



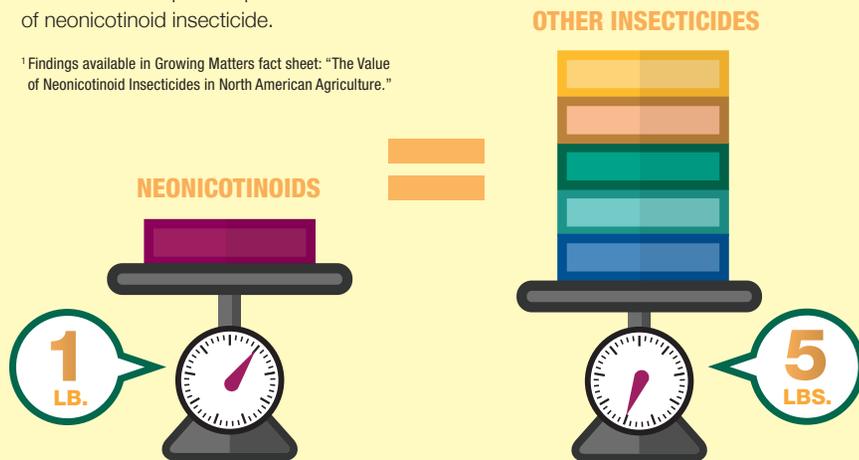
# The Importance of Neonicotinoids in Integrated Pest Management

Neonicotinoid insecticides, with their more targeted application and smaller environmental footprint, have become a vital part of today's Integrated Pest Management (IPM) programs in agriculture, turf and ornamentals.

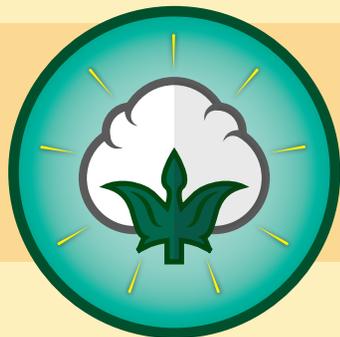
## Neonicotinoids Versus Older Chemistries

Across all crops assessed in an AgInformatics analysis of GfK Kynetec data (U.S. corn, soybean, wheat, cotton and sorghum<sup>1</sup>), growers would need 5 pounds of older chemistries to replace 1 pound of neonicotinoid insecticide.

<sup>1</sup> Findings available in Growing Matters fact sheet: "The Value of Neonicotinoid Insecticides in North American Agriculture."



## Without Neonicotinoids in Cotton



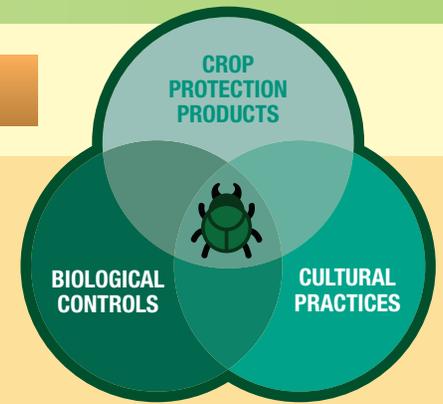
If neonicotinoids were not available to use with cotton, the product acres<sup>2</sup> of foliar insecticides **would initially increase 30 percent.** Over time, the result of growers using older, broad-spectrum insecticides would be more spraying and more secondary flare-ups of damaging pest activity.

<sup>2</sup> Product acres are the number of acres treated with insecticides, potentially the same acre more than once. For example, if a farmer treats the same planted acre twice, this acre counts as two product acres.

## The Integrated Approach

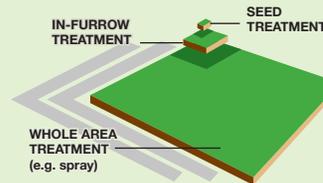
### Elements of IPM

IPM combines cultural practices, biological controls, crop protection products and other elements to plan and implement a balanced, practical approach to controlling pests.



## Precision in Insecticide Applications

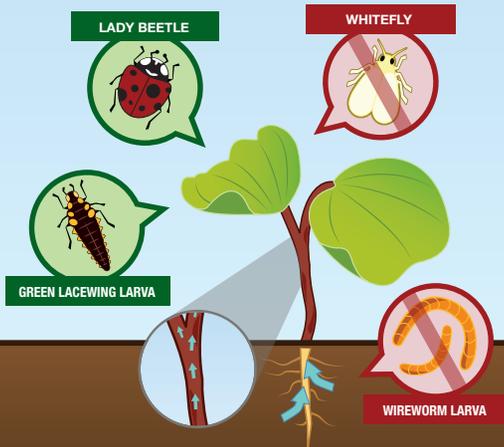
Precision application methods, such as seed treatments, directed soil applications and bark treatments, are the primary delivery systems for neonicotinoids in many crops. They have a much smaller footprint than broadcast foliar sprays.



When used as sprays, neonicotinoids are more selective than many alternative insecticides, leaving more beneficial insects to help keep pests in check.

## Harmful Pests Versus Beneficial Insects

Neonicotinoids in general, and especially as seed treatments, soil or bark applications, are softer on beneficial insects while targeting damaging pests.



Via root uptake, plants absorb neonicotinoids, which are systemically distributed throughout the plant. There is little to no residual on the leaf surface to harm beneficial insects.

AgInformatics, LLC, is an agricultural consulting firm established in 1995 by professors from the University of Wisconsin-Madison and Washington State University. The research was jointly commissioned by Bayer CropScience, Syngenta and Valent U.S.A., with additional support from Mitsui on the turf and ornamental studies.

Go to [GrowingMatters.org](http://GrowingMatters.org) for the latest information, reports, videos and infographics on the benefits of neonicotinoid insecticides. ©2014 Growing Matters

