (EXP-31039) consists of two molecules: RPA90946 [1-(2,4-dichlorophenylaminocarbonyl)-cyclopropane carboxylic acid] common name cyclanilide which is a new class of chemistry and Ethephon [(2-chloroethyl phosphonic) acid]. EXP-31039 is currently under development as a cotton harvest-aid product by Rhone-Poulenc Ag Co.

FINISH™ (EXP31039)



cyclanilide is the approved common name for RPA90946:

C.A.S. registry number 113136-77-9.

Field evaluations of the ethephon + RPA90946 combination in replicated small plot crop destruct trials have been continuing since 1988. The focus of this research has been the development of a single package cotton harvest-aid product that addresses the three key areas related to preparing cotton for machine harvest: (1) removal of leaves, (2) opening of mature bolls, and (3) the prevention or inhibition of foliage regrowth.

Introduction

Crop preparation for mechanical harvest is a critical phase of cotton production because of its impact on fiber quality and dollar value. Reduced lint quality and associated lost profits can be a direct result of the failure to prepare the crop for timely harvest. In making the harvest decision, producers must strike a balance between the high quality lower bolls vs. the potential for increased yield with extended or delayed harvest. Waiting for upper bolls to open, subjects lower open bolls to adverse effects of rain and fungal disease. Also leaf trash from poor or incomplete leaf abscission trapped in the lint during harvest, may require 'more ginning' (to separate fiber from seed). This

additional ginning or cleaning step to remove the leaf trash adversely effects lint quality and short fiber content..

In 1995 Rhone-Poulenc Ag Co conducted a 3,000 acre EUP (Experimental Use Permit) program to evaluate Finish under grower production practices. Reported here are results from EUP trials sites in the Delta.

Method

Field were selected from local grower EUP participants. Standard production practices were used for establishing, maintaining and harvesting the crop. Harvest-aid application was at recommended timing with Finish compared to the local harvest-aid program. Growers evaluated product effectiveness for boll opening and defoliation.

EUP Results from the North Delta

Reported here are 2 locations in Missouri and 1 in Tennessee with Finish applied at 2 lb ai/A. The standard was Prep+Dropp. At the first location labeled MO1, the rate was Prep 1.5 lb ai/A plus Phosphate (DEF) 0.56 lb ai/acre. At the second location labeled MO2 rates were Prep 1 lb plus Phosphate (DEF) 0.75 lb ai/A.

Finish enhanced boll opening response as indicated at 7-10 days after application observation from 2 trials in Missouri and 1 trial in Tennessee in the graph below. Defoliation was also better with Finish compared to the Prep+Phosphate standard. The combined boll opening and defoliation performance of Finish compared to the standard also provides the opportunity for earlier harvest.

EUP Results from the Mid-Delta

Four trials were conducted in central Arkansas (Lonoke county), 2 by air (10 GPA) and 2 ground (5 to 20 GPA). Finish was applied as a split application of 1 pint followed 4 to 10 later with 3 pints. The stand was Prep at 1/2 to 2/3 pints + Dropp followed 10 later with Prep at 2 2/3 pints or Starfire at 6 ounces/acre.

Finish performance was equal to or greater than the standards in nearly all categories rated at each location. At 3 locations Finish increased seed cotton yield by 100 to 200. Finish provided faster boll opening. Dropp at 0.1lb ai/acre had a slight regrowth advantage over Finish at 1 location.

EUP Results from the South-Delta

Three trials in Louisiana and three trials in Mississippi are reported here. Finish was applied at 1 lb ai/A in the 3 Louisiana locations. The standard PREP plus Dropp rates were 1+0.1 lb ai/A at location 1 (labeled LA1) and .5+0.05 at locations 2 and 3 (labeled LA2 ,LA3). In the Mississippi trials, Finish rate was 2 lb ai/A at the first location (MS1) and 1 lb ai/A at locations 2 and 3 (MS2, MS3).

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National Cotton Council, Memphis TN

Prep+Dropp rates were 2 +0.05 at location 1 (MS1) and 1+0.1 at location 2 (MS2) and 1+0.125 at location 3 (MS3).

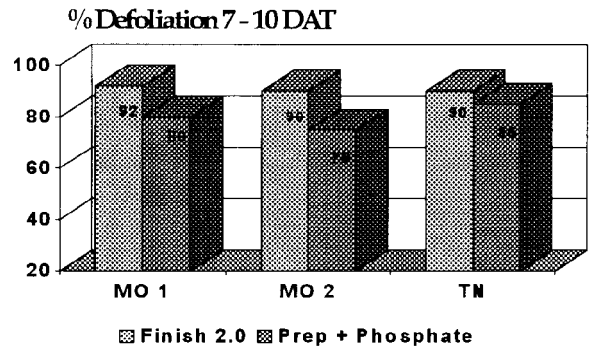
Finish performed well against Prep+Dropp standard in 3 trials in Louisiana. In these trials the lower 1 quart rate of Finish was equal to the Prep+Dropp for boll opening and defoliation.

In 3 trials in Mississippi, Finish at 1 to 2 quarts/acre was evaluated against PREP+Dropp. Finish provided defoliation and boll opening comparable to the standard.

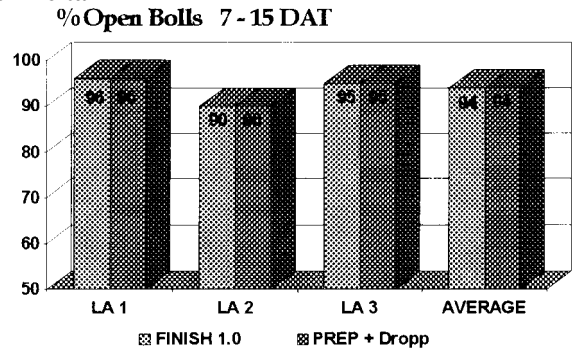
Summary

Finish under development by Rhone-Poulenc Ag Co is a full spectrum cotton harvest-aid. Finish is the first product to address the 3 major objectives in preparing cotton for machine harvest: 1) defoliation, 2) boll opening, and 3) inhibition of foliage regrowth. Field tested since 1988 Finish was grower tested in a 3000 EUP program in 1995. In these trials over a wide range of conditions, Finish compared favorably against local standards. The EUP program demonstrates that with Finish as the foundation of the harvest-aid program preparing cotton for harvest is less complex. There is less mixing of products, less need to switch products to match conditions and less concern of adverse effects like leaf stick or boll freeze.

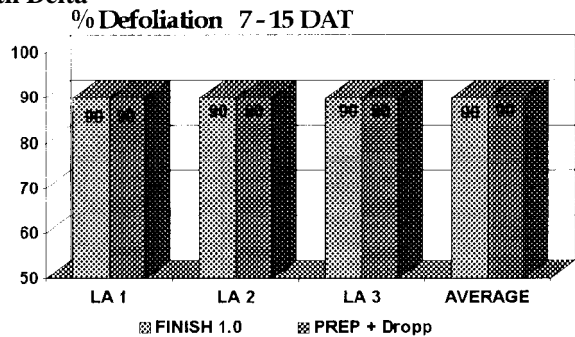
In 1996 the Finish EUP program will be expanded to 4,000 acres. Full registration for Finish was submitted in the fall of 1995 with approval anticipated in late 1997 or early 1998.



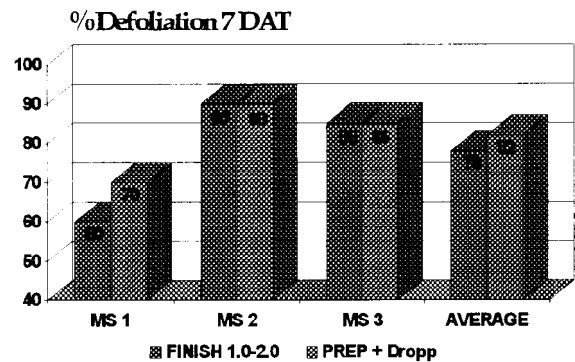
South Delta



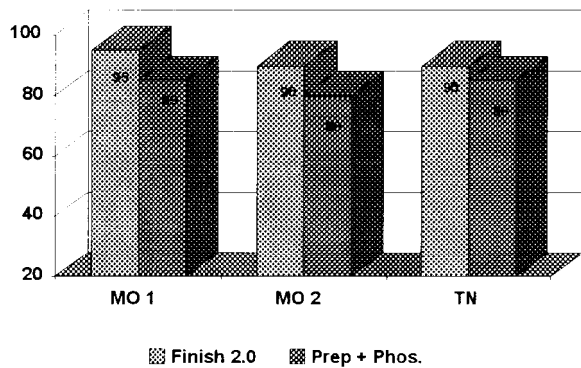
South Delta



South Delta



% Boll Opening 7 - 10 DAT



North Delta

South Delta