

THE RECYCLER

Newsletter of Recycle Rutherford, Murfreesboro, Tennessee

Spring 2020

Planned Focus of Spring Meeting: The Plight of the Bees

Ron Cozart, a member of the Rutherford County Beekeepers Association, was to present the program with a focus on the plight of the honeybee at our annual meeting which would have been April 27. Of course, that meeting, along with just about everything else, was cancelled because of the pandemic. Cozart provided the information he had planned to present. That and some additional details about alternatives to chemical pesticides follow.

What are pollinators and why do we need them?

Pollinators are primarily insects but at times are birds and mammals that pollinate a plant so that it can produce seeds. We and other animals rely on these pollinators to formulate the seeds and fruit surrounding seeds needed to produce nuts and fruits essential to a healthy diet. **Most flowering plant species require help with pollination** to make the seeds of the next generation.

Pollination is moving pollen from the male plant structures of the flower to the female structure of the same species of the plant. Then, an adequately fertilized flower will produce seeds, ensuring a new generation of plants. How and why do these pollinators move the pollen around in flowers? Flowers produce sugary nectar which is a reward for the visit into the flower. Also, it offers pollen which provides protein, fats, vitamins, and phytochemicals necessary for photosynthesis needed for a healthy life.

Who are these pollinators? Honeybees often come to mind when we think of pollinators. However, there are many more: other bee species, butterflies, flies, beetles, plus some birds and some bats.

There are an estimated 300,000 species of flowering plants worldwide. There are only about 1,000 vertebrate pollinator species but just with bees alone, there are an estimated 16,000 different species of bees worldwide. In America, we have approximately 4,000 different species of bees. Remember, the honeybee is not native to the United States.

Pollinators are necessary for three-quarters of our major food groups. Without them, our diet would be severely limited, and it would be more difficult to acquire the diversity of vitamins and minerals we need to stay healthy.

Approximately 80 to 85 percent of the plant species found require mediated pollination. Plants are the foundation of the food chain. Plants are eaten by herbivores that in turn are hunted by predators. In order to preserve our natural ecosystem, we need healthy pollinators.

Populations of bees, butterflies, moths, beetles, and other pollinators are disappearing due to the overuse of pesticides, habitat loss due to agricultural development, expanding cities, and changes in climate. It is estimated that 40 per-cent of the world's insects are in decline. **Last year in the U.S., 40 percent of the honeybee colonies died.**

We must remember that it is estimated that the honeybees are responsible for about 30 billion dollars per year in crops. Without bees, the world's population would have to shrink.

As mentioned above, we should forego using pesticides as much as possible. If we must use something, we should try the least toxic and apply at night when most pollinators are not active. Most importantly, it is imperative to follow the directions carefully.

Our best protection against pests in the garden is biodiversity. **Grow a wide variety and range** of plants and shrubs that encourage a healthy robust habitat for beneficial organisms. **Grow as many native plants as possible;** they will develop better in their original environment and appeal to local pollinators.

Remember, you can tolerate a few pests. If you must use something, choose one of the following less toxic alternatives:

- **Use insecticidal soaps** to control many plant insect pests. Soap has been used for more than 200 years to control insects. Because insecticidal soap works on direct contact to disrupt cell membranes and penetrate the insect with fatty acids, the insect's cells leak their contents causing them to dehydrate and die. Soaps are considered safe around children and pets and may be used in organic farming.

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Plight of the Honeybee

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- **Use certain horticultural oils**, diluted with water and applied as sprays, as an effective control of many plant pests. Horticultural oils are usually highly refined petroleum oils combined with an emulsifying agent. Some plant-derived oils also are used. Advantages of oils include safety, effectiveness, and limited effects on beneficial insects. Oils are not advised for certain sensitive plants or those under drought stress.
- **Use microbial pesticides**, one of the methods gaining use by farmers and researchers in a sustainable agriculture system. Included are a wide range of microorganisms, such as bacteria, fungi, and viruses, used to control different groups of insects and pests. They are specific to the pest and do not have harmful effects on other beneficial microorganisms.
- **Mulch plants** with compost, pine straw, or wood chips to help control weeds and hold moisture. Also, in the early spring when temperatures fluctuate, mulch helps maintain a moderate temperature that plants prefer.
- **Mechanical weeding** is an effective weed management method in row crops, organic farming, and minor crops (like vegetables, fruits, or some seed crops). This can provide effective weed management even when other methods are not possible. There are several forms of mechanical weed control ranging from handheld tools to the most advanced vision-guided hoes. In home gardening, hand hoeing is the preferred weeding technique and can achieve complete weed control.
- **Use corn gluten meal**, a powdery byproduct of the corn milling process, to suppress weeds and prevent new weed growth. Originally used as a supplement in hog feed, corn gluten has become a common organic alternative to synthetic chemical herbicides. It can be effective as a pre-emergent herbicide used to control crabgrass and other lawn weeds, and it also has nutritional properties.
- **Several essential oils** can be used in the garden to repel insect pests, suppress fungus, stop slugs and snails, and discourage vermin. Information about the benefits of specific oils can be found online.

Using pesticides in the garden is neither the best solution for the environment nor for us. Since pesticides are toxic, they should be used carefully and sparingly. One should attempt other control methods before grabbing a pesticide spray.

If we continue with genetically modified farming (GMO) and the treating of our crops with pesticides, these practices appear to be leading us down a road of no return. **We must consider the plight of the honeybee (and other pollinators) before it's too late.**

Other Ways to Help Bees

Many organizations are working to save the honeybee and other bee species. Several have focused their energy and lobbying efforts on **limiting the use of or banning entirely a widely used class of neuro-toxic pesticides** marketed by the huge German chemical company Bayer-Monsanto, **called neonicotinoids**. This type of poison affects the central nervous system of insects, resulting in paralysis and death. When seeds are coated with neonics, the pesticide spreads throughout the entire plant—from leaves to pollen and even nectar, **thus endangering the very creature that provides the necessary pollination.**

An increased use of neonics coincides closely with the dramatic decline in honeybee population. Research has shown that these chemicals impair bee mobility, navigation, feeding behavior, foraging activity, memory, and learning—in short, everything a honeybee needs to survive.

The European Union suspended the use of most neonicotinoids. The United States Environmental Protection Agency (EPA) did not, allowing the continued use while conducting further studies. Just as the agency was moving to ban the use of the toxic chlorpyrifos, the Trump administration reversed the decision.

With failure at the federal level, some states have stepped in. Examples include Hawaii and Vermont.

Individuals have pressured large companies such as Costco to stop buying from suppliers that provide fruits, vegetables, and garden plants treated with neonics. **Every person can make a difference!**

You can contact and become involved in organizations that are working to limit the use and continuing damage to bees—and also hummingbirds. Examples include

- Friends of the Earth www.foe.org
- Sierra Club www.SierraClub.org
- Environmental Defense Fund www.edf.org
- National Wildlife Federation www.nwf.org

The Honeybee Conservancy is a nonprofit organization dedicated to protecting bees and securing food justice through education, research, habitat creation, and advocacy. Their mission is to reach a time when all bee populations thrive in protected habitats and are supported by an engaged global network. Their website includes **information about sponsoring a hive; building a raised pollinator garden bed; obtaining free lesson plans and activity sheets about bees; and planting a bee garden.** <https://thehoneybeeconservancy.org/>

Vote for Officers and Board

Since the world as we know it changed in March because of the pandemic, our annual meeting in April was cancelled. That is when we usually elect officers and board members for the coming year. All officers are up for election to a two-year term this year, and all agreed to serve another term.

Please mark the ballot below, cut, fold, and return in an envelope. If you would like to be more involved, please consider serving on the board and nominate yourself. The board meets most months on the first Monday. Our county is facing multiple challenges; you can have a voice in the important decisions facing us.

Recycle Rutherford Membership Form

I enclose my annual dues to support Recycle Rutherford and receive the newsletter.

\$25.00 supporter \$15.00 student \$100.00 patron

I am contributing \$_____ in addition to dues.

I prefer the newsletter to be emailed and am providing my email address.

PLEASE PRINT:

name _____ amount enclosed _____

address _____

city, state, zip _____

telephone: day _____; evening _____

email _____; volunteer interest _____

Please make check payable and mail to Recycle Rutherford, P.O. Box 1804, Murfreesboro, TN 37133-1804

Recycle Rutherford 2020 Ballot

Following are the nominees for **officers and board members to serve 2020-2022**. If you wish to **vote for** the slate of officers as listed, please **circle YES** at the end of the list. If you wish to **nominate other(s)** to serve as officers, **circle NO** and list the individuals you are nominating in the space provided. The Bylaws allow up to twelve (12) board members; if you wish to **vote for the slate as listed and also nominate additional board members, circle YES**, and write in the name(s) in the space provided.

Officer Nominees

President Rachel Cornett Vice President Bonnie Black
Secretary Suma Clark Treasurer Rick Racker

Board Nominees

Linda Hardymon Glenn Himebaugh Diane Parker Beth Spivey

CIRCLE ONE: YES NO

I wish to nominate _____ to serve as _____.

I wish to nominate _____ to serve as _____.

I wish to nominate _____ to serve on the board.

I wish to nominate _____ to serve on the board.

Please mail this form to Recycle Rutherford, P.O. Box 1804, Murfreesboro 37133-1804 by May 31, 2020.

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Earth Day Is Fifty Years Old!

Like almost everything else this spring, Earth Day celebrations were cancelled or observed only online. Earth Day, April 22, 2020, marks the fiftieth anniversary of the first observance in 1970. **Earth Day was a unified response to an environment in crisis**—oil spills, smog, rivers so polluted they literally caught fire.

On April 22, 1970, 20 million Americans—10 percent of the U.S. population at the time—took to the streets, college campuses, and hundreds of cities to protest environmental ignorance and demand a new way forward for our planet. The first Earth Day is credited with launching the modern environmental movement and is now recognized as the planet's largest civic event.

The first Earth Day launched a wave of action, including the passage of landmark environmental laws in the United States. The Clean Air, Clean Water, and Endangered Species Acts were created in response to that first event in 1970, as well as the creation of the Environmental Protection Agency (EPA). Many countries soon adopted similar laws.

Earth Day continues to hold major international significance: In 2016, the United Nations chose Earth Day as the day when the historic Paris Agreement on climate change was signed into force.

Earth Day 2020 is a reminder and challenge that we must seize all the tools and actions that we have, big and small, to change our lives and change our world, not for one day, but forever. While the coronavirus may force us to keep our distance, it will not force us to keep our voices down. The only thing that will change the world is a bold and unified demand for a new way forward. We may be apart, but through the power of digital media, we are also more connected than ever. Our goal remains the same: to mobilize the world to take the most meaningful actions to make a difference.

2018-20 Officers and Board

Recycle Rutherford holds elections each April at the annual meeting; in general, officers and part of the board are elected in even years for two-year terms, and approximately half the board is elected in uneven years, providing for staggered terms.

The officers are listed below with the board members, who are elected each April and serve staggered terms. The date indicates when the term of each ends. The board meets monthly on first Mondays at 6:15 p.m. at First Presbyterian Church, 210 N. Spring Street.

Rachel Cornett, president
Bonnie Black, vice president
Suma Clark, secretary
Rick Racker, treasurer
Glenn Himebaugh, past president

Board Members:

Linda Hardyman, 2020
Beth Spivey, 2022

Reminder: To renew your membership, please see the form on page 3.

Dues are only \$25 per year.

We don't want to lose you!

For more information, go to www.recyclerutherford.org

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P.O. Box 1804
Murfreesboro, TN 37133-1804