

PERFORMANCE OF GAUCHO SEED TREATMENT ACROSS THE MID-SOUTH

AND SOUTHEAST

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Abstract

Gaucha 480 (*Imidacloprid*) seed treatment insecticide was evaluated in 10 states across the southern region of the United States for its efficacy against early season insect pests in cotton. When averaged over all locations, Gaucha 480 at 8 fl oz./cwt reduced both adult and immature thrips, reduced thrips damage, and increased cotton yields when compared to the check (no insecticide). Gaucha was comparable to Temik in immature thrips control, thrips damage ratings, and cotton yields.

Introduction

Thrips are normally a major early season insect pest of cotton in the Mid-South and in the Southeast. Adult and larvae thrips can feed on young terminal buds of young seedling cotton, causing delayed plant growth; and in some cases, excessive terminal bud damage, which can lead to excessive branching. Tobacco thrips (*franklinessa fusca*) is the most widely found thrips in seedling cotton in the Southern United States. Another potential early season pest of cotton is aphids. Aphids also feed on young true leaves and terminals causing abnormal plant development and delayed plant growth. Gaucha seed applied insecticide provides effective, convenient control of early season pests of cotton including thrips and aphids. The active ingredient in Gaucha is Imidacloprid, one of a new class of insecticides called choricotinyls. Applied as a seed treatment, Gaucha is taken up by the roots, translocating throughout the plant to provide early season insect protection. Sucking insects attempting to feed on the young terminals ingest the active ingredient, stop feeding and reproducing, and slowly die. Gaucha 480 has activity against thrips and aphids for 28-30 days or until the 4-5 true leaf stage. The low mammalian toxicity of Gaucha, its ease of handling, and its low use rate of 0.5 oz. ai./acre make Gaucha an important tool for early season insect control in cotton in the Mid-South and Southeast.

Materials and Methods

Gaucha 480 at 8.0 oz./cwt. was compared to an untreated check (no insecticide at planting) and to Temik at 3.5 #/acre across the Mid-South and the Southeast. The following are the locations and cooperators involved in this review:

Don Johnson, Lonoke, AR
Glen Studebaker, Kiser, AR
Billy Harris (2 trials), Memphis, TN
Gary Lentz, Jackson, TN
Tim Roberts, Brownsville, TN
Jack Reed, MSU, MS
Earl Minton, Benoit, MS
Gene Burris, St. Joe, LA
Ron Smith, Prattville, AL
Richard Sprinkle, Quincy, FL
John All, Athens, GA
Phillip Roberts, Tifton, GA
John Durant, Clemson, SC
John Van Duyn, Plymouth, NC
Ames Herbert, Suffolk, VA

Parameters that will be discussed are adult thrips and immature thrips counts taken from 14 - 30 days after planting, thrips damage ratings taken from 14 - 30 days after planting, and cotton yields taken after harvest. Thrips counts will be summarized as number of thrips per 5 plants. Thrips damage ratings (subjective) will be summarized as damage from 1 - 5, where 1 = no damage and 5 = severe damage. (Damage rating less than 3 is acceptable.) Yields will be summarized as pounds of lint/acre.

Results and Discussion

Gaucha 480 had fewer adult thrips when compared to the untreated check across 16 trials (See Table 1). Gaucha had more adult thrips when compared to Temik. Gaucha provided 83% control of immature thrips while Temik provided 94% control of immature thrips (See Table 2). Only half of the trials reported thrips damage ratings (See Table 3). Gaucha 480 across these locations had a damage rating of 2.2, while Temik @ 3.5 #/acre had a damage rating of 2.1. Both of these treatments were lower than the untreated check (3.8) and also below the economic threshold of 3.0. Gaucha 480 and Temik both increased yields over the untreated check by 31% (See Table 4). Gaucha increased yields by 247 # lint/acre while Temik increased yields by 249 # lint/acre.

Summary

Gaucha 480 provided excellent control of immature thrips and thrips damage when compared to the untreated check across all locations. When there may be some adult thrips on Gaucha treated cotton, they are not reproducing or causing economic levels of damage. Gaucha also continues to be equal to Temik 15G at 3.5 #/acre when thrips damage and yields are compared.

Table 1. Number of Adult Thrips/5 Plants Across 16 Trials in the Mid-South and Southeast.

Treatment	Rate	Adult Thrips/5 Plants
Check	---	9.2
Gaucha® 480	8.0 oz/cwt.	6.4
Temik® 15G	3.5#/A	2.8

Table 2. Number of Immature Thrips/5 Plants Across 16 Trials in the Mid-South and Southeast.

Treatment	Rate	Immature Thrips/5 Plants
Check	---	78.4
Gaicho® 480	8.0 oz/cwt.	13.6
Temik® 15G	3.5#/A	4.7

Table 3. Thrips Damage Rating Summarized Across 8 Trials in the Mid-South and Southeast.

Treatment	Rate	Thrips Damage
Check	---	3.8
Gaicho® 480	8.0 oz/cwt.	2.2
Temik® 15G	3.5#/A	2.1

Table 4. Yields Summarized Across 16 Trials in the Mid-South and Southeast.

Treatment	Rate	# Lint/Acre
Check	---	798
Gaicho® 480	8.0 oz/cwt.	1045
Temik® 15G	3.5#/A	1047