Help (http://www.osu.edu/help.php) Map (http://www.osu.edu/map/) Find People (http://ww

Buckeye Yard & Garden onLine

(https://bygl.osu.edu/index.php/)



Lesser Celandine: An Aggressive Non-Native Spring Ephemeral

Authors: Joe Boggs (https://bygl.osu.edu/node/51) Published on: March 31, 2023



(https://bygl.osu.edu/sites/default/files/field/image/1%20Lesser%20Celandine%20Mad%20River%20Gorge%202018%209.JPG)

Lesser Celandine (*Ficaria verna* (previously *Ranunculus ficaria*)) is a "spring ephemeral" meaning it spends most of the year hidden from view as underground tubers. The weed's hide-and-seek life cycle makes detecting and evaluating the extent of spread a time-sensitive endeavor.

Bright yellow buttercup flowers are now revealing infestations in southern Ohio. This non-native highly-invasive weed belongs to the buttercup family, Ranunculaceae, and is sometimes called "fig buttercup." The "fig" refers to the shape of the underground tubers and the "buttercup" describes the flowers.



Lesser celandine is native to Europe, northern Africa, western Asia, and Siberia. It is believed to have been first introduced to North America as an ornamental in the mid-1800s and escapes were reported in Pennsylvania in 1867.

Dense colonies were originally associated with moist soils near streams or around spring seeps. Lesser celandine continues to be found in those locations; however, lush aggregations are now commonly found blanketing well-drained hillsides and hilltops in Ohio. It's also not unusual to see plants creeping into turfgrass.





The shiny dark green heart-shaped leaves are borne on fleshy, white, tightly clustered leaf stalks. New leaves are noticeably mottled with light and dark green patches.



Profuse glossy, butter-yellow flowers that are about 1" in diameter rise singly on stalks slightly above the foliage. The overall effect of a massive colony of lesser celandine is a magical-looking dark green carpet speckled with flecks of bright yellow.



It's a beautiful sight unless you consider that the magic carpet rolls over native spring wildflowers, particularly spring ephemerals. Although lesser celandine plants seldom rise more than 4 - 5" above the soil, they have dense root systems, and plants grow together to form mat-like impenetrable canopies.



I've observed lesser celandine rolling over Trillium (*Trillium* spp.), mayapple (*Podophyllum peltatum*), cutleaf toothwort (*Cardamine concatenate*), Dutchman's breeches (*Dicentra cucullaria*), and Virginia springbeauty (*Claytonia virginica*).





Joe Boggs, OSU Extension©



Lesser celandine appears on the Ohio Department of Agriculture's List of Invasive Plants. Plants on the list were prohibited from being sold or distributed in Ohio. You can see this list by clicking on the hotlink below: https://agri.ohio.gov/wps/portal/gov/oda/divisions/plant-health/invasive-pests/invasive-plants (https://agri.ohio.gov/wps/portal/gov/oda/divisions/plant-health/invasive-pests/invasive-plants)

Take care not to confuse our native Marsh Marigold (Caltha palustris) with lesser celandine. Both are spring ephemerals that belong to the buttercup family with plants sporting similar-looking yellow flowers. However, lesser celandine flowers have 3 green sepals and 7-12 yellow to faded yellow petals. Marsh marigold flowers have 5-9 yellow petal-like sepals

and the leaves are much larger. Of course, as its common name implies, marsh marigold does not wander far from wet environs.



Lesser Celandine's Secret Weapons

Lesser celandine has three secret weapons for survival and spread. The first is a stockpile of underground tubers produced in the spring that are used to store carbohydrates shipped down from the leaves during their brief spring appearance. The energy cycle reverses the following spring with the tubers supporting new leaf growth. Of course, the tubers can also serve as a foundation for new infestations if they are moved around in contaminated soil.







A close examination of leaf axils near the base of mature plants later this spring will reveal the second secret weapon: football-shaped protuberances called bulbils. Bulbils can give rise to new plants and are perfectly suited for being picked up in the dewclaws of deer. Indeed, deer have been implicated as a major mover of lesser celandine with new plants often sprouting on or along deer trails.





Lesser celandine's final secret weapon is its radical ephemeral nature. Plants collapse and disappear from view in late spring to early summer depending on environmental conditions. How rapidly a broad expanse of lesser celandine can completely vanish is amazing. Unfortunately, this natural plant collapse may lead some to believe that an herbicide application was highly effective. However, the weed is not gone; it's just biding its time in the form of recharged tubers that will support ever-expanding colonies next season.



Management

The key to effectively managing lesser celandine is to identify developing colonies early and to act before infestations become so dense, you're shoveling against the tide with trying to prevent bulbils and tubers. It's much easier to eliminate a few isolated islands compared to a sea of lesser celandine.





Online recommendations for eliminating small colonies include digging and destroying plants along with the tubers. However, it can be difficult if not impossible to physically remove all the tubers from the soil. Unfortunately, this effort usually morphs into an ongoing game of whack-a-mole.



Herbicide applications remain the most effective method for combating this highly invasive non-native weed. However, dense well-established colonies are rarely eliminated with a single application. Keep in mind that established colonies are supported by huge numbers of underground tubers. Thus, multiple applications over several years may be required to exhaust their energy input.



Lesser celandine can be effectively managed in landscapes and wooded areas using the non-selective post-emergent systemic herbicide glyphosate (e.g., Roundup). Translocation of this herbicide from leaves to tubers can disrupt carbohydrate storage.

Research conducted in Wolf Trap National Park in Virginia and published in 2017 focused on glyphosate applications. Treatments made 2 years in a row targeting the early flowering and 50% flowering stages produced 90% and 95% control, respectively.

Lesser celandine management in flower beds may require delayed planting of annuals so lesser celandine plants can be targeted with a non-residual, non-selective, post-emergent herbicide. However, eliminating lesser celandine in annual bulb beds is problematic and may require soil removal and replacement.



Mowing lesser celandine that has crept into turfgrass appears to have little impact on this aggressive weed. However, many of the selective post-emergent herbicides labeled for use on turfgrass are highly effective against lesser celandine. These include 2,4-D, MCPA, MCPP, dicamba, and triclopyr. It is generally recommended to use products that contain at least 2 of these herbicides. Sulfentrazone products (e.g., Dismiss) that are most often used for nutsedge control also provide good suppression of lesser celandine in turfgrass.



Of course, as with making any pesticide application, applicators must read and follow label directions. This is particularly important when using turfgrass herbicides near trees, other woody ornamentals, herbaceous perennials, and annuals.



Tags

Lesser Celandine (https://bygl.osu.edu/taxonomy/term/703) Ficaria verna (https://bygl.osu.edu/taxonomy/term/1182) Ranunculus ficaria (https://bygl.osu.edu/taxonomy/term/1183) Fig Buttercup (https://bygl.osu.edu/taxonomy/term/1540)

OHIO STATE UNIVERSITY EXTENSION (HTTP://EXTENSION.OSU.EDU/)

THE OHIO STATE UNIVERSITY (http://www.osu.edu/)

website created by inVP team hvp.osu.edu (http://hvp.osu.edu/) © 2016, The Ohio State University Send Comments to: Witney.1@osu.edu (mailto:Witney.1@osu.edu)

NEWSLETTER

Receive your BYGL through email! Visit our Newsletter page for more information - Subscribe Now (https://bygl.osu.edu/newsletter).

USEFUL LINKS

□PlantFacts (http://plantfacts.osu.edu/)

OhioLine (https://ohioline.osu.edu/)

(https://twitter.com/osubygl)

(http://www.youtube.com/user/OhioStateUniversity) (http://osu.edu/rss-feeds.html)

□The Ohio State University (http://www.osu.edu/)

College of Food, Agricultural, and Environmental Sciences (http://cfaes.osu.edu/)

Ohio State University Extension (http://extension.osu.edu/)

Ohio Agricultural Research and Development Center (http://oardc.osu.edu/)

□Ohio State ATI (http://ati.osu.edu/)

Home (https://bygl.osu.edu/index.php/) About us (https://bygl.osu.edu/index.php/about-us)