



Hoosier Organic Gardener

October 2018

Indiana Organic Gardeners Association

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IOGA MISSION:

To educate ourselves and others in reasons for and methods of environmentally friendly gardening; and to encourage the reduction of chemical dependency in gardens, lawns and farms.

President's Message

So here it is October. I'm still in summer mode, not ready to give in quite yet. My garden survived fairly well as the squirrels tended to disappear when my shagbark hickory nut tree's nuts started to appear. My rabbit chewed off things that didn't have wire around but that was my fault. I did have a new contest that involved the water hose as soon as I spotted the *&% rabbit in the garden. Rabbits sure don't like getting hosed with water. A never ending battle. I didn't have any humming birds for some strange reason and the Goldfinches weren't too numerous in the feeder either.

In July we had an impressive meeting at Susan Irwin-Simmons's garden. It was fantastic and for those of you who couldn't attend you sure missed a wonderful garden tour. Susan, you did a super job! Susan's garden has an 8 foot chain link fence around her garden with her raised beds inside and chickens underneath her small orchard. Plus, plus that wonderful potting building complete with Susan's Master Gardener certificate hanging above the inside door. Susan took all of us on a complete tour, whipping off plant names, how they grow and plants that I never heard of. Plus she has horse manure available from the two horses whenever. Ah, green with envy, what a fantastic layout. If Susan ever does this again, don't miss it. Oh, but a negative.....finding the place. I swear my GPS had me in Appalachia. I was checking for any sign of a still and some old grizzled guy with a gun...I had money for a pint or two of shine though.

My garden torch still does a fine job and yes I still start small fires around the gardens because I never remember to rake out the small leaves and other ignitable items and I learned that torching the grass that comes up from under my wood chips that were spread as mulch is a bit like asking for it but it makes for an exciting adventure. Things you learn not to do. Round Up may have it's few benefits at certain times.

I did mention Raised Bed Gardening on Facebook last time. It always has interesting things going on and some people out there sure have some beautiful raised beds... really astounding. I planted some buckwheat in the middle of June just to see how it would work. Not bad as it attracted a lot of bees and put some good roots down in an area of my garden that I only had a tomato plant in. The rabbit liked it too but 50% survived so I replanted more around the middle of August. The last week in September is always the time I sow winter rye and this year is no different. I over seed it with the buckwheat and that will increase the roots that remain even more. One plant puts down underground over 370 miles of roots and the earthworms use these roots as channels to help them move through clay soil. And, this goes on all winter. The buckwheat will die back but the winter rye keeps on growing along with the roots. The tops don't grow very much in winter weather but the roots continue growing. Mint is another good deep root growing herb. Usually easy to pull out when it spreads.

See all of you Saturday, October 20, 1100 am at the CUE Farm, Butler University (see directions on the last page). *Keep IOGA organic! Doug*



Doug Rohde

Biochar



[Biochar](#) is a charcoal-like material produced at a relatively low, high temperature (around 700°C, 1200°F) from a biomass of wood and leafy plant materials in an environment of very low or no oxygen. The process is known as slow [pyrolysis](#)



A Piece of Biochar

Biochar is not a fertilizer. It is an inert, highly porous form of carbon. Adding biochar to your soil 1) improves drainage, 2) loosens compacted soils, 3) holds moisture, 4) retains nutrients and makes them available to plants, and 5) provides a surface for soil microbes to flourish. All of these attributes make biochar a unique substance that can enhance the long-term health of the soil. Biochar is also very stable and can endure in the soil for hundreds to thousands of years.

What is special about biochar compared to other organic materials such as compost or manures is its longevity in the soil and its effectiveness at retaining most nutrients and making them available to plants. Biochar decreases

the leaching of essential nutrients such as nitrogen (N) that would otherwise be easily washed out of normal soil. And, in contrast to other organic matter in soil, biochar strongly retains phosphorus (P). Thus, biochar can improve crop yields while at the same time decreasing the environmental pollution of nutrient runoff.

Adding biochar to poor soil will have little benefit to plants. One must use biochar with compost and organic fertilizers. Biochar will then retain the nutrients and dramatically improve plant growth.

Terra Preta

Interest in biochar as a soil amendment arose with the re-discovery of [terra preta](#). Terra preta (literally "black soil" in Portuguese) is a type of very dark, fertile manmade soil found in the Amazon Basin that arose from a civilization that thrived there from about 500 BC until the mid 1500s when contact with European explorers introduced devastating diseases. Terra preta was made over hundreds of years by adding a mixture of charcoal, bone, and manure to the otherwise relatively infertile Amazonian soil.

Terra preta is characterized by the presence of low-temperature charcoal residues in high concentrations. The carbon content of terra preta is an order of magnitude higher than in adjacent, less fertile soils. The biochar in terra preta is very stable and has remained in the soil for thousands of years. The depth of the black soil extends up to 6 feet.

Whether terra preta was created on purpose for soil improvement or whether it was a by-product of habitation is not clear.

How to Make Biochar

Biochar is not easily made at home. See the reference below by Jeff Fry for a discussion about producing biochar. One can, however, get a small amount of biochar from woodstoves and outdoor fires, but the quality is questionable. (The editors produced a trash can of biochar from our wood stove over two heating seasons.)



(Editors' Trash Can of Biochar)

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A small amount of biochar can also be made from a commercially available hardwood lump charcoal by the name [Cowboy Charcoal](#). Cowboy Charcoal is 100% natural hardwood lump charcoal without additives and is available at [Lowe's](#) and other retail outlets. ([Royal Oak Hardwood Lump Charcoal](#) at Walmart may be equivalent.)



Warning. Do not use manufactured charcoal briquettes that are normally used in your barbecue grill. They contain other ingredients beside biochar like starch, borax, paraffin and possibly a hydrocarbon solvent.

Charging Biochar

Fresh biochar must be "charged" with nutrients before it can function properly. This can be accomplished by either mixing it with compost or immersing it in a liquid fertilizer like fish emulsion, compost tea, etc. (even urine) and then drying it before crushing. If the biochar is not charged, it will absorb nutrients from the soil to the detriment of the growing plants.

Adding crushed biochar to your compost is probably the best method to charge biochar. The biochar will capture more of the volatile nutrients from the compost pile such as nitrogen that would otherwise be lost, resulting in a more potent compost.

You can use a 2x4 board to crush biochar in a heavy metal bucket. Some people have crushed biochar by wrapping the lump biochar in a tarp and running over it several times with a truck.

Soil Carbon Sequestration

As a bonus feature, biochar can potentially reduce the amount of CO₂ in the atmosphere since it can sequester carbon in the soil for hundreds to thousands of years,

The process of low temperature pyrolysis that produces fuel from bio-mass also produces biochar as a by-product. With this process about 50 percent of the original plant carbon can be sequestered with the net effect being a reduction of CO₂ in the atmosphere.

Today, soil scientists are actively researching biochar as both a soil amendment for enriching the soil and as a way of sequestering carbon in the soil.

Click on the first reference below to see a great video about terra preda, biochar, and carbon sequestration.

Further Reading:

<http://www.cornell.edu/video/johannes-lehmann-finds-key-to-new-energy-soil-fertility-in-biochar> (great video!)

<http://www.css.cornell.edu/faculty/lehmann/publ/FrontiersEcolEnv%205,%20381-387,%202007%20Lehmann.pdf>

[Biochar: Good for your garden AND your carbon footprint!](#), Dave;s Garden. Darius Van d’Rhys, Oct. 8, 2008.

[Biochar for Home Gardeners: A Guide to Producing, Charging, and Applying Biochar to Dramatically Improve Soil and Plant Health](#), Jeff Fry, February 12, 2017 (Amazon Kindle Book, \$2.99).

July IOGA Meeting

The meeting on July 21, 2018 was held at the home of IOGA member Susan Irwin-Simmons. There were 19 members and 2 visitors in attendance. Because of threatening rain the pitch-in lunch, the business meeting and Q&A were held in Susan's garage with plentiful tables and chairs.

Business Meeting: After the lunch, President Doug Rohde began the meeting with a "show and tell" of a small [weed burner](#) that he enjoyed using on weeds. The weed burner is especially good for weeds growing in sidewalk cracks and other small areas that are too difficult to be weeded by hand. He mentioned [The Botany Bill](#) that has been introduced in the House (H.R. 1054) and Senate (S.3240) to prohibit the sale, distribution or transport of certain invasive terrestrial plants. Doug recommended the book on weeds, [Common Backyard Weeds of the Upper Midwest](#) by Teresa Marrone, 2017.

Q&A: Susan and a lot of others had experienced problems with Japanese beetles. Susan recommended [cedarwood oil \(GNC\)](#) and other essential oils. Her chickens eat the Japanese beetles but won't eat the asparagus beetles. Another alternative was the use of traps. Which Claudia Clark said would just bring more Japanese beetles into your yard. Someone suggested putting a rag soaked with paint thinner into a coffee can. Doug used a rose spray and a shop vac. Claudia uses a

portable shop vac for asparagus beetles. Susan saw asparagus beetles on milkweed. Doug said chiggers were a big problem. He recommended using poison ivy soap or the hottest water you can stand. Susan asked what plants could be grown under a black walnut tree. Claudia has a large black raspberry patch under their black walnut trees that grow well.

Garden Tour: At 12:45 we began a tour of Susan's gardens. It was raining so everyone used jackets or umbrellas. In the four years she has lived on this property, she has accomplished quite a lot. A high fence encloses raised beds in different garden spaces with mulched paths. Susan has chickens, three dogs and a horse. She lets the chickens run through her garden in fall and winter. The orchard has high lines running through it to protect the fruit from birds. Susan likes experimenting with many varieties of vegetables, and grows natives for pollination and herbs. She has experimented with growing plants in cement blocks with mixed results. There was a beautiful potting shed/house with windows and skylights.

A special treat at the end of the meeting was the release of maybe ten monarch butterflies that had been hand raised. What a wonderful sight to see the monarchs rise up out of the net frame and soar up into the sky. Really special!

Judy Houser
Secretary

Following the Pitch-in Lunch in Susan's Garage



Steve & Jodi Swinford



Jaci Johnson (l) & Susan Irwin-Simmons (r)

Susan's Enclosed Garden



Susan Discussing Tomatoes



Cucumbers on a Cattle Panel



Okra



Peppers



Chicken



Apple Tree



Tomatoes & Rain



Potting Shed (Outside)



Potting Shed (Inside)



Asparagus



Compost Bins



Flowers for
Pollinators



Monarch Butterfly Taking Off

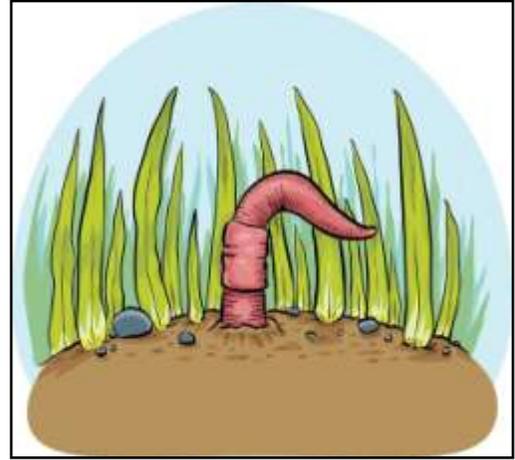


Monarch Butterflies Being Released

Earthworm Dinner

by Paul Matzek

My efforts to increase organic matter to enrich the soil and to harbor more earthworms have succeeded mightily in attracting voles. Their architects have found the soft soil ideal for building tunnels and have developed my garden into a resort area. They shrug off my attempts to chase them away or to eradicate them, much like tourists on the beach ignore possible hurricanes and tidal waves. Meanwhile, they devour every corn seed I put in the ground. The only way I can get a stand of corn is to set out corn plants or, at least, sprout the seeds before planting.



One evening, after a recent rain when just a little crust had formed on the surface, I paused by a bed and saw ridges that indicated fresh tunnel construction in progress. I waited quietly, hoping to see some earth moving so I could stomp on the tunnel. I waited, and waited, and waited ----.

As I waited, a large earthworm eased out of its burrow, all except the tail, which they keep in the tunnel in order to quickly pull themselves back underground if danger threatens. As I watched it casting about, as if looking for something (though blind), I noticed three more tentatively easing out to forage in various places. The first finally found what he sought, an inch and a half long piece of dry grass. It seized the grass and backed up, disappearing underground with its meal. And I walked away with a smile inside, grateful soil enrichment was in progress, and that I had been shown a sight so few will ever see.

Paul and Annie Matzek are IOGA members formerly living in Elizabeth, Indiana, now residing in Meriden, Kansas

Editors' Note: Tomato Problems

This was a bad year for us with [Septoria Leaf Spot](#) fungus on our tomato plants. As you can see by the photo below by mid August our tomato patch was nearly defoliated. We got enough tomatoes early in the season and some of the remaining tomatoes ripened up O.K., but the late season tomatoes were gone. The plants were in 5 foot cages space 4 to 4 1/2 feet apart. The plants grew too large (too much nitrogen in the soil we think) so we could not work around the plants very well. Then came the rains. Anyway we will try again next year by planting the tomatoes plants in a new garden spot a distance away and put more space between the plants. We will also use [Neem Oil](#) early as a fungicide and then [Copper Fungicide](#) later, as needed. We read that to help prevent the spread of the fungus, **TIP: at the first sign of any yellow or brown leaf remove the stem containing the leaf and any leaves that are in close proximity.**



Also, to help prevent the fungus spores from splashing up onto the lower leaves of the plant, remove the lower leaves every few days until they are removed up to 2 feet above the ground. Anyone else have problems? Any other suggestions?

Another thing, we saw a few brown marmorated stink bugs (see the [April, 2016 IOGA newsletter](#)) on our tomatoes this year and had blemishes from the bugs on a few of the tomatoes and some peppers. We believe that this is a harbinger of things to come. Does anyone have any ideas on how to counter the stink bugs that are now moving into Indiana?

Ask us...!

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Treasurer's Report

3rd Quarter 2017



Opening Balance July 1, 2018 \$ 6597.49

Income

Membership Dues \$ 44.00

Total \$ 44.00

Expenses

TURN Festival Exhibitor Fee \$ 46.00

Newsletter Stamps \$ 50.00

Newsletter Printing \$ 125.00

Total \$ 221.00

Closing Balance Sept. 30, 2018 \$ 6420.49

Respectfully submitted by Ron Clark, Treasurer

New IOGA Member

Janet Poore, Daleville, IN 47334



UPCOMING MEETINGS

Mark your calendar

IOGA generally meets quarterly on the third Saturday of the month (except April). Mark your calendar for upcoming meetings.

January 19, 2019
April 27, 2019
(Plant Auction)
July 20, 2019
October 19, 2019



How do I join IOGA?

Dues are \$10.00 per individual member, and \$12.00 for a dual membership (same address, one newsletter).

To join, please send your annual dues to:

Please include ALL of the following information:

I prefer my newsletter to be emailed mailed.



IOGA
7282 E 550 S
Whitestown, IN 46075

Full Name
2nd Name (if dual membership)
Address
Phone Number
Email Address

IOGA
Meeting
Sat. Oct., 20
11:00 am

October Meeting at the CUE Farm, Butler University
5100 Lester St. (Approx. GPS Address)
Indianapolis, IN 46208 ([Map](#))

- 11:00 Arrive and Welcome Guests
- 11:15—12:00 Great Pitch-in Lunch
- 12:00— 1:00 Introductions & Gardening Q&A
- 1:00— 1:15 Business Meeting
- 1:15— Farm Tour

Meeting: The October meeting will be a visit to the [Center for Urban Ecology \(CUE\) Farm](#) at Butler University. The CUE farm is a one-acre sustainable agriculture farm located in Rocky Ripple across the canal from the main Butler campus. The CUE farm grows and sells a variety of seasonal produce grown using organic practices direct to the community through a weekly on-site farm stand, Community-Supported Agriculture (CSA) program, and restaurant and grocer sales. Have tables, no chairs. Bring a chair!

Pitch-in lunch: Bring a favorite dish filled with food ("home-made" and/or "organic" appreciated) to share and your plate, fork, and drink.

Directions: To access the CUE Farm, head west on 52nd Street and into the neighborhood of Rocky Ripple. After crossing the Central Canal, turn left at Lester Street. At the end of the street, continue through the gates onto Bulldog Rd., past the athletic fields and Parking Lot I. The farm is at the end of the road next to the tennis courts and across from the Butler Prairie. Park in the lot by the tennis courts or the large Lot I north of the farm. (For precise directions and time of travel from your home, **click the word "Map" above, then "Directions" in the upper left part of the web page, enter your home address, and click "Search Button".**)

Everyone welcome! Questions, or if lost, call Margaret Smith cell phone (317) 698-0526.

Hoosier Organic Gardener
Claudia and Ron Clark, editors
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Join us!
IOGA Meeting
Sat. July 21