

# Pests of Alabama Cotton: Thrips

► Thrips are the most important insect pest of seedling cotton in Alabama. Learn about how to identify thrips and their injury and how to manage this pest.

## Introduction

Thrips (*Thysanoptera: Thripidae*) are a consistent pest of seedling cotton in Alabama. Although five main species of thrips are observed on cotton, the tobacco thrips, *Frankliniella fusca*, is the predominant species found. Adult tobacco thrips may have black (female) or yellow (male) cylindrical bodies that are 1.5 to 2 mm in length with fringed wings, a characteristic of all thrips species. Other adult thrips found in cotton may be a light-yellow color or have alternating yellow and black bands. All immature thrips found on cotton have a similar shape to adults but are smaller in size, light-yellow in color and lack wings.

## Distribution and Life Cycle

Thrips are found on a wide variety of plant species across Alabama. Tobacco thrips and other species may overwinter as adults or immatures and begin their first generation on weedy or cultivated hosts in the spring. The thrips life cycle begins as an egg inserted into plant tissue, which hatches into an immature thrips in 5 to 7 days. The immature stage lasts around 2 weeks, during which thrips go through two larval stages followed by a pre-pupal and pupal stage. The complete life cycle from egg to adult takes approximately 3 weeks. Adults live for another 4 weeks. Thrips move to cotton when original hosts begin to dry down or are killed with herbicides.

## Pest Status

Thrips are the most significant insect pest of seedling cotton in Alabama. Cotton is generally susceptible to thrips injury from emergence until the fourth or fifth true leaf stage. Substantial thrips injury is common when environmental conditions are not favorable to cotton seedling growth and development. Among the most



Figure 1. Stunted plants (top) caused by thrips injury

important factors resulting in significant thrips injury to cotton is cool nighttime temperatures, when plant growth is slowed. Thrips injure cotton seedlings by rupturing plant cells with their rasping and sucking mouth parts. This gives leaves a characteristic silvery sheen and upwards curl. The curling of leaves occurs because thrips feed in the cracks and crevices of cotton leaves that are still furled. When the leaf expands, cells that are killed by thrips do not grow, while undamaged cells do, leading to the upwards curl. Excessive thrips injury may lead to crazy cotton, which occurs when the terminal is killed and the plant loses apical dominance. More often, injury leads to delayed maturity, which can increase the likelihood of issues later in the season. When left untreated, heavy infestations of thrips can kill cotton seedlings.



Figure 2. Severe thrips injury

## Management Strategies

At-plant insecticides are the most effective strategy to manage thrips in cotton. Neonicotinoid insecticide seed treatments are currently the most common and effective products used but in-furrow liquid or granular insecticides are also effective. Although not always necessary, supplemental applications of foliar insecticides may be required and are particularly effective when sprayed around the first true leaf stage. The best way to manage thrips is to have cotton grow through the susceptible window as quickly as possible.



Figure 4. Characteristic upwards curl of true leaves



Figure 3. Light thrips injury

Cooler temperatures in the early spring create a higher risk for early planted cotton. This is because cotton grows much faster in mid-June than it does in mid-April. The Thrips Infestation Predictor for Cotton, developed by North Carolina State University, is a useful tool to show the risk of thrips injury for cotton at a given planting date. This model accounts for the impact of predicted weather patterns on both thrips and cotton growth and development.

To scout for thrips, look for signs of thrips injury on seedling cotton or shake plants into a white cup and count the number of adult and immature thrips present. Scouting should be done weekly through the fourth to fifth true leaf stage. Current recommended thresholds and insecticide options can be found in the Alabama Cotton IPM Guide (IPM-0415).



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