



Washtenaw County Conservation District

NOVEMBER 2018

What's That Growing on My Tree?

By Bill Cook, MSU Extension



Ever notice something growing on the trunk of a tree? Mosses are common but seldom generate concern. Although, the microclimates of tree trunks can produce some intriguing life forms. In addition to mosses are many common lichens (pronounced LIE-kins), which are sometimes mis-identified as mosses or harmful fungi.

Lichens are a weird classification of living things, partly defined by what they are not. They are not plants. They do not have roots, leaves, or flowers. Lichens defy absolute descriptions.

Lichens have curious

relationships, often complex and variable. Basically, a specialized fungus provides shelter for either a species of green algae or blue-green bacteria (or both, in some cases!). In turn, the algae/bacteria provide food and energy to the fungus via photosynthesis. These algae or bacteria grow within the fungal filaments. Lichens are different from either of their constituent parts.

Lichens are not parasites on trees or other plants. Lichens use tree trunks merely as a substrate, or a place to grow. They'll grow on rocks, buildings, and other structures, too.

Worldwide, there

are thousands of lichen species. They can occupy some fairly extreme environments. Lichens are long-lived and slow-growing. There's an entire science involving lichens. They are classified by the shape and size of the non-reproductive structures, the "thallus" (not a term unique to lichens). Lichen biology has its own lexicon of unique terms.

Lichen taxonomy is largely based on the constituent fungus. Sometimes, the same fungus will harbor different species of algae.

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MAEAP Starting out Strong for Fiscal Year 2019 By Nick Machinski

The Washtenaw County Conservation District (WCCD) partnered with students from Eastern Michigan University's Creative Scientific Inquiry Experience Program (CSIE) to host a drinking well water screening event for nitrate, pH, conductivity and turbidity on November 16, 2018 in Augusta Township. Samples from drinking water wells were screened for nitrate and nitrite.

The screening was sponsored by WCCD and the Michigan Agriculture Environmental Assurance Program (MAEAP). It was paid for by funds generated from Michigan pesticide and fertilizer registration and tonnage fees. The service was free to participants. Many residents submitted samples — a big thank you for all those who participated!

The WCCD and MSU Extension are teaming up to host a pesticide review class on Tuesday, December 11th, in preparation for the pesticide exam on Wednesday, December 12th. The review class will be located at the MSU Extension Office on 705 N. Zeeb Rd. The class will be from 9am-12:30pm and will cost \$10 at the door. This will be a MAEAP phase 1 event and 4 pesticide credits will be offered after the class is complete. To register for the class please contact Nick Machinski 734-761-8789 ext. 1218 or Ricardo Costa at 517-264-5310.

October Verifications By Nick Machinski

Baseline Farm achieved its third verification in MAEAP but becoming verified in the Farmstead System. You may remember Baseline Farm and its owner, John Cox, the farm was verified in Cropping and Livestock in the early summer. John raises grass-fed beef on 170 acres of pasture in the northern part of Washtenaw County. You can purchase from John directly using his website: <https://www.baselinefarm.com/>.

Phil Selter of Selter Farms has been a partner in MAEAP since 2012. Phil was kind enough to be one of the stops at our MAEAP Tour the district had in August. The farm was reverified in its Cropping and Livestock Systems in late 2017/early 2018. Ever since he achieved his first two verifications, Phil has been working towards achieving his third. On October 12, Phil was able to join the three systems club with a Farmstead System verification.

Jim Paul of Washtenaw Hops, LLC has begun the process of MAEAP verification this season. In a few short months, Washtenaw Hops, LLC, was verified in Cropping and Farmstead Systems. If you are wondering what happens to the hops themselves, they tend to be sold to microbreweries in the area. So, think of Washtenaw Hops the next time you enjoy a nice IPA this fall.

Conservation Calendar

It's the fungus that also produces the fruiting which produce spores. Identification to the species level may require the application of certain chemicals to see how the lichen color reacts. Needless to say, lichen ID isn't always easy.

The more common lichen types in the Great Lakes area are grouped by "fruticose", "foliose" and "crustose" appearances. The fruticose lichens are branched or tubed, and resemble mosses. The foliose appear flattened or leafy, and the crustose, as the name implies, are crusty. Most are pale green or brownish-green. Some are orange or yellow. However, the variety of appearances ranges widely.

Old man's beard (*Usnea longissima*), British soldier (*Cladonia cristatella*) and reindeer "moss" (*Cladonia rangiferina*) are fruticose lichens, familiar to many people. Interestingly, the Latin genus for reindeer is *Rangifer*.

The "green fungus" on a tree is usually a foliose or crustose lichen, often the genus *Flavoparmelia*. Again, harmless to the tree, although it's been argued only an ailing tree grows bark slow enough to accommodate lichens.

The leafier lichen forms are often indicators of good air quality. These lichens decline or die when air becomes polluted with components such as sulfur or ozone. However, some of the crustose lichens may actually fare better in these environments.

Lichens are highly vulnerable to dry conditions, as they cannot control water loss. They will "come alive" and "go dormant" depending on moisture conditions. Pale, brittle lichen usually suggests a dormant state. Lichens with pliable thalli that are dark brown or dark green suggest that they're actively growing.

The thalloid liverworts resemble foliose lichens. In fact, the green structures of this liverwort subgroup are also called thalli. Some of the mosses resemble lichens, too. However, without much practice, it's usually pretty easy to identify a lichen as a lichen.

Lichens are one more intriguing and fascinating element of our northern forests.

December 6, 2018: Farmer-Led Group Semi-Annual Meeting, 9AM-12PM at the Old Mill in Dundee.

December 6, 2018: WCCD Board Meeting, 8PM at 7203 Jackson Rd, Ann Arbor.

December 11, 2018: Pesticide Review Class, 9AM-12:30PM at MSUE.

January 10, 2019: WCCD Annual Meeting and Board Election, 6:30 p.m. at Farm Council Grounds

March 2019: *Date and location TBD.* Introduction to Native Plantings workshop with Designs By Nature.

April 26th & 27th 2019: Spring Tree and Shrub Sale

June 1, 2019: Native Plant Expo & Marketplace & Fish Stock Distribution.

Coming up Next Month.....

2018 Annual Report featuring:

-Information on Annual Meeting and featured speaker on Oak Wilt

-Awardees for 2018, including new Small and Beginning Farmer Award

-Spring Tree and Native Plant Sale Forms