

**IMIDACLOPRID APPLICATION METHOD OFFERS POTENTIAL ONE AND DONE TREATMENT
OPTION FOR CONTROL OF HIGH THRIPS POPULATION IN UPPER SOUTHEAST****Todd A. Spivey****Jack S. Bachelier****Keith L. Edmisten****North Carolina State University****Raleigh, NC****Dominic D. Reisig****North Carolina State University****Plymouth, NC****Abstract**

North Carolina Extension recommendations for thrips control in cotton consist of an insecticide seed treatment and follow up foliar application if warranted. This foliar application is generally an acephate foliar spray and is often tank mixed with an herbicide for an early post application for weed control. Being primarily timed for weed control, the acephate application may miss the critical window for thrips control (first true leaf stage). Acephate has also been shown to increase the potential for twospotted spider mite (*Tetranychus urticae*) and cotton aphid (*Aphis gossypii*) issues later in the growing season due to disruption of beneficial insects. Despite the issues associated with an acephate foliar application, at least 88% of North Carolina's cotton acres have been treated with a foliar application for thrips control since 2009 according to the North Carolina Independent Crop Consultants' Cotton Insect Survey. The objective of this research was to find a onetime treatment option for control of high thrips populations and reduce the need for a subsequent foliar application. Treatments consisted of an untreated check with a base fungicide seed treatment, seed treated with Avicta Complete (thiamethoxam) seed treatment, and seed treated with Avicta Complete and Admire Pro (imidacloprid) in-furrow at 9 ounces/acre with a single stream of finished product through a #55 orifice disc. The treatments were put out in a strip plot design in 2012 and 2013 with 4 and 5 replications respectively. Thrips counts were taken at 2, 3, and 4 weeks after planting. Imidacloprid in-furrow with thiamethoxam seed treatment reduced thrips counts compared to the untreated check at all sampling dates and reduced counts compared to the thiamethoxam seed treatment at 4 weeks after planting in 2012 and at 3 and 4 weeks after planting in 2013. Cotton yields showed no differences in 2012, whereas imidacloprid in-furrow with thiamethoxam seed treatment increased yield compared to all other treatments in 2013. The 2012 growing season offered well timed rain and good growing conditions during boll set allowing for the untreated check and thiamethoxam seed treatment plots to compensate for early season thrips damage. Due to the reduced thrips counts and yield data, it appears that imidacloprid in-furrow with thiamethoxam seed treatment offers a onetime treatment option for high thrips populations and reduces the need for a subsequent foliar application.