



Take Decatur's Pollinator Pledge Today!

Dear Neighbor,

Bees, butterflies and other beneficial insects are declining rapidly around the world and here in Georgia. These small creatures make huge contributions to our environment, agricultural system and way of life. Urban environments like Decatur provide critical habitat for them. In an effort to help protect and strengthen that habitat, we have partnered with Bee City USA-Decatur, GA ("Beecatur") **to launch Decatur's first ever "Pollinator Pledge" program!**

It's easy to get involved. Just visit **BeecaturGA.com/pledge** and say you'll support pollinators by incorporating native plants into your landscape, foregoing pesticide use and not spraying/misting your yard for mosquitoes. We'll add your house to the Decatur Pollinator Pledge map to show your neighborhood's progress. Our goal is to get as many neighbors as possible to take the pledge to help keep our pollinators (and community!) healthy. At the website, you can also choose to purchase a handsome, metal Pollinator Pledge sign to let the neighborhood know you're doing your part to help!

Beecatur's online resources are also a great place to begin learning about pollinators and find lists of native plants that grow well in our area and where to purchase them. We're also happy to offer suggestions and advice. Feel free to reach out to us directly for gardening suggestions and advice.

Nature isn't somewhere else; it's right outside your door. We hope you will join us in creating a better world for our pollinators, our city and our neighborhood!



BeecaturGA.com/pledge

Lawn & Garden Pesticides Facts & Figures

- **88 million households** in the U.S. use pesticides around their home.¹
- Herbicides account for the highest usage of pesticides in the home and garden sector, with **over 28 million pounds applied on lawns and gardens** in 2012.²



Suburban lawns and gardens receive more pesticide applications (3.2-9.8 lbs. per acre) than agriculture (2.7 lbs. per acre) on average.³

- Pesticide expenditures (or sales) by the chemical industry average \$9 billion. Annual sales of the landscape industry are over \$53.9 billion.⁴
- Included in the most commonly used pesticides in pounds per year are: 2,4-D (7-9 million), **glyphosate/Roundup**

- (4-6 million), MCPP (Meco-prop) (2-4 million), pendimethalin (2-4 million), carbaryl (2-4 million).⁵
- A 2004 national survey reveals that 5 million homeowners use only organic lawn practices and products and **35 million people use both toxic and non-toxic materials.**⁶

Lawn and garden pesticides harm beneficial insects and soil microorganisms essential to a naturally healthy lawn.

- A study published in Environmental Research found that dogs whose owners' lawns are professionally treated with pesticides are associated with a **significantly higher risk of canine malignant lymphoma.**⁸
- **Pesticides can be toxic to wildlife**

Of the 30 most commonly used lawn pesticides:



22
are toxic to birds



14
are toxic to mammals



30
are toxic to fish and aquatic organisms



29
are deadly to bees.⁹

Tips For A Bee-Friendly Yard

- Avoid using insecticides and herbicides
- Leave patches of bare soil for ground-nesting bees
- Leave fallen logs and hollow stems for nesting habitats
- Plant native, perennial flowers and trees to provide a succession of blooms across all seasons
- Provide a water source for bees to drink



Bees Love Flowers Like These:

- | | | |
|---------------------|------------------|----------------------|
| • Bee Balm | • Foam flower | • Partridge Pea |
| • Black-eyed Susan | • Goldenrod | • Rattlesnake Master |
| • Blazing Star | • Joe Pye Weed | • Salvia |
| • Boneset | • Lobelia | • Spiderwort |
| • Butterfly Weed | • Lupine | • Sunflower |
| • Coneflower | • Mallow | • Swamp Milkweed |
| • Coreopsis | • Mountain Mint | |
| • Crossvine | • Native Thistle | |
| • Eastern Blue Star | • Passionflower | |

More Info

- **Bee City USA®-Decatur, GA (Beecatur)** BeecaturGA.com
Help create and maintain pollinator habitats, and promote bees and other pollinators in Decatur.
 - **Native Plant Lists:** beecaturga.com/native-plant-lists
 - **Native Plant Growers/Retailers:** beecaturga.com/native-plant-growers
- **Xerces Society** xerces.org
An international nonprofit that protects wildlife through the conservation of invertebrates and their habitats.
- **Georgia Native Plant Society** gnps.org
Promotes the stewardship and conservation of Georgia's native plants and their habitats.
- **Dekalb County Master Gardeners Extension** extension.uga.edu/county-offices/dekalb.html
- **Local Master Gardeners available for consultations:**
 - **Audrey Kemp**, Willow House Garden Craft, willowhouse@gmail.com, 404-769-7954
 - **Pam Murphy**, Plant Design, jmurphy827@aol.com, 404-323-9138

and cause food source contamination, behavioral abnormalities that interfere with survival, and death.¹⁰

- **Lawn and garden pesticides are deadly to nontarget species** and can harm beneficial insects and soil microorganisms essential to a naturally healthy lawn.¹¹
- **Home and garden insecticides in the neonicotinoid class have been linked to pollinator decline**, with harm to bees' reproduction mobility, navigation, feeding, foraging, memory and learning.¹²

PESTICIDE HEALTH & EXPOSURE RISKS

Of the 30 most commonly used lawn pesticides:

16
are probable
or possible
carcinogens

12
are linked
with birth
defects

21
are linked with
reproductive
effects

14
are
neurotoxic

24
cause liver
or kidney
damage

16
are sensitizers
and/or
irritants

17
have the potential
to disrupt the
endocrine system.⁷

Fall is a great time to start transitioning your lawn to organic

- **Mow High Until the Season Ends** – Mow down to 2 inches to prevent fungal problems. For the rest of the year keep it at 3-3.5 to shade out weeds and foster deep, drought-resistant roots.
- **Aerate** – Get together with your neighbors and rent an aerator. Once you have an established, healthy lawn, worms and birds pecking at your soil will aerate it for free!
- **Fertilize (but go organic!)** – Leave grass clippings on your lawn. You can also use a mulching mower and leave the leaves on the lawn too.
- **Develop your tolerance** – Many plants that are considered weeds in a lawn, have beneficial qualities. Learn to read your “weeds” for what they indicate about your soil conditions. *Monocrops do not grow in nature and diversity is a good thing!*

PROTECT YOURSELF FROM MOSQUITOES (the way you protect yourself from the sun!)



< Protect Your Skin

You wouldn't go to the beach without your sunblock! Apply safe, effective insect repellents containing DEET, Picaridin or Eucalyptus oil when outside during mosquito season.

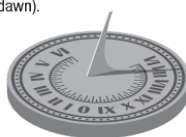


Dress Appropriately >

Rash guards and hats keep you sunburn free during a day at the pool. Protect yourself from biting mosquitoes by wearing loose fitting long sleeves or pants.

Timing is Everything

Just like you should avoid sun exposure during peak hours, avoid mosquitoes by limiting activities during times when mosquitoes are most active (dusk and dawn).



< Just Don't Do It

The very young and the very old should take extra precautions whether out in the sun or being exposed to mosquitoes and the threat of mosquito borne illness.



< Keep Your Cool

Relaxing under a fan is perfect on a hot, sunny day. Limit mosquito bites by keeping the air moving when chilling outdoors.



City of Decatur
BeecaturGA.com

beecaturga.com/mosquito-spraying

References

¹ U.S. Environmental Protection Agency (EPA). 2017. Pesticides Industry Sales and Usage: 2008-2012 Market Estimates. https://www.epa.gov/sites/production/files/2017-01/documents/pesticides-industry-sales-usage-2016_0.pdf.

² Ibid.

³ National Research Council. 1980. Urban Pest Management. National Academy of Sciences; Abrams, R., Attorney General of New York. 1991. "Toxic Fairways: Risk-ing Groundwater Contamination from Pesticides on Long Island Golf Courses," Environmental Protection Bureau; Pimentel, D, et al. 1991. "Environmental and Economic Impacts of Reducing U.S. Agricultural Pesticide Use," Handbook of Pest Management in Agriculture, 2nd ed. CRC Press, Florida, p.679.

⁴ United States Census Bureau. 2016. 2012 Economic Census- Landscaping Services. <https://factfinder.census.gov/faces/tables/services/jsf/pages/productview.xhtml?src=bkmk>.

⁵ Ibid.

⁶ The National Gardening Association and Organic Gardening Magazine. 2004 July. Environmental Lawn and Garden Survey.

⁷ Beyond Pesticides Factsheet. 2015. Health Effects of 30 Commonly Used Lawn Pesticides. <http://www.beyondpesticides.org/lawn/factsheets/30health.pdf>.

⁸ Takashima-Uebelhoefer, BB et al. 2012. Household chemical exposures and the risk of canine malignant lymphoma, a model for human non-Hodgkin's lymphoma. Environmental Research. 112 (171-176).

⁹ Beyond Pesticides Factsheet. 2015. Environmental Effects of 30 Commonly Used Lawn Pesticides. <http://www.beyondpesticides.org/lawn/factsheets/30enviro.pdf>.

¹⁰ Defenders of Wildlife. The Dangers of Pesticides to Wildlife [white paper]. 2005 April. www.pesticidefreelawns.org/resources.

¹¹ Restmeyer, S.J. 2003. Ecological Pest Management: Embracing the Organic Approach to Landscape Management. Pesticides and You 23(1): 11-12. Beyond Pesticides, Washington, D.C.

¹² Toher et al. 2014. No Longer a Big Mystery. Pesticides and You. (34)(1) 9-12. Beyond Pesticides, Washington, D.C. <http://www.beyondpesticides.org/assets/media/documents/pollinators/nolongeraBIGmystery.pdf>.

The global war on insects has been tragically successful

By **DOUGLAS TALLAMY**

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More than 30 years ago, biologist E.O. Wilson startled the scientific community by claiming that insects are “the little things that run the world.”

It was a challenge to then-conventional wisdom, but he was right. If insects were to disappear, so would nearly all flowering plants and the food webs they support. The extinction of reptiles, amphibians, birds and mammals would inexorably follow. Without insects, the rapid decomposition of organic matter that allows for nutrient recycling and plant growth would shut down. The implications for human survival should be obvious.

In 1987, Wilson’s dire predictions, given in an address at the National Zoological Park in Washington, were considered little more than theoretical musings. Few of those studying the more than 3 million species of insects worried that insects would ever decline below ecologically functional levels. In fact, the prime concern was not coexistence with insects but finding ever more effective ways to kill them in our homes, lawns, crops and forests.

Unfortunately, our global war on insects has been enormously — tragically — successful. The ecological importance of insects has been unappreciated and their needs ignored. Many species today are at a fraction of what is needed to sustain viable ecosystems and are declining rapidly. The United Nations’ recent Global Assessment Report on Biodiversity and Ecosystem Services, released in May, finds that 10 percent of all insects are threatened with extinction.

Worldwide, most of the one million species of creature at risk of imminent extinction are insects. In the United States, overuse of pesticides, loss of habitat to tens of millions of acres of sterile lawn, and replacement of native plant communities with “pest-free” ornamentals have caused a 45 percent decline in insect populations. The mess we’ve made of insect populations threatens the ecosystems we depend upon.

Reversal of this dangerous trend is eminently possible, but only if private landowners support a cultural shift in how we manage our landscape. About 83 percent of the continental United States is privately owned. Right now, vital biodiversity is huddling in our parks and preserves, but these protected areas are not large enough or sufficiently aggregated to sustain the plants and animals that make our ecosystems function. Increasingly, it is up to us ordinary landowners.

Here are seven basic steps we all can take to help restore beleaguered insect populations and the healthy ecosystem they support:

- **Cut your lawn area in half.** This monoculture degrades our watersheds and functions as a “desert” to diverse food webs and essential pollinators such as native bees. It is also the worst plant choice for sequestering of carbon.

- **Remove invasive plants,** such as barberry and euonymus (“burning bush”). Refuse to buy them at your local nursery. Spreading into natural areas, these non-native plants disrupt natural food webs, acting as ecological tumors that displace valuable native plant species.

- **Fill your property with native plants.** These trees, shrubs and flowering plants support insects and the birds that feed on them. Native plants host up to 100 times more insects than non-native plants. For suggestions tied to your ZIP code, see the Native Plant Finder at www.nwf.org/NativePlantFinder/Plants.

- **Minimize insecticide use.** Homeowners use these poisons more intensively than commercial agriculture, and almost all of this is unnecessary.

- **Oppose mosquito fogging in your community.** Pyrethroids used to knock down adult mosquitoes kill virtually all the insects they contact. Mosquitoes are best controlled by targeting their larva.

- **Build pollinator gardens** with plants such as goldenrods, asters, sunflowers, evening primrose and native willows. Besides human food crops, insects pollinate 80 percent of all plants and 90 percent of all flowering plants. Lose our pollinators, and we’ll lose 80 to 90 percent of plant species on the planet.

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- **Regulate outdoor lighting with motion sensors.** Lights that burn all night draw insects for hours, exhausting them and making them easy prey for bats and birds. Across the nation, millions of lights are killing billions of insects every night.

We can no longer leave the work of conservation to professional conservationists. The new ethic demands that we come to see land ownership as carrying responsibility for stewarding the life associated with that land. Much is at stake: Along with myriad insect species, more than 400 species of North American birds are threatened with extinction.

Don’t be daunted. Just care for the life in your yard and garden, and you’ll be part of the solution for the entire planet.

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