

Best Management Practices for Turf Care and Pollinator Conservation: **Fast Facts**



- Populations of pollinating insects have been reduced by habitat loss, disease, parasitic mites, and misapplications of insecticides. We can take proactive steps to conserve these beneficial insects.
- Avoid applying liquid insecticides to the blooming portion of flowering weeds like dandelions or clover. To accomplish this in turf, mow before application or use a granular product.
- You can provide foraging habitat and nesting spots for pollinators by planting a diversity of blooming plants that provide flowers at different times in the growing season.

Best Management Practices for Turf Insecticides and Pollinators

If you are treating for belowground pests, consider using a granular—or spreadable—insecticide formulation. Granular products ensure insecticide residues go into the soil rather than into blooms of flowering weeds.

If you must treat with a liquid insecticide formulation, mow the area you will be treating immediately before application. Mowing removes the majority of flowers, thereby reducing foraging pollinators. While some modern insecticides are systemic, current research for weeds in turf has demonstrated that any systemic transfer of insecticides into weeds poses no hazard to pollinators.

Controlling flowering weeds prior-to or post-bloom with an herbicide before the application of an insecticide will also reduce the chances of directly contaminating flowers with an insecticide.

Species popular with pollinating insect species in prior research:



New England aster



Black eyed Susan

Pollinating insects are valuable organisms that we rely on for pollination services for crops, backyard vegetable gardens, and certain ornamental plants. In the last decade there has been concern about declining populations of bees and other pollinators. A general decline in pollinator numbers has been driven by the combined negative effects of habitat loss, diseases and parasites, and misapplied insecticides. All of these issues must be addressed if we are to help pollinators recover and mitigate future impact. In the turfgrass industries, managers must be aware of these issues and be proactive to ensure their methods do not contribute to losses in pollinator populations. To that end, researchers have developed rational, scientifically-based recommendations for Best Management Practices (BMP) that promote healthy landscapes, while conserving and enhancing pollinator health.

Follow label precautions and practice insecticide stewardship

Turfgrass stands are rarely devoid of weeds. Flowering weeds such as the common dandelion (*Taraxacum officinale*) and white clover (*Trifolium repens*) amongst others, provide an important food source for pollinators, particularly as early season forage for bees that emerge in spring. Weeds in cool season grass (bluegrass, fescue, rygrass) lawns host 50–100 different species of bees, butterflies, and flies. This demonstrates the need for us to consider the hazards to these insects from insecticide applications in turf. There are simple ways to reduce pollinator's exposure to insecticides. First and foremost, read and follow the label instructions on the insecticide you have selected. The wording on many insecticide labels have changed recently relative to pollinator conservation. The most common precaution is to avoid using insecticides on areas of turf with actively blooming weeds. This recommendation is the best way to minimize hazard from liquid insecticide applications that would coat flowers and taint pollen and nectar with insecticides. This is particularly important if you have a weedy patch of turf that needs an insecticide application.

Maximizing the surrounding landscape for pollinators

Habitat loss is one of the biggest contributors to pollinator decline. Bees need flowering plants for food but also spaces to nest. As natural habitats disappear, so do food and nesting resources. To help combat this problem, provide the best possible habitat for these important insects by planting a diversity of flowering plants in your landscape. This ensures that pollinating insects with differing food preferences will have a variety of shapes, colors, and sizes to choose from and that there will be plants in bloom throughout the growing season. Past research has shown that plants like New England aster, bergamot, black-eyed Susan, purple coneflower, plains coreopsis, prairie coneflower, and lanceleaf coreopsis can be quite

attractive to a diverse array of pollinators. If you want to learn more about how you can successfully create your own pollinator gardens you can contact your local University Extension service to learn more about which flowering plants are suitable for planting in your area. In addition, the Pollinator Partnership offers free planting guides tailored to specific parts of the country at www.pollinator.org/guides. Finally, be sure to include resources for pollinators to use as nesting sites. For bees you can construct domiciles out of pieces of hollow bamboo or purchase pre-made “bee houses” to station in your gardens. Plans for building bee domiciles are available online. To help out butterflies and moths, you will need to include larval food resources such as milkweed for monarchs or parsley for black swallowtails. You can learn more online about caterpillar food preferences.

To view an electronic version of this publication, visit ncipmc.org/action/fastfactsbmpturf.pdf.

This work was supported by the USDA National Institute of Food and Agriculture, Crop Protection and Pest Management Program through the North Central IPM Center (2014-70006-22486). For more information about the development of this publication document, contact Susan T. Ratcliffe at sratclif@illinois.edu or by phone at (217) 333-9656.

This publication was developed during the National Pollinator Summit for the Development of Best Management Practices to Protect Pollinators in Turf (August 21-22, 2016, Sheboygan, Wisconsin). The authors, in collaboration with more than 60 university researchers, Extension specialists and industry stakeholders including lawn care professionals, golf course superintendents, managers and consultants, and product manufacturers have summarized and synthesized research and recommended management practices that protect pollinators in turf systems.

Jonathan Larson

Extension Entomologist
University of Nebraska-Lincoln
jonathan.larson@unl.edu
@JLarson_UNL

David Held

Associate Professor of Entomology
Auburn University
dwh0004@auburn.edu
@held_david

R. Chris Williamson

Professor, Extension Specialist
Turfgrass and Ornamentals
University of Wisconsin-Madison
Department of Entomology
rcwilliamson@wisc.edu
@turfinsects



Bergamot



Purple coneflower