



# GROW WISE. BEE SMART.™

## PROMOTING HEALTHY HABITATS.

### **Q: Why are bees and pollinators necessary?**

**A:** Bees, butterflies, and other pollinators are responsible for pollinating some of our most nutritious foods, such as fruits, nuts, and vegetables. They pollinate approximately 33 percent of United States crops, and account for about 80 percent of all pollination in nature. Given the critical importance of pollinators, recent challenges to bee and pollinator populations and overall health are a very serious concern, particularly for the horticulture industry. If bees disappeared, so would apples, almonds, blueberries, cherries, avocados, cucumbers, onions, grapefruit, oranges, and pumpkins.

### **Q: What can cause bee health issues?**

**A:** Bees are an extremely complex species and the factors impacting bee health are equally complex. A great deal of research has been conducted around this issue, and there is a growing body of highly reputable evidence that points to multiple causes for bee health issues, including parasites such as Varroa mites, stresses from colony management, viruses, bacteria, poor nutrition, genetics, habitat loss, and the improper use of pesticides.

### **Q: What is Colony Collapse Disorder and how does it relate to bee health?**

**A:** Colony Collapse Disorder refers specifically to a phenomenon in which worker bees fail to return to their hive after foraging. The broader discussion about overall bee health reflects the decreasing number of managed honeybee hives over the course of decades due to a variety of reasons like those mentioned above. Managed hive numbers in the U.S. hit their lowest level in 2008, and have rebounded somewhat since then.

### **Q: What are neonicotinoids?**

**A:** Neonicotinoids, a class of insecticides, were developed in the 1990s, have been extensively tested, and are approved by the Environmental Protection Agency (EPA). These products have also been approved by similar agencies in countries around the world. These products contain the nicotine molecule that has been altered to prevent it from impacting humans when applied to plants. Neonicotinoids are very targeted, and are typically applied a single time, often to the soil or seed, so they can be absorbed through the roots, which then allows the plant to protect itself from the inside out. This means better insect control, fewer applications and less worker exposure. One application can typically provide protection for up to 10-12 weeks.

### **Q: Do neonicotinoids harm bees?**

**A:** Some have questioned whether the use of pesticides, including neonicotinoids, is causing bee health declines. Scientific evidence says otherwise. Although the improper use of many pesticides can harm bees, a growing number of highly credible independent studies indicate that pesticides, when used properly, are not the primary cause of widespread bee health issues. In fact, the United State Department of Agriculture's (USDA) 2013 report on bee health listed pesticides near the bottom of a long list of factors impacting bee health. In addition, recent reports from the Australian Government's Pesticides and Veterinary Medicines Authority, which is the equivalent of the US EPA, support the conclusions of the USDA. This respected organization cited that, even though neonicotinoids are used in Australia, they have not experienced the same bee health issues seen in both the US and Europe. The bottom line? Current scientific evidence suggests that, when used as directed on the EPA-approved label, neonicotinoids are safer for humans, safer for the environment, and generally have low impact on non-target insects, including bees and other pollinators.

### **Q: What are the benefits of using neonicotinoids?**

**A:** When applied in compliance with EPA-approved labels, neonics are a better alternative for consumers, professional applicators, and the environment than older, broad-spectrum pesticides. They require fewer applications than other products. They have been studied extensively and found to be useful yet low in toxicity, which is why they are commonly used in and around homes and with pets. When used properly, they protect habitats from destructive pests, leaving bees and other beneficial insects unharmed and free to feed and forage.

Without these pest management tools, trees and even entire forests could be devastated by the emerald ash borer, Asian longhorned beetle, hemlock woolly adelgid, and other invasive pests. Neonicotinoids work very well in fending off the invasive and often chemically-resistant whitefly species as well as the Asian citrus psyllid, which spreads a bacterial disease that wipes out orange trees. When used properly as part of an integrated pest management (IPM) program, pesticides like neonics contribute to establishment and maintenance of healthy and diverse plants and landscapes.

### **Q: What is Integrated Pest Management (IPM)?**

**A:** IPM is a process for managing plant pests using knowledge and the best tools. For professional plant growers, IPM starts with prevention strategies like sanitation, much the way hospitals work to prevent infection, or the way a restaurant kitchen practices safe food handling. Next, a grower must know a lot about pests or diseases that may attack the plants. IPM relies on regular inspections and good recordkeeping. When pests are found, control strategies are used, such as employing beneficial insects that eat the bad ones. Finally, pesticides are used if necessary, in a targeted way rather than across an entire crop, and strictly following the label. Neonics can be used without harming beneficial insects, making them a useful IPM tool.

**Q: Can I practice IPM in my own garden or landscape?**

**A:** Sure. The principles are the same, and it doesn't need to be difficult. It starts with choosing the right plants. If your yard or patio is sunny all day, shade-loving plants will be stressed and prone to pests. Desert plants will struggle in an area where the soil stays wet. Next, learn about common pests. Seek expert identification and advice if you see signs of anything unusual. As for control strategies, some consumers prefer conventional options, while others may opt for organic or "natural" pest control tools. Whatever your preference, remember that even organic pesticides or "natural" approaches can be toxic to bees and pollinators! So always check the label for precautions, and it's usually a good idea to avoid treating plants when pollinators like bees or butterflies are present. Your garden center or nursery professional can help guide your choices.

**Q: How do I build a healthy habitat for bees and other pollinators?**

**A:** The single best way to support bees, butterflies and other pollinators is to plant healthy, bee-friendly plants and flowers, which are important sources of food and forage. Choose plants that will provide a succession of flowers throughout the growing season. You can grow plants in your garden, in your backyard or in window boxes or porch planters if you live in a more urban setting. You can also help by leading a community garden or neighborhood planting project. After planting, keep plants and flowers healthy through proper watering and nutrition. Choose the gentlest options for managing pests, and watch labels carefully for guidance on protecting pollinators. Consult your garden center, nursery, or greenhouse for expert advice.

**Q: What are the most beneficial plants and flowers for bees and other pollinators?**

**A:** The most pollinator-friendly plants provide pollen and nectar throughout the growing season. Some pollinator favorites include lavender, thyme, sunflowers, marigolds, and goldenrod. Your local garden center, nursery, or greenhouse can help you find the best plants to grow, as well provide information on how to keep them flourishing year-round with proper watering, nutrition, and, if necessary, the careful use of pesticides.

**Q: What would we lose if there were no bees?**

**A:** Bees are critical in helping pollinate the food we eat. Without them, many nutritious foods we enjoy would be gone, including: apples, almonds, blueberries, cherries, avocados, cucumbers, onions, grapefruit, oranges, and pumpkins.

**Q: How does the horticulture industry promote pollinator health?**

**A:** As the original green industry, we are a source of accurate, science-based information regarding plant and pollinator health. This includes broad outreach and education to ensure that both the industry and consumers understand the need for creating feed and forage habitats for pollinators. We also provide information about Integrated Pest Management (IPM) programs, which focus first on preventative cultural practices, the use of beneficial insects (such as ladybugs and ground beetles), thorough and frequent inspections for signs of plant pests and diseases, and, finally, judicious use of pesticides.

**Q: Which organizations are behind the Bee and Pollinator Stewardship Initiative?**

**A:** AmericanHort® and the Horticultural Research Institute, in partnership with industry groups like the Society of American Florists and the American Floral Endowment and other collaborators who are also passionate about developing sustainable solutions for pollinator health.

**Q: Who are AmericanHort®, Horticultural Research Institute, Society of American Florists, and American Floral Endowment?**

**A:** AmericanHort® is the industry association for professional growers of trees, plants, and flowers. They represent more than 16,000 breeders, greenhouse and nursery growers, retailers, distributors, interior and exterior landscapers, florists, students, educators, researchers, manufacturers, and all of those who are part of the industry market chain nationwide. The Horticultural Research Institute (HRI), the research arm of AmericanHort®, funds, promotes, and shares horticultural research for nurseries, greenhouses, garden centers, and landscapers.

The Society of American Florists is a national trade association representing the floriculture and greenhouse industry in the U.S. Membership includes some 10,000 small businesses, including growers, wholesalers, retailers, importers, and related organizations nationwide and abroad. The industry produces and sells cut flowers and foliage, foliage plants, potted flowering plants, and bedding plants. The American Floral Endowment (AFE) is an independent nonprofit organization that funds research and scholarships in floriculture and environmental horticulture for the benefit of growers, wholesalers, retailers, allied industry organizations, and the general public.

**Q: Why is horticultural research important?**

**A:** The research conducted by organizations like the Horticultural Research Institute makes it possible to determine best practices that improve our industry and enhance our communities. For example, we are bringing together industry-leading horticulture and pollinator groups to conduct important research studies to identify which plants are the best pollinator forage sources at different times of the year. Along with its research efforts, HRI and AFE provide the opportunity for individuals, businesses, associations, and foundations to make important tax-deductible contributions for the support of educational and scientific research.

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