

*Follow these tips
to help your local bee
population!*

WAYS TO HELP BEES

There are a lot of ways to help the bee population without becoming a proper beekeeper, and a lot of the methods listed below can be accomplished by practically anyone!

1 Plant a garden!

There are a variety of flowers that attract bees, such as lavender or sunflowers! Bee gardens don't have to be large, either. Window boxes and small yard gardens will work perfectly fine! Plants that would fit in a window box would include mint, chives, and sage!

2 Stop using chemicals and pesticides!

Common pesticides often contain lethal chemicals that cause more harm than good for bees and other pollinators. Going organic and using chemical-free pesticides and starting to practice composting can enrich soil and attract insects that will keep pests away while letting bees thrive

3 Sponsor a bee hive!

By sponsoring a bee hive through an organization like The Bee Conservancy, you will help provide a place for bees to survive and thrive as well as providing education and research programs for communities.

4 Support local beekeepers!

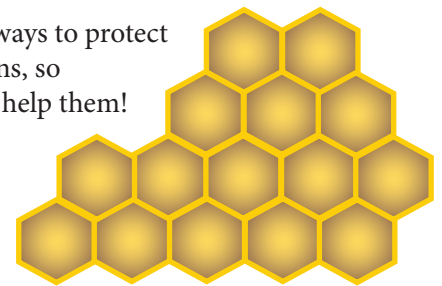
Instead of grabbing the preserved honey in the cute bear bottles, buy honey from a local beekeeper! Not only is locally-made honey sweeter, it's also made with local plants and flowers, which can help with seasonal allergies. Most beekeepers also sell beeswax products such as soaps, candles, and lotions!

5 Learn about local organizations!

By learning about your local pollinators and bees, you can also learn about the best ways to protect and help the bee population! Not all areas across the nation have the same bee populations, so learning what types lives in your community will help you narrow in on the best ways to help them!

6 Border your crops with flowers!

By creating a border of native flowers around your fruits and vegetables, not only will you help increase your crop yields, but you'll also be able to support bees while the crops are out of season!



The Bee Conservancy
1732 1st Ave #28748
New York, NY 10128
thebeeconservancy.org

The Pollinator Partnership
475 Sansome Street, 17th Floor
San Francisco, CA, 94111
pollinator.org

The Bee Conservancy and the Pollinator Partnership both work to help keep the bee population from its continued decline. They provide educational programs and ways to donate to help them with their missions.

This newsletter is a final project of Melissa Whaling for WRI 226, Desktop Publishing: Writing and Editing Newsletters. In this one-semester course at Kutztown University of Pennsylvania, students use Adobe InDesign to write, edit, and design original newsletters. The contents of this publication reflect the views of the student author, not those of the instructor or of the university.

WHAT'S THE BUZZ WITH BEES?

LEARN ABOUT EVERYONE'S FAVORITE SWEET POLLINATOR!

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BEES REALLY ARE BUSY

Melissa Whaling

Bees. Most of the time, when you see the little black and yellow pollinators you probably swat it away. But those same bees are in integral part of our world. The familiar idiom “busy as a bee” may not be too far of a stretch, since according to the Genetic Literacy Project, bees work to pollinate about \$15 billion worth of domestic agriculture. Bees—both honey and wild—are relied on by about a third of the nation’s crops.

Avocados, for example, are dependent on a bee’s pollination to produce fruit. Without bees and their pollination, avocado yields would dwindle down until there aren’t any avocados anymore. No more guacamole, no more avocado on toast or in salad. That’s just the tip of the iceberg, according to From The Grapevine, as bees also work to pollinate about 80% of the world’s almonds, which are grown in California. With decreasing bee populations, farmers are paying over three times what they used to pay to rent a hive, which could in turn cause the price of almonds and almond-related products to skyrocket.

It’s not just our food that relies on bees, though.

Bees are also being used to study ways to combat brain aging and age-related dementia. Arizona State University (ASU) scientists discovered that older bees can be tricked into doing social tasks inside a hive can change their brain’s molecular structure. When examining their brains, researchers discovered proteins that are also found in human brains, and these proteins can help fight dementia and Alzheimer’s. While there is still a long road of research and testing, older bees essentially reverting to their younger selves is a big step in the direction of helping human maintain brain activity and function.

Facts About Bees!

- Bees can fly up to 20 MPH
- One pound of honey comes from an estimated 2 million flowers
- Pheromones are the main source of communication between bees
- “Honeybee” and “honey bee” are both correct forms of the insect
- Queen bees can lay up to 2,000 eggs a day
- Male bees in the hive are called drones, while females in the hive are worker bees
- Bees are quite old! They’ve been around for around 30 million years



© Unknown, 2018

Honeybees working to fill up honeycomb in their hive. Without these sweet pollinators, honey is one of the many products we won't be able to harvest anymore.

DR. BLYUSS' DISCOVERY

Melissa Whaling

Pesticide sprays are often used by both farmers and everyday people who wish to keep both parasitic organisms and bees away from their crops and plants. These sprays, however, can be detrimental to the bee population, as the chemicals used kill anything that ingests it. Many scientists and researchers have been looking for ways to combat the chemicals used to keep their crops and flowers parasite-free without harming other insects or birds, though.

One researcher has discovered a breakthrough on developing a pest control that rids crops of parasites without harming other organisms. Dr. Konstantin Blyuss, a professor at the University of Sussex, has been working with scientists to develop a chemical-free pest control. His research targets a specific protein that these parasitic organisms and worms (nematodes) require, and without that protein the

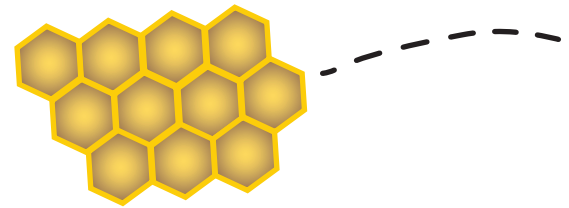
"These solutions are naturally occurring!"

organisms won't be able to survive.

Mentioned in an article published by the University of Sussex, nematodes cause a loss of over \$100 billion crops annually, and with the help of Dr. Blyuss' discovery, these harmful parasites won't be able to do that much damage anymore, and crop harvests can increase annually.

Dr. Blyuss is a mathematics professor and has even created mathematical models to represent how effective his chemical-free pesticides can be. Stated in the previously-mentioned article, the plants that receive the pesticide will have a 92% chance at survival, while the ones that the nematodes will affect have only a 57% chance. He also stated that the infestation rates decrease by about 10% with the use of the chemical-free pesticide.

With plans to soak the seeds of plants in the chemical-free solution, Dr. Blyuss and the Ukrainian scientists he's working



with have also started working on research for a potential development of new tools to control wheat nematodes, according to the Sustainability Times.

Developments such as this are incredibly noteworthy for farmers as well as people who try to keep an organic diet, as the solutions that Dr. Blyuss has been studying occur naturally, acting as a vaccination. Just as you and I get vaccinated to fight illnesses like the flu, plants can receive this "inoculation" to fight parasites.



© University of Sussex, 2019

Dr. Blyuss, University of Sussex professor who discovered the natural pesticide.

CONSERVING THE BEES

Non-Profit Organization Works to Protect Bee Population

Founded in 2009, The Bee Conservancy, formerly known as The Honeybee Conservancy, has expanded to include even more species of bees, noting that bees are the heart of human survival. Without bees, our food supply would dwindle until it's at an all-time low, meaning it's extremely important to help protect the bee population.

Stated on their homepage, The Bee Conservancy is dedicated to protecting bees and their environment through education programs and habitat creation, among other things. The founder, Guillermo Fernandez, started The Bee Conservancy after growing up in a poverty-filled Cuban town, wanting to help lesser well-off communities produce healthy food and create more natural and green spaces.

One program that Fernandez and The Bee Conservancy have worked to create, a Sponsor-a-Hive program, have helped save an estimate of 10 million bees! The Sponsor-a-Hive program works to place honeybee homes and hives across the U.S. and Canada, and support schools, gardens, and other groups to create a community of bees and help keep the bee population thriving.



© The Honeybee Conservancy, 2009



The former logo of The Honeybee Conservancy and their updated logo for The Bee Conservancy.



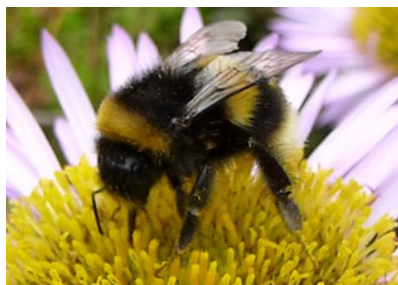
© The Bee Conservancy, 2020

POPULAR TYPES OF BEES



© Randy O'Hara, 2020

A western honeybee.



© Janine, 2019

A bumblebee.



© John Hutt, 2017

A hoverfly bee.

POLLINATOR WEEK 2020

Melissa Whaling

With their eyes set on educating the public on ways to protect bees, the Pollinator Partnership has created an annual event that takes place in the last week of June: National Pollinator Week. This event is hosted across the nation to help shine a light on the importance of pollinators, such as bees.

The Pollinator Partnership's website lists various activities that one can partake in during National Pollinator Week, such as activities and lightings to signify the support for protecting the pollinator population. While the name of the event is "national," there are lightings and events all over the world!

Some of these activities, which are highlighted on the Pollinator Partnership's website, include garden tours and insect observations and cataloging where you are able to see what pollinators do and learn how to help protect them.

In addition to the Pollinator Week activities, buildings associated with the communities hosting said activities also light up in orange and yellow to show their support of bees and other pollinators.

This event has been going on each for the past 13 years, although it took on a slightly different appearance this year.

The COVID-19 pandemic caused a majority of events to transition online, but this year's event also happened to be one of the biggest ones yet! Over half of the state governors and numerous U.S. and Canadian mayors have pledged to promote the importance of bees and other pollinators.

Events such as webinars and social media giveaways were tacked onto the week's events, which also included events such as socially distant garden walks, podcasts, and recipe cards to make a successful pollinator garden!



© SF Entertainment, 2020

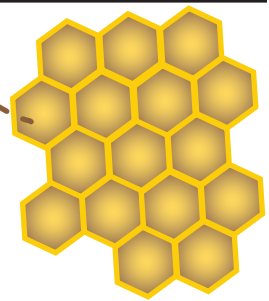
San Francisco's City Hall colored yellow for Pollinator Week.

THINGS THAT BEES PROVIDE

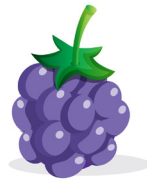
Food! Almonds rely 100% on a bee's pollination, and 90% of fruits such as apples and blueberries are pollinated by bees! Bees are responsible for pollinating about 90 common foods!

Clothing! Bees help pollinate about 80% of cotton plants, and without them we would lose an estimated \$850 million annually!

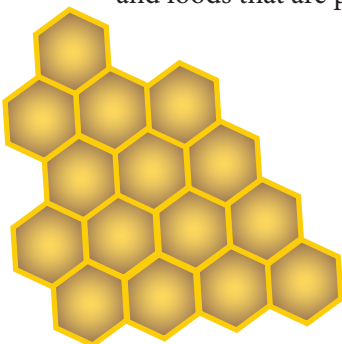
Other Animals! Bees pollinate fruits and nuts, which are often consumed by a multitude of animals! Other than humans, animals such as raccoons, birds, bats, and many other insects dine on the plants and foods that are pollinated by bees.



© Freepik, 2020



Fruits such as apples, blueberries, oranges, and avocados are all dependent on pollination from bees!



Raccoons are one of the many animals that rely on fruits and nuts pollinated by bees.



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