Oregon City Planning Department
October 18, 2019

RE: Application of Jeff Edmonson for partition of 206 Holmes Lane, Oregon City

Good day,

OCT18 3:10P

The minor partition of 206 Holmes Lane does not satisfy the mandates of several Oregon City ordinances, Oregon regulations and statutes, and federal land management practices. It should be rejected.

The application does not acknowledge the massive infestation of a noxious weed—lesser celandine—at 206 Holmes Lane. It also ignores the years'-long efforts of neighbors and Code Enforcement staff to persuade the landowners and occupants to comply with the laws' requirements. The proposal does not reveal the presence of lesser celandine or fforts to eradicate it.

OCMC 17.04.080 states "Approval criteria" and "approval standards" mean *all standards* which must be met in order to approve an application...approval criteria include standards contained in *this Code, the Oregon City Comprehensive Plan and applicable state law."*

The Oregon Department of Agriculture regulates noxious weeds in ORS 569. Applicant has not addressed Oregon statutes in light of OCMC 17.04.605, the city's nuisance approval standards for controlling noxious weed celandine.

The framework for analyzing economic and environmental significance is presented in the 2019 Noxious Weed Policy and Classification System of the Oregon Department of Agriculture. The system includes four categories:

1. Detrimental Effects

    - All parts of the lesser celandine are poisonous. King County recommends the prevention of spread of this species to uninfected areas. King County Weed Identification, pg. 1 ; Wikipida:Protoanemonin

    - All parts of lesser celandine are poisonous. Contact with skin causes rash. Taking by mouth can cause chemical burns .

    - Contact with a wounded plant causes itch, rashes or blistering on contact with the skin or mucosa. Ingesting the toxin can cause nausea, vomiting, dizziness, spasms, acute hepatitis, jaundice, or paralysis. See Protoanemone, Wikipedia, Pg 1.

- Reproduces by seed and vegetative via long branching stolons that root at the nodes. Growth starts in spring, peaks in late summer. This plant is extremely aggressive and toxic to animals. King County Weed Identification, pg 1

- One plant can spread over a 40 foot square area in a year...It also depletes potassium in the soil and can have detrimental effect on surrounding plants....In addition to invading wet, grassy areas creeping buttercup is reported as a noxious weed of 11 crops in 40 counties, King County Weed Identification, pg. 1

2. Distribution

- This plant increases mostly through stolons unless the soil is disturbed.

- Each plant produces from 20 to 150 seeds. Seeds can remain viable at least 20 years and up to 80 years. King County Weed Identification, pg. 5

3. Difficulty of Control.

Manual. Cultivating or incomplete digging may increase the buttercup population because it can sprout from nodes along stem and root fragments. Cutting or incomplete digging may increase seed germination. Seeds stay viable 20 years or more and the number of seeds in infested soil can be immense compared to the number of plants present. March 2010. King County Government: Creeping butter cup identification and control Ranunculus pg. 5. http//wwwkingcounty.gov/services/environment.aspx March 201

When soil is moist, carefully DIG plants and SIFT soil to remove the tubers and bulbets and place in a plastic bag, Label the bag "Invasive plant material—do NOT compost" and dispose of it the trash. This method is extremely labor intensive and will not be feasible at most sites. *Because of the massive soil disturbance at most sites this method causes the likelihood of increasing its spread*, manual control is not recommended...unless dealing with an extremely small population (eg. a few plants) Four County Cooperative Weed Management. Lesser Celandine Creeeping buttercup identification and control: Ranunculus repens. www.4County/CWM.org/King County Weed Identification.

SUMMARY:

Celandine is extremely difficult to control. il is very dangerous both to native and cultivated plants. Soil disturbance spurs growth and extends the infested areas. Massive soil disturbance would result from development of another house at 206 Holmes Lane. Another resident family would expose the new residents and all their visitors to the poisonous noxious weeds. Children would be playing in infested poisonous weeds. State and local laws require rejection of the proposed partition to prevent the distribution of lesser celandine. Municipal support of eradication is in the public interest. State law mandates that local government "shall control of

noxious weeds such as lesser celandine. "Shall" indicates a directive, not a suggestion for optional compliance.

If the weeds are too far advanced, or if for any other reason the means of control are unavailable, the weed inspector shall notify the State Department to 'immediately quarantine any such uncontrolled noxious weeds to prevent spread of the weeds. ORS 569.415. The City is directed to take all appropriate steps to prevent spread of noxious weeds such as lesser celandine. The application for a minor partition of 206 Holmes Lane must be denied to protect its potential residents, visitors, the property itself, and the *public interest*.

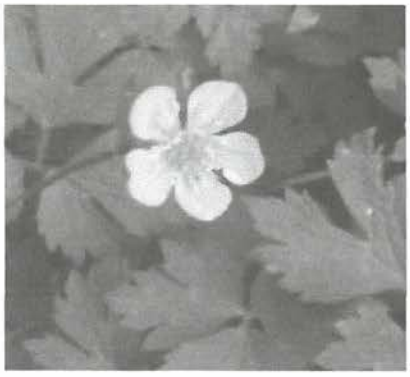
Thank you.

Linda Lord

enclosures

King County

Creeping buttercup identification and control
Ranunculus repens



Creeping buttercup, a King County Weed of Concern, is a low-growing perennial with creeping stolons that's found in rural and urban areas throughout King County, such as pastures, farmlands, natural wetlands, city gardens, and lawns. Stems reach one foot tall. Leaves are dark green with pale patches, divided into 3 toothed leaflets. Leaves and stems are both somewhat hairy. March-August, produces bright yellow, glossy flowers with usually 5 (up to 10) petals. Reproduces by seed and vegetatively via long, branching stolons that root at the nodes. Stolon growth starts in spring, peaks in late summer. This plant is extremely aggressive and **toxic to grazing animals**.

Related inforn

- Agricultur Washingtc
- Northwest
- Animals, p

Related agenc

- Dept. of N and Parks
- Water and Division

Program offices S. Jackson St., WA 98104. To c **Noxious Weed Directory**, sen 206-477-WEED

Legal status in King County, Washington

Creeping buttercup is not on the Washington State Noxious Weed List. However, in King County, this non-native invasive buttercup species is classified as a Weed of Concern. For more information see Noxious Weed Lists and Laws.

The King County Noxious Weed Control Board recommends the prevention of spread of this species to uninfested areas and its control in protected wilderness areas, natural lands that are being restored to native vegetation, and in pastures that are being grazed.

Identification

- Perennial with short swollen stems and creeping stolons that root at the nodes
- Can be distinguished from other buttercup species such as tall buttercup (*Ranunculus acris*) by the creeping stolons
- Can grow up to one foot tall but are often shorter in mowed areas
- Leaves are dark green with light patches and are divided into three toothed leaflets, the central leaflet on a stalk
- Pale patches on the leaves distinguish creeping buttercup from similar looking plants such as hardy geraniums
- Basal leaves have long petioles (stalks), leaves higher up the plant have shorter or no petioles
- Leaves and stems are somewhat hairy
- Flowers usually have five (sometimes ten) glossy, bright yellow petals and grow singly on long grooved stalks
- Bloom time is usually from March to August
- Fruits are clusters of 20-50 achenes on globe-shaped heads. Achenes have a short hooked beak and are light brown to blackish brown when mature with an unevenly pitted surface

Impacts

Creeping buttercup's competitive growth crowds out other plants, especially in wet soils. One plant can spread over a 40 square foot area in a year. Creeping buttercup also depletes potassium in the soil and so can have a detrimental effect on surrounding plants. Because creeping buttercup can tolerate heavy, wet soils, it can be a particularly bad problem on well-watered lawns, wet meadows and poorly drained pastures. In addition to invading wet grassy areas, creeping buttercup is reported as a weed of 11 crops in 40 countries.

Fresh buttercup plants are toxic to grazing animals, who can suffer from salivation, skin irritation, blisters, abdominal distress, inflammation, and diarrhea. Fortunately, buttercup has a strong, bitter taste so animals generally try to avoid it if more palatable forage is available. Also, the toxin *protoanemonin* is not very stable and loses its potency when dry, so buttercup is not generally toxic in hay. Unfortunately, livestock occasionally develop a taste for buttercup and consume fatal quantities. It is safest to keep populations of buttercup under control on grazed pastures and offer plenty of healthy forage.

Growth and reproduction

Creeping buttercup spreads by seed and by long branching stolons that root at the nodes, forming new plants. In more established woodland and grassland communities, this plant increases mostly through stolons unless the soil is disturbed. In dry conditions, flowering and seeding is more prevalent and in wet conditions, stolons are more plentiful. Seeds can germinate and seedlings can grow under water-logged conditions.

One of the reasons creeping buttercup is so competitive is that its stolons respond to the environment. Under favorable conditions, plants form more stolons through branching. However, when nitrogen is limiting, stolons tend to be longer and unbranched allowing longer distance "sampling" of a number of potential sites until more suitable locations are found. When favorable conditions are discovered, stolon branching resumes, allowing rapid local colonization to take advantage of the available resources. In general, short stolons are produced in dense turf and much longer ones appear in open fields or woodlands.

Depending on the temperature, creeping buttercup either overwinters as a rosette or dies back to ground level. In either case, the nutrients stored in the short swollen stem produce rapid growth in spring, between April and

June. Stolons grow from the leaf axils in spring and summer and growth peaks in late summer. Stolons connecting parent and daughter plants usually die off in fall.

Flowers can appear from March to August with seeds soon after. Each plant produces from about 20 to 150 seeds. Seeds can remain viable in the soil for at least 20 years, and up to 80 years, especially under acid or water-logged conditions. Seeds are dispersed by wind, water, birds, farm animals, rodents, and other animals by adhering to them with the hooked seeds.

Creeping buttercup grows particularly well in moist or poorly drained situations, although it will also colonize sandy and gravel-based soils with sufficient moisture. Creeping buttercup also has some tolerance to salinity and is found along beaches, salt marshes and the margins of tidal estuaries. In woodlands, this buttercup is mainly restricted to clearings, forest margins and paths. It is frost tolerant and will survive moderate droughts. Creeping buttercup is tolerant of trampling, compacted soils, and grazing.

Control

Be sure to have a long-term plan to ensure success, protect native and beneficial species while doing the control, and start in the least infested areas first and then move into the more heavily infested areas.

Prevention and cultural control

- In lawns and pastures, promote healthy grass by overseeding, fertilizing as needed, and not over-grazing. Adding lime can improve grass health and keep buttercup from re-establishing. However, lime won't control buttercup that is already well-established.
- It also helps to improve soil drainage. Reduce compaction by aerating and avoid trampling when soils are wet.
- Clean mowers and other equipment to avoid spreading buttercup seeds to un-infested areas.

Manual

- Dig out with a sharp trowel or fork-type tool, removing all of the runners, roots and growing points. Digging is most effective from fall to spring while the soil is moist and roots won't break off as much.
- Cultivating or incomplete digging may increase the buttercup population because it can sprout from nodes along stem and root fragments.
- Disturbance of the soil can increase seed germination. Seeds stay viable for 20 years or more and the number of seeds in infested soils can be immense compared to the number of plants present, especially in long-term pastures and woodland ecosystems.

Mechanical

- Creeping buttercup's growing point is at soil level, so plants resist mowing and quickly re-sprout when cut.
- Regular cultivation can kill the buttercup but plants buried by cultivation can grow back up through deep soil and re-establish themselves and long-lived seeds in the soil can germinate and re-infest the area once cultivation ceases.

Chemical

- Herbicides can be used if allowed and appropriate for the site and land use. Follow all label directions to ensure safe and effective use.
- Glyphosate (e.g. Roundup, Aquamaster) can be applied to actively growing plants before they seed. Keep spray off of grass and other plants. Re-seed or re-plant bare areas after removing buttercup to keep it from re-infesting the area.
- Broadleaf herbicides can be applied over grassy areas infested with creeping buttercup to selectively kill the buttercup and not the grass. Products containing the active ingredient MCPA are most effective on buttercup. Metsulfuron (Escort, Ally) is also effective but can harm some grasses. Follow label directions on timing and rates.
- It will probably take at least two or three applications to eradicate creeping buttercup because of the seed bank and because some mature

plants will generally recover.
- Monitor the treated area for re-growth and pull up any new seedlings before they establish runners.

Additional information on creeping buttercup (Ranunculus repens)

- Creeping Buttercup - King County Noxious Weed Alert
- Oregon State University Extension Bulletin (external link)
- Photos and Distribution from the University of Washington Burke Museum (external link)
- Alaska Natural Heritage Program (external link)
- USDA-NRCS Plants Database (external link)
- Down Garden Services : Creeping Buttercup Control (external link)

What to do if you find this plant in King County, Washington

Because creeping buttercup is so widespread, property owners in King County are not required to control it and we are not generally tracking infestations. We can provide advice on how to control creeping buttercup, but there is generally no legal requirement to do so.

Creeping buttercup photos

Photo: John M. Randall, The Nature Conservancy, Bugwood.org

Photo: Leslie J. Mehrhoff, University of Connecticut, Bugwood.org

A Word of Caution

Use herbicide control methods only for large infestations where manual and mechanical removal becomes impractical. For any herbicide applications we urge you to work with a licensed herbicide applicator. To learn more, consult the best management practices provided by the 4-County Cooperative Weed Management Area (www.4countycwma.org/AWeeds/Best-Management-Practices/). If any information provided contradicts the label, the label takes precedence. Always read and follow the label on any herbicide product you are using!

Please contact your local weed program in either Oregon (www.Oregon.gov/ODA/programs/Weeds/Pages/CountyWeedPrograms.aspx) or Washington (www.NWCB.wa.gov/Find-Your-County-Weed-Boards) for more information about how to control this invasive weed.

The mission of the 4-County Cooperative Weed Management Area, comprising Clackamas, Clark, Multnomah, and Washington Counties, is to create and support collaborative weed management in the greater Portland area. For more details on our collaborative efforts in management, mapping, and outreach, please visit our website:

www.4CountyCWMA.org

LESSER CELANDINE

(Ranunculus ficaria L.)

4-County CWMA Class B
Oregon Class B
Washington Class B

Photo: Rob Routledge, Sault College, Bugwood.org

Overview

Lesser celandine, native to Europe, is a low-growing perennial plant. It was originally cultivated as an ornamental due to its attractive yellow flowers and ability to quickly create a uniform groundcover. Lesser celandine grows vigorously and forms large, dense patches in gardens and on forest floors, displacing native and ornamental plants. It can easily out-compete spring-flowering plant communities and negatively impact local wildlife. This invader emerges well in advance of most native plants and spreads rapidly via underground tubers and bulblets. The prolific tubers may spread to new sites during flood events or be unearthed and scattered by humans and other animals. It grows in full shade to full sun and prefers moist to wet soils but can persist in a wide range of conditions.

How to Identify

Lesser celandine plants consist of rosettes of tender, succulent, dark green, shiny, stalked **kidney- to heart-shaped leaves.** Flowers are symmetrical, bright yellow with a slightly darker center found singly on delicate stalks that rise above the leaves. The number of petals on each flower varies greatly across the species, ranging from 6 to 26 with double bloom varieties displaying up to 60 petals. **Three (rarely 4) green sepals are present** and are a good distinguishing factor when examining look-alikes.

Look-alikes

Lesser celandine closely resembles marsh marigold, *Caltha palustris*, a native wetland plant occurring outside the CWMA area and unlikely to be found locally. Another native marigold with white flowers, *Caltha leptosepela*, is found in the area. To be sure you are not dealing with a native *Caltha* species, examine the flowers and the roots. *Caltha palustris* appears not to have sepals, but in fact lacks petals and has only yellow colored sepals. Neither *Caltha* species has tubers or form dense continuous mats like lesser celandine.

Photo: Kathy Shearin, East Multnomah Soil and Water Conservation District

Prevention

This plant was formerly sold as an ornamental and is still found in many gardens. Early identification and timely removal of lesser celandine is crucial to preventing its spread. Care should be taken not to move contaminated soil, and plant parts should all be disposed of in the landfill to prevent contamination of the yard debris and compost system. After working in an infested area, tools and footwear should thoroughly cleaned. Lesser celandine is extremely hard to control once established.

When to Remove

Due to its short life cycle, the window of opportunity for controlling lesser celandine is very short. Lesser celandine flowers in late winter before many other plants have started growing. It's best to **remove manually or with herbicide when all the plants have come in for the season, just before or during its early flowering period** (late winter/early spring).

Manual Control Method

THIS METHOD SHOULD BE USED WHEN:

- Terrain is flat or gently sloped
- There are desired plants in or around invasion
- Infestation is very small

TOOLS YOU NEED:

- Garden trowel, shovel
- Soil sifter
- Bag for tubers and bulblets

1. When soil is moist, carefully DIG plants and SIFT soil to remove the tubers/ bulblets. Carefully bag all tubers and bulblets and place in a plastic bag. Label the bag ***"Invasive plant material – do NOT compost"*** and dispose of it in the trash. This method is extremely labor intensive and will not be feasible at most sites. Because of the massive soil disturbance this method causes and the likelihood of increasing its spread, **manual control is generally not recommended** in riparian zones or wetlands unless dealing with an extremely small population (i.e. a few plants).
2. PLANT native or non-invasive plants in the control area after the bulk of the invasive plants are removed. This will help to repopulate the area with desired species and prevent new and recurring infestations.
3. MONITOR area for re-sprouts. Lesser celandine tubers will continue to grow and produce new plants. After initial removal, the area needs to be managed every few weeks to dig out new growth. When the majority of plants have been removed, the site should only need yearly monitoring.

Herbicide Control Method

Herbicide methods should only be used in combination with manual control and monitoring.

THIS METHOD SHOULD BE USED WHEN:

- Infestation is too large for manual removal
- Walking may be difficult on slopes
- The infestation contains few other desirable plants

TOOLS YOU NEED:

- Herbicide: low rates (1-2%) of glyphosate have had some success in controlling
- Herbicide applicator; Backpack sprayer/squirt bottle
- Any additional personal protective equipment specified on the herbicide label

1. When using glyphosate to control lesser celandine, plants should be sprayed at the recommended label rate. Glyphosate treatments should be carried out in late winter or early spring, just before or in early flowering, generally February through early March. Glyphosate will kill grasses, so use this only in areas where grass damage can be tolerated .
2. One treatment generally does not effectively kill an invasion. MONITOR your site for regrowth of lesser celandine and repeat manual control or herbicide application as needed.
3. REPLANT native or non-invasive plants in the control area after the bulk of the invasive plants are removed. This will help to repopulate the area with desired species and prevent new and recurring infestations.

Photo: Leslie J. Mehrhoff, University of Connecticut, Bugwood.org

newsletter signup

LITTLE FALLS WATERSHED ALLIANCE

EDUCATION - ACTION - STEWARDSHIP

TIPS FOR CONTROLLING LESSER CELANDINE

Monday, April 20, 2015 - 10:33am

Every year, we get a lot of emails oohing and ahhing over the beautiful yellow flowers that have blanketed the Parks. These are lesser celandine (Ficaria verna, also known as Fig Buttercup) and while they are pretty, they are diabolical. A non-native invasive from Europe, it has crowded out native spring wildflowers to the point where we are seeing none. Our native birds and pollinators cannot feed on the celandine, so we are also see a decline in native insects. One field study of celandine found no pollinators in the site they were censusing. That is scary! But the most scary part is that the celandine cannot be pulled or easily controlled. It grows from little corn size tubers which live 8 inches underground. If you pull the tops, the tubers break off and they sprout again.

Meghan Fellows who was in charge of the Weed Warrior program for several years and has been monitoring the problem sent us this information on how to control or eradicate it. **One important take away is don't plant it in your yards. It will take over everywhere.**

From Meghan Fellows:

Dear Weed Warriors,

Many of you have sent in questions and concerns about lesser celandine. Yes, it is getting worse. Floods and dispersal events spread this plant throughout our area. They are also extremely good and taking over new ground. Those pesky yellow carpets of weeds have replaced what should be a bounty of spring ephemerals (and their pollinators) are painful to watch - we want to DO something.

Unfortunately, science has not kept up with our need. There is NO good, reliable way to kill celandine.

Some popular suggestions:

Dig it out.

Most people know not to pull it out - those pesky underground bulbils stick around and thrive in the disturbed soil. So people have resorted to digging out the clumps whole. This can work in areas where the soil, moisture and all other factors are inline. It generates a ton of waste (soil and plant matter) and does a number on the health of the soil you're leaving behind.

This waste cannot be home composted, so the only option is to send it to the county yard waste compost.

This works best in garden beds, or in very small infestations (1-10 plants).

20% Acetic acid

20% Acetic acid has been herralded as the organic alternate to glyphosate. Many people forget that when you're using it to kill plants it is a pesticide (not allowed for volunteers to use on parkland). However, let's explore this tool as to whether it is useful in a private situation. The mechanism of how it kills is important to consider when trying it out on a new species/situation. It is a top "burn" killer. Meaning above ground plant parts will die, but the roots do not die. Therefore this would best used on an annual plant, or in a situation where you could apply it repeatedly (not more often than every 2 weeks). 20% Acetic acid is actually recommended for sidewalk/driveway cracks and in gravel. But do be careful and wear protective gear, this is a strong acid and can burn. Household vinegar is 5% acetic acid and appears to have no consistent effect.

Lesser celandine is a perrennial - 20% acetic acid is unlikely to have any long term effect. I know of no direct, replicated experimental studies on the species/treatment, only anecdotes.

Here is a paper from University of Maryland on the topic:
http://extension.umd.edu/sites/default/files/_docs/programs/ipmnet/Vinegar-AnAlternativeToGlyphosate-UMD-Smith-Fiola-and-Gill.pdf (http://extension.umd.edu/sites/default/files/_docs/programs/ipmnet/Vinegar-AnAlternativeToGlyphosate-UMD-Smith-Fiola-and-Gill.pdf)

Flame weeding

Flame weeding using a propane based torch is another method that achieves the top "burn." It leaves no residues at all in the soil. The roots/bulbils may or may not be affected. It has been used extensively for stiltgrass - key thing to note, stiltgrass is an annual. Theory says flame weeding should not work on lesser celandine, but a few Weed Warriors and I have an extensive trial set up in Sligo, Little Falls and Capitol View Homewood Parks. We have been working on this since February. I hope to finish collecting data by late May, analyze it this summer and maybe have a new method for next year. Or at least an answer as to whether it might work

Glyphosate

The only current reliable method of killing lesser celanine is to use glyphosate. As you all know we only use herbicides when it is absolutely necessary, and then in the minimum amount required.

The protocol for lesser celandine control is to foliar spray celandine in the time in the spring after it has leaves but before it goes to flower (typically less than 50% of the plants have buds). This is an incredibly narrow window that we are now out of. This year it was about March 27-April 6.

You must repeat this cycle for 3 years in a row.

I read this summary as there is no good method for controlling celandine. Many people have told me what worked for them in their own garden, and we appreciate that - we are looking at extensive infestations throughout parkland. All of the stream valleys and many of the parks in between do have celandine. This is a massive infestation.

What can you do?

Avoid areas with celandine. Avoid digging in them, or even walking through them. In a few months (usually by mid-June) the celandine has senesced and you can go back to work.

Garlic mustard on the other hand is out now, and there are key spots in the county that could use a lot of help (Sligo for one). Please pick garlic mustard!

Support efforts to research better ways to kill celandine.

Grow native ephemerals, if you can, in your own spaces. Studies have shown private yards can provide refugia for native pollinators and insects.

And please remind people not to plant lesser celandine! I've been told a number of stories of people removing it from parkland to put in their yards as it was "so pretty."

Meghan

What Can I Do to Fight Invasive Species?

The simplest thing anybody can do to help fight invasive species is to not plant or transmit an invasive species.

Educate yourself and keep up to date on the status of these and other pests.

Check to see if a plant is invasive before planting it.

Do not empty aquariums or dump houseplants into the wild.

Be sure to clean your shoes and brush off your clothes after being in an area with invasive species.

Report any occurrence of invasive species to your local county extension agent, Georgia Forestry Commission office, or to other federal or state natural resource or agricultural agencies.

Volunteer with natural resource agencies to control invasive species.

Eradicate or control populations of invasive species on your own land.

Spread the word; tell your neighbors if you see invasive species on their land.

More Information

What You Can Do - U.S. Fish and Wildlife Service (http://www.fws.gov/invasives/what-you-can-do.html)
Get Out There - Strange Days on Planet Earth (http://www.pbs.org/strangedays/episodes/invaders/do/)

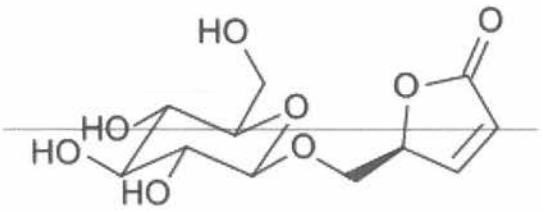
Protoanemonin

Protoanemonin (sometimes called **anemonol** or **ranunculol**[4]) is a toxin found in all plants of the buttercup family (Ranunculaceae). When the plant is wounded or macerated, the unstable glucoside found in the plant, ranunculin, is enzymatically broken down into glucose and the toxic protoanemonin.[5] It is the lactone of 4-hydroxy-2,4-pentadienoic acid.

Contact with a wounded plant causes itch, rashes or blistering on contact with the skin or mucosa. Ingesting the toxin can cause nausea, vomiting, dizziness, spasms, acute hepatitis, jaundice, or paralysis.[6][7][8]

When drying the plant, protoanemonin comes into contact with air and dimerizes to anemonin, which is further hydrolyzed to a non-toxic dicarboxylic acid.[5][9]

Biological pathway

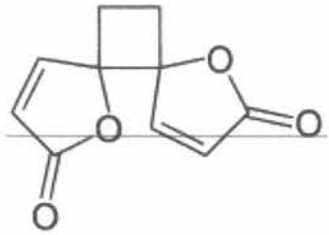


ranunculin

↓ – glucose (maceration, enzymatically)

protoanemonin

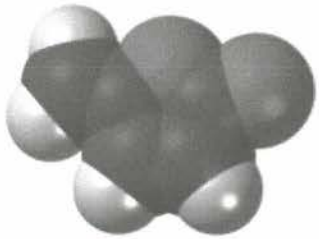
↓ dimerization (air or water contact)



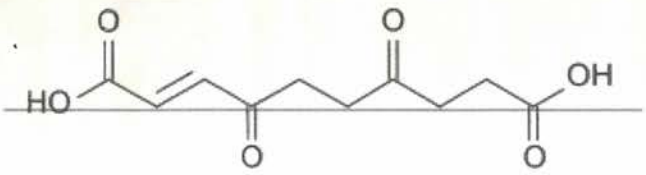
anemonin

↓ hydrolyzation

Protoanemonin[1]



Names	
IUPAC name 5-Methylidenefuran-2-one	
Other names 4-Methylenebut-2-en-4-olide	
Identifiers	
CAS Number	108-28-1 (http://www.commonchemistry.org/ChemicalDetail.aspx?ref=108-28-1)
3D model (JSmol)	Interactive image (https://chemapps.stolaf.edu/jmol/jmol.php?model=C%3DC1C%3DCC%28%3DO%29O1)
ChemSpider	60307 (http://www.chemspider.com/Chemical-Structure.60307.html) ✓
ECHA InfoCard	100.003.244 (https://echa.europa.eu/substance-information/-/substanceinfo/100.00



4,7-dioxo-2-decenedioic acid

	3.244)
PubChem CID	66948 (https://pubchem.ncbi.nlm.nih.gov/compound/66948)
UNII	66FQZ1A5SO (https://fdasis.nlm.nih.gov/srs/srsdirect.jsp?regno=66FQZ1A5SO) ✓
CompTox Dashboard (EPA)	DTXSID10148346 (https://comptox.epa.gov/dashboard/DTXSID10148346)
InChI	
SMILES	
Properties	
Chemical formula	$C_5H_4O_2$
Molar mass	96.08 g/mol
Appearance	Pale yellow oil
Boiling point	73[2] °C (163 °F; 346 K)
Hazards	
Lethal dose or concentration (LD, LC):	
LD_{50} (median dose)	190 mg·kg^{-1} (mouse)[3]
Except where otherwise noted, data are given for materials in their standard state (at 25 °C [77 °F], 100 kPa).	
✓ verify (what is ✓✗ ?)	
Infobox references	

References

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Retrieved from "https://en.wikipedia.org/w/index.php?title=Protoanemonin&oldid=891814070"

LESSER CELANDINE

Other Names:
Celidonia Menor, Éclairette, Épinard des Bûcherons, Faux Bouton d'Or, Ficaire, Ficaire Fausse Renoncule, Ficaria, Figwort, Grenouillette, Herbe au Fic, Herbe aux Hémorroïdes, Oreillette, Petite Chélidoine, Petite Éclaire, Petite Scrofulaire, Pil... See All Names
Review this Treatment

LESSER CELANDINE SIDE EFFECTS & SAFETY

Eating small amounts of fresh leaf sheaths of lesser celandine is **POSSIBLY SAFE**.

However, lesser celandine is **POSSIBLY UNSAFE** when used on skin. Putting lesser celandine on the skin can cause mucous membrane and skin irritation. The fresh, bruised plant can cause blisters if it is in contact with the skin long enough.

Lesser celandine is **LIKELY UNSAFE** when plant parts besides the leaf sheaths are taken by mouth. Taking it by mouth can cause side effects such as severe irritation of the stomach and intestines, diarrhea, and irritation of the urinary tract. Liver damage has also been reported.

Special Precautions & Warnings:
Pregnancy and breast-feeding: It's **LIKELY UNSAFE** to take lesser celandine by mouth if you are pregnant or breast-feeding. Don't use it.

Stomach and intestinal (gastrointestinal, GI) tract problems: Lesser celandine can irritate the GI tract and make GI conditions worse. Don't use lesser celandine if you have a stomach or intestinal problem, especially an infection or a condition that causes swelling (inflammation).

http://www.webmd.com/vitamins-supplements/ingredientmono-546-LESSER%20CELANDINE.aspx?activeIngredientId=546&activeIngredientName=LESSER%20CELANDINE

Toxicity: All plants of the buttercup family (Ranunculaceae) contain a compound known as Protoanemonin[22] When the plant is wounded, the unstable glucoside ranunculin turns into the toxin Protoanemonin.[23] Contact with damaged or crushed *Ficaria* leaves can cause itching, rashes or blistering on the skin or mucosa.[24] Ingesting the toxin can cause nausea, vomiting, dizziness, spasms, or paralysis.[23] In one case, a patient experienced acute hepatitis and jaundice when taking untreated lesser celandine extracts internally as an herbal remedy for hemorrhoids.[25]

1 (22) List, PH; Hörhammer, L, eds. (1979). *Hagers Handbuch der pharmazeutischen*

OREGON CITY

Community Development – Planning

221 Molalla Ave. Suite 200 | Oregon City OR 97045
Ph (503) 722-3789 | Fax (503) 722-3880

May 3, 2017

To: Oregon City Evangelical Church, 1024 Linn Avenue, Oregon City, OR 97045

Re: Noxious Weed Removal

To whom it may concern,

The City Code Enforcement Division received a complaint from an adjacent property owner of a noxious weed (Common Name - Lesser Celandine / Scientific Name *Ranunculus vicaria* – please see attached description), which is apparently growing on church property. The complaint did not specify the location of the weed, however, we have provided an information sheet with a photograph to assist you with identification. You may also contact the Clackamas Soil and Water Conservation District WeedWise Program Manager with any questions: Sam Leininger Phone: (503) 210-6006, Email: sleininger@conservationdistrict.org

Pursuant to OCMC 8.28 *Weeds*
8.28.010 - Removal required.
The owner or person in charge of any real property shall cut and remove and keep cut and removed therefrom all noxious vegetation, dead trees, dead brush, and dead shrubs, and shall, by cutting to a height of six inches, prevent propagation to neighboring properties of wild grasses, weeds, thistles, and berry vines. A buffer strip cut to a height of six inches for a width of ten feet from property lines shall be deemed an effective method of preventing propagation of berry vines to neighboring properties.

Please eradicate the weed within 30 days of receipt of this letter

Thank you for your prompt attention to this matter.

Oregon City Planning Division

\Attachment

CC: Code Enforcement

Subject **RE: Control of lesser celandine**
From Jeffrey Lesh
To lslord@spiritone.com
Date 2017-06-30 15:05

I would inform them of the issues and tell them that I am available if they have questions about the plant including how to control it.

Thanks for the work to build awareness of issues with this plant in the
community.

-Jeff

Jeff Lesh
WeedWise Conservation Specialist
Clackamas Soil & Water Conservation District
221 Mollala Ave, Suite 102 Oregon City, OR 97045
Desk: 503-210-6010 Cell: 971-219-5201 Fax: 503-655-1188
jlesh@conservationdistrict.org
work schedule: Tuesday - Friday 7am-5:30pm

-----Original Message-----
From: lslord@spiritone.com [mailto:lslord@spiritone.com]
Sent: Friday, June 30, 2017 3:02 PM
To: Jeffrey Lesh
Subject: Control of lesser celandine

Hi Jeffrey,

I am concerned because the property at 206 Holmes Avenue was the site of a church youth group meeting on Wednesday night in the backyard (and front yard) where they are attempting to deal with a widespread infestation of lesser celandine. This meeting was announced in the church bulletin last Sunday as a regularly scheduled meeting of their high-school aged youth
group.

Many of the children were just plopped down in areas where the plant is growing, and most seemed to be involved in the very vigorous volleyball games. Of course that involved people falling down onto the ground-covering plants (mixed types--grass, celandine, and other weeds.)

It doesn't appear that the property owners are aware of the dangers to the children or the potential for spreading the weed to other properties from what they carry on their feet or other belongings after they contacted the celandine. They certainly did not appear to take precautions to carefully clean their footwear and other belongings before leaving, to avoid infesting their homes and any other locations they might visit after leaving the institutional meeting.

I'm fairly certain that the property owners and occupants also don't understand about how to handle the plant parts they remove with each mowing. It appears it is just left to lay on the ground or mixed in with their other yard debris. Or it is carried away on visitors' shoes. Is this something that you think should be addressed and, if so, by whom other than me?

What do you think is my best next step?

Linda Lord