

**DEFOLIATION SCREENING STUDIES
IN CALIFORNIA ACALA COTTON**
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Abstract

Several defoliant treatments were evaluated for their effect on defoliation, desiccation, regrowth, and lint yield for Maxxa Acala cotton during a three year period. Treatments with Ginstar resulted in the highest defoliation followed by treatments with Def or Folex tankmixes with Prep, Dropp, or Accelerate. The addition of paraquat or Cacadylic Acid to Sodium Chlorate slightly enhanced defoliation.

Treatments with Ginstar and treatments with an O.P. plus Dropp or Accelerate increased desiccation on remaining leaves. Ginstar and Prep treatments slightly enhanced boll opening at 7 DAT but differences were minor by 14 DAT. Treatments with Roundup had the least regrowth, followed by Ginstar and Dropp combinations with an O.P. Lint yields were similar in all treatments.

Introduction

Cotton growers have different expectations for what kind of defoliation job they expect. Costs vary considerably with different defoliation programs, sometimes with similar results. As urban complaints continue because of defoliants, it is imperative that growers have access to defoliants that are effective, low odor, safe, and affordable.

Materials and Methods

Studies were conducted at the West Side Research and Extension Center on a Panoche clay loam soil. Plot design was a randomized complete block with three replications. Plots were four 40-inch rows by 75 feet.

Defoliant treatments were applied when cotton plants were at four nodes above cracked boll. Treatments were applied over the top of cotton using a Hagie high clearance sprayer with TX-SS10 conejet nozzles at 20-inch spacing. Delivery rate was 20 gpa at 55 psi driving 2 mph. Wind speed was 0-3 mph. Treatments were evaluated at 7, 14, and 21 days after treatment for percent defoliation, desiccation, open boll, regrowth, yield, and lint quality. The two center rows were harvested with a commercial two-row picker with a bagging attachment. Six pound samples were taken to determine gin turnouts and percent lint.

Results and Discussion

Weather conditions for each test varied each year. The following is general summary of 3 years of evaluating 24 treatments.

Open Boll

Ginstar and Prep treatments had an increase of 5 percent greater open boll at 7 DAT but by 14 DAT there were no differences (90-95%).

Regrowth

Treatments with 1-2 qts. Roundup gave the highest regrowth control. Ginstar treatments with at least 9 oz. or Ginstar tankmixes gave fair to good regrowth control. O.P. at 2 qt. plus Dropp lb. gave fair control.

Yield and Gin Turnouts

There were no significant differences in lint yields. There were only minor differences in gin turnouts. Lower defoliation resulted in slightly lower gin turnouts.