



of bees – a phenomenon in which worker bees do not return to their hive after foraging. Another frequently associated term is Bee Decline, a more general term meant to reflect the decreasing number of managed honeybee hives over the course of decades due to a multitude of issues – including urbanization and fewer beekeepers in the workforce, as well as environmental and pest stresses.

However, research and peer-reviewed publications, including those from the United States

Department of Agriculture (USDA) and the Environmental Protection Agency (EPA) strongly contradict the finger-pointing at neonicotinoids. Rather, the research suggests that CCD of managed hives is likely caused by a combination of factors, including the 1987 introduction of the destructive Varroa mite, bee pathogens and the constant stress of transporting hives to new locations by beekeepers. Fortunately, our native bees do not appear to be impacted by CCD despite dealing with many of the same parasites and pathogens and

similar exposure to pesticides. This is not to say that pesticides play no role in CCD or Bee Decline in general – the truth is we don't have all of the answers at this point.

Based on current science, EPA continues to allow application of neonicotinoids with appropriate guidelines because they are among the safer chemicals available to combat many pests. ANLA is encouraging the research community to pursue its work on this issue without bias and identify the necessary steps to alleviate Bee Decline.

As a proud part of U.S. agriculture, the green industry understands the importance of pollinators to the agricultural industry and our natural environment. We also recognize the

importance of having effective pesticides with low environmental impact. Neonicotinoids, when used properly, are vital to the success of our industry. They are important tools in defending trees, shrubs, and plants against destructive invasive species like the Japanese Beetle, Hemlock Woolly Adelgid



and Asian Longhorned Beetle, in dealing with invasive and often chemical-resistant whitefly species, and preventing the spread of these and other pests. In some cases, neonicotinoids are approved regulatory treatments for certification and interstate movement of nursery and greenhouse crops. In others, they are critical to managing the development of pesticide resistance to other modes of action.

The neonicotinoids represent a tremendous advancement over older pesticide treatment options. When used properly, neonicotinoids effectively control problem insects, while exhibiting less impact on non-target insects (including bees). Their ability to provide residual control means fewer applications and less applicant exposure. We fear that decisions made to restrict or prohibit use of such materials, without scientific merit, will undermine research and development into new and reduced-risk materials going forward.

We must acknowledge our

stewardship role in using these chemistries, deploy them as part of a management strategy, and always remember to use them only as directed by the EPA-approved label. ANLA, OFA and SAF have collaborated on a [“Frequently Asked Questions”](#) which may be helpful in answering questions that you may receive on this volatile issue.

Dr. Joe Bischoff is ANLA's Director of Government Relations. Focused on legislative and regulatory issues connected to pest and disease management, Joe also works in collaboration with the Horticultural Research Institute (HRI), the research arm of ANLA, to develop and implement strategies for responding to new pest and disease challenges facing the industry. He was recently appointed to the Federal Invasive Species Advisory Committee (ISAC), serves on the Tier 2 Commodity Committee for the National Clean Plant Network – Fruit Trees, and is on the Research Committee of the National Ornamentals Research Site at Dominican University of California. Before joining the ANLA in February 2012, Dr. Bischoff was National Mycologist with the Animal Plant Health Inspection Service (APHIS) of the USDA.
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Neonicotinoid

Facts

By Joe Bischoff

ANLA

What are neonicotinoids?

They are a class of insecticides, developed in the 1990s and approved by the Environmental Protection Agency (EPA). When applied appropriately, neonicotinoids are vital in controlling harmful and often invasive insect pests with reduced impact on non-target insects (e.g., bees).

Why are you using pesticides, especially neonicotinoids?

Controlling pest populations is vital to a healthy agriculture system and pesticides are often one of the important tools for that purpose. Neonicotinoids are frequently used in combination with other strategies as part of an integrated pest management (IPM) approach to reduce pest populations while managing against pesticide resistance development. In some cases, neonicotinoids are approved regulatory treatments for certification and interstate movement of nursery and greenhouse crops.

Are neonicotinoids safe for the environment?

It is important to remember their purpose – they do kill insects. However, when used as described on the EPA approved label, as is required by law, they are shown to have reduced impact on non-target insects and represent a significant improvement over older chemistries. Furthermore, they are an important tool in defending our environment against invasive species such as Japanese Beetle, Asian Longhorned Beetle, Emerald Ash Borer and Hemlock Woolly Adelgid.

Are neonicotinoids dangerous to humans?

Neonicotinoid chemistry, first developed in the 1990s, represents a tremendous advancement in insecticides. The chemical is based on the nicotine molecule that has been altered so as not to impact human nerve endings but to retain its ability to impact insects. The chemical's ability to act systemically in the plant means that



applicators do not need to spray broadly but instead can target applications and let the plant move the insecticide around. In addition, the residual control means fewer applications and less applicator exposure. Thus far, all the scientific evidence suggests that when neonicotinoids are used as described on the EPA-approved label they are safer for humans, safer for the environment, and safer for non-target insects – including bees.

Why has there been so much effort to discourage or ban neonicotinoids?

Some people in the conservation movement in the U.S. and European Union embrace what is referred to as the, “Precautionary Principle.” This term has been interpreted by many to mean that any new action or policy should be prohibited unless all of the possible consequences are known in advance. However, the precautionary principle approach actually inhibits research, innovation and incremental improvements. We fear that decisions made without scientific justification to restrict or prohibit use of materials like the neonicotinoids will undermine research and development into other new and reduced-risk materials going forward.

Why were 50,000 bees killed in Oregon?

Initial reports suggest that the accidental killing of bees in Oregon would not have occurred if the label instructions had been carefully followed and the appropriate

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site, plant, pest, and timing considerations properly taken into account. This unfortunate event serves as a sobering reminder of the need to closely follow manufacturer and EPA-approved labeling.

What happens if growers and landscapers can't use neonicotinoids?

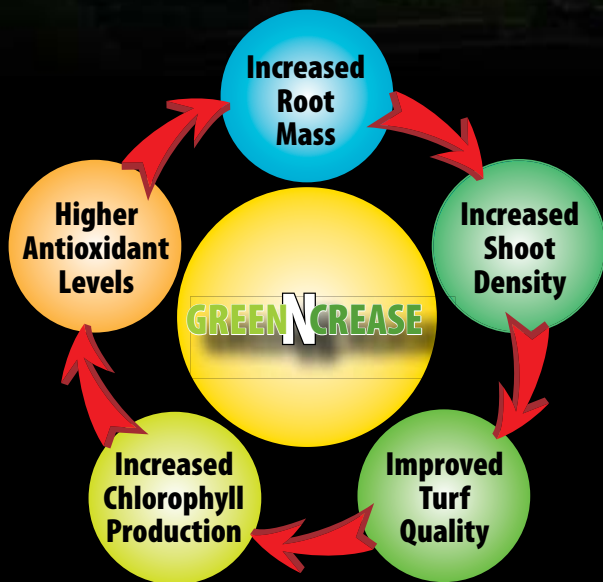
Some insects can cause significant damage to crops and their populations must be controlled. If growers and landscapers cannot include neonicotinoids as part of their pest management strategy they will have to turn to other chemicals, which are more likely to interfere with beneficial insects and other IPM options. Neonicotinoids are an important and advanced tool in our toolbox, so long as they are properly used.

What is the difference between Bee Decline and Colony Collapse Disorder (CCD)?

“Bee Decline” is a more general term that reflects the decreasing number of managed honeybee hives over the course of decades due to urbanization, pests, pathogens, beekeeper retirements and other causes – including CCD. Colony Collapse Disorder is a syndrome where worker bees from of a European honeybee colony do not return to their hive after foraging. The cause for this abrupt change in behavior remains unknown but is believed to be associated with a number of interacting factors like – parasites, pathogens, genetics, malnutrition, migratory beekeeping, habitat loss, and environmental stresses, which does include pesticides.

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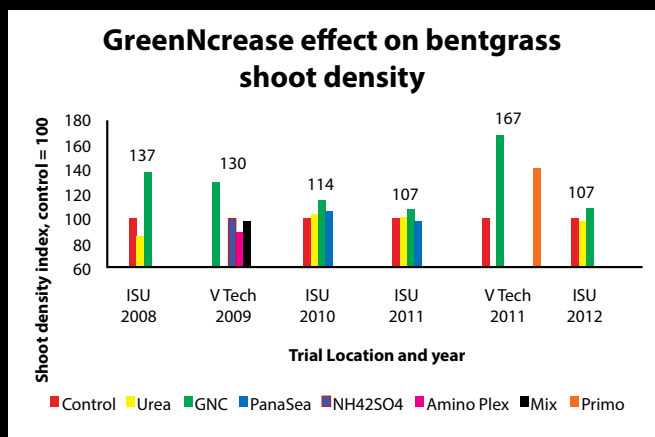
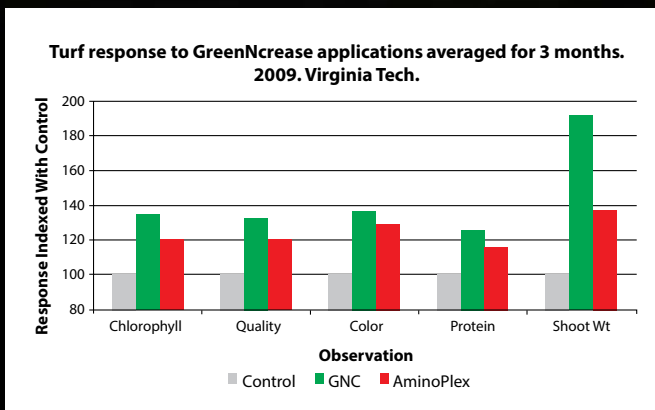
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How Do You Like To Stay Informed?

Madeline Leslie, Sam Bauer, and Dr. Brian Horgan

The title of this article might lead you to believe that we are asking you how you like to stay informed. Actually, we already did. So for now there's no need to rack your brain. Just sit back, relax and read on. For the 160 MGCSA members that completed our online needs assessment survey last year, a resounding THANK YOU. The purpose of this article is to summarize the results of this survey and to

inform you of how we will utilize this information to best serve you in the future.

Purpose of the needs assessment survey

In the area of golf course management, it can be difficult for a person to know what to do when an issue arises, especially if this issue needs to be addressed quickly.