

## **FACT SHEET**

### **The Value of Neonicotinoid Insecticides in Turf and Ornamentals**

*A Case Study of Neonicotinoid Use for Controlling Chinch Bug in Florida St. Augustinegrass*

#### **Summary**

As part of a comprehensive evaluation of the economic and societal benefits of neonicotinoid insecticides, researchers conducted individual case studies to more deeply examine the benefits these products bring to specific market segments and explore what would happen if they were no longer available.

The southern chinch bug is the predominant insect pest in St. Augustinegrass in the southern United States. A new study in Florida has shown that neonicotinoid insecticides are critical tools for homeowners and lawn care professionals looking to protect turfgrass from this destructive pest. Without neonicotinoids, the use of integrated pest management (IPM) practices would be severely restricted, increasing the likelihood for pest resistance and the potential for significant economic losses to homeowners and those managing southern lawns.

#### **Key Findings**

- A healthy lawn has several important environmental benefits, including soil stabilization, storm-water retention, carbon sequestration and reduced cooling costs in the summer.
- The U.S. turfgrass industry involves nearly 823,000 jobs and a total economic impact of \$57.9 billion, according to 2006 University of Florida study. In Florida alone, the turfgrass industry has an economic impact exceeding \$3 billion and is responsible for nearly 84,000 jobs.
- St. Augustinegrass is among the most common residential and managed turf choices in Florida and throughout the southern U.S., especially along the southern coastline.
- Southern chinch bugs are the predominant insect pest and a significant management problem in St. Augustinegrass, which it can destroy under high population levels.

- Although chinch bugs are very small (1/8th to 1/10th of an inch) the nymphs and adults feed on grass fluids, causing the grass to wither, turn brown and die.
- Females can lay several eggs each day, up to 200-300 in a lifetime and populations can have up to 10 generations per year in warmer climates.
- The southern chinch bug is well-known for its development of resistance to many commonly-used insecticides. Biological control using natural predators can help, but are generally not present in sufficient quantities to suppress the rapid reproduction of chinch bugs.
- Neonicotinoids are a vital part of the chemical rotation strategy in managing chinch bug populations, especially in areas where pyrethroids are no longer effective.
- Many lawn service professionals prefer neonicotinoids, which they consider to be safe and effective alternatives to some older insecticides, because they have less impact on the beneficial insects that help keep chinch bug populations in check.
- Losing neonicotinoids would leave homeowners and lawn service professionals with fewer options and no effective chemistry rotation to combat resistance development.
- “If we lost neonicotinoids for chinch bug management in Florida, we would lose the only really effective chemical class with which to rotate and mitigate insecticide resistance,” said Dr. Eileen Buss, Associate Professor & Extension Turfgrass Entomologist, University of Florida/IFAS.
- “Pyrethroids are not enough to protect lawns. Greater use of organophosphates and carbamates is a major step backwards,” said Dr. Eileen Buss.
- “We have always practiced IPM to protect beneficial insects and to manage for resistance. Without neonics, managing chinch bugs will require significantly more pesticide applications,” said Adam Jones, Vice President, Director of Quality Assurance, Massey Services, Orlando, FL
- Many lawn care service providers have guarantees to replace damaged turf if treatments are not successful and fear the loss of neonicotinoids would jeopardize existing contracts.
- Turf replacement costs can reach \$1,000 per thousand square feet of lawn, which would have a substantial impact on many homeowners and professional business operations.
- As Adam Jones summarized, “I don’t think the market could continue to offer those guarantees to new customers. Without neonics, lawn replacement costs would skyrocket.”

#### **Report Reference**

***The Value of Neonicotinoid Insecticides in Turf and Ornamentals: A Case Study of Neonicotinoid Use for Controlling Chinch Bug in Florida St. Augustinegrass***

*This report is one in a series that will be released over the next few months as part of a comprehensive evaluation of the economic and societal benefits of neonicotinoid insecticides in North America. The research was conducted by AgInfomatics, a consulting firm of independent agricultural economists and scientists, and jointly commissioned and sponsored by Bayer CropScience, Mitsui Chemicals Agro, Inc., Syngenta, and Valent U.S.A. For questions or information concerning this research and reports, please contact the Porter Novelli representative identified below.*

All reports will be published online at: [www.GrowingMatters.org](http://www.GrowingMatters.org).

### **About Growing Matters**

Growing Matters is a coalition of organizations and individuals committed to scientific discourse on the stewardship, benefits and alternatives of neonicotinoid insecticides in North America. [Bayer CropScience](#), [Syngenta](#) and [Valent U.S.A. Corporation](#) are leading this coalition with support from Mitsui Chemicals Agro, Inc.

Agriculture and horticulture are key to nourishing families and communities. Feeding a growing population, enhancing the beauty of our surroundings, and sustaining a commitment to environmental protection are fundamental needs that matter. Crop protection products, both natural and synthetic, are important tools that protect plants from tough and invasive pests that can devastate crops and urban landscapes.

Go to [www.GrowingMatters.org](http://www.GrowingMatters.org) for the latest information, reports, videos and infographics on the benefits of neonicotinoid insecticides or to show your support.

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