

Southern Chinch Bug Resistance in St. Augustinegrass for Urban Landscapes

Background

The Southern Chinch Bug (*Blissus insularis*) is the most destructive pest of St. Augustinegrass from coast to coast in the southern U.S. and from Bermuda to Hawaii. As Chinch Bugs feed, they suck plant juices and inject a toxin into the plant which causes the grass to turn yellowish, then brown and die. If left uncontrolled, the entire lawn will be destroyed.

In 1973, 'Floritam' St. Augustinegrass was developed with high levels of resistance to Chinch Bugs and released jointly by The Texas and Florida Agricultural Experiment Stations. Floritam exhibited a high level of antibiosis; the grass killed 80% to >90% of the bugs within only 7 days. As a result, Floritam was widely planted throughout the Southeast to Texas. Floritam resistance lasted for 12 years until Chinch Bug in Florida were no longer susceptible in 1985.

Since the breakdown of the Floritam resistance, researchers in Florida and more recently the St. Augustinegrass Improvement Program at Dallas have been searching for a good replacement grass with resistance to chinch bugs. 'FX-10' was developed and released in Florida and is highly resistant to Florida Chinch Bugs (kill >90% of the bugs within 2-weeks).

Studies show that Chinch Bugs from Bay City-Wharton area (main St. Augustinegrass production in Texas) are not susceptible to the resistance in either Floritam or FX-10 with < 20% of Chinch Bugs killed by either cultivar within a 7- day feeding period in the laboratory. The Chinch Bugs in Texas appear to be a new biotype of virulent bugs (VTSCB- 2005). All stages of the Southern Chinch Bug feed at the nodes, remove the plant juices and can completely kill a susceptible St. Augustinegrass lawn.

Objectives

Identify and develop St. Augustinegrass cultivars for use in the urban landscapes that are either tolerant or resistant to the Southern Chinch Bug.

Benefits

- A cultivar of St. Augustinegrass resistant to the Southern Chinch Bug is an economical and environmentally sound pest management strategy.
- Chinch Bug resistant cultivars require less frequent monitoring to maintain a healthy turf.
- Less frequent applications of pesticide are needed to maintain an aesthetic turf.
- With less pesticides required to control the Chinch Bugs, the potential for pesticide runoff into lakes and streams is greatly reduced.

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