



Debalina Saha
sahadeb2@msu.edu

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Common Groundsel: A Problematic Weed Species

Common groundsel (*Senecio vulgaris*) is one of the most common and problematic broadleaf weeds in nurseries and greenhouses. It belongs to the Asteraceae family, which also includes dandelion, thistles, and sunflower. It is classified as a winter annual as the seeds germinate in late fall through early spring. Sometimes common groundsel is also considered as a summer annual since it has the capacity to germinate under shady condition in summer or fall.



Figure 1. Common groundsel (*Senecio vulgaris*) growing along the edges of walkway inside a greenhouse. Photo credits: Debalina Saha, MSU Horticulture.

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In addition to its general weediness, common groundsel can be toxic to cattle, swine, and horses if ingested. The toxicity is due to pyrrolizidine alkaloids which can cause chronic liver damage to these animals (Smith-Fiola and Gill, 2014; Uva et al., 1997). The success of this weed lies with its ability to produce enormous number of seeds. Seed development starts early in its life cycle and plants typically produce 1,700 seeds but can produce 25,000 or more seeds under optimal conditions (Wilens, 2006). Several races of common groundsel have developed resistance to triazine herbicides, [atrazine and simazine (Princep)], as well as nitriles (bromoxynil) and uracils [terbacil (Sinbar)] (Smith-Fiola and Gill, 2014). In this alert, growers will know about common groundsel identification.

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Biology of Common Groundsel

Habitat: Common groundsel can be found growing in gardens, lawns, nursery plots, inside greenhouse (under the benches and on the edges of walkways) (Fig 1), edges of yards, mulched beds around shrubs, fields, areas along railroads, roadsides, and waste areas. It is common in highly disturbed areas where ground vegetation is low and scant (Illinois wildflowers, 2020). This plant is native to Eurasia.

Growth Habit: Plants are branched and erect (Fig 2). The height of common groundsel ranges from 4-20 inches (Uva et al., 1997). Under shady condition, it has a thin appearance with fewer and smaller leaves.

Seedling: Cotyledons are club-shaped on elongated stalks of less than 1/2-inch-long. Young leaves are dark green, grooved, sometimes deeply lobed (1/2-1 inch long). Cotyledons and young leaves are often purplish on the lower surface (Uva et al., 1997).

Roots: Plants may have a shallow taproot with secondary fibrous root system which is often branched. A taproot is not always evident (Uva et al., 1997).

Shoot: Stems are erect and highly branched with frequent rooting at the lower nodes (Uva et al., 1997). Young plants form rosettes until attaining maturity. Leaves are 2-4 inches long with deep, irregular lobes, coarsely toothed margins (Smith-Fiola and Gill, 2014) (Fig 3). Leaves are alternately arranged. Lower leaf blades tapers to the petiole/stalk whereas, the upper leaves are sessile (without any stalk).



Figure 2. Erect and branched growth habit of common groundsel (*Senecio vulgaris*). Photo credits: Debalina Saha, MSU Horticulture.



Figure 3. Leaves of common groundsel are 2-4 inches long with deep, irregular lobes, coarsely toothed margins. Photo credits: Debalina Saha, MSU Horticulture.



Figure 4. Bright yellow flowers of common groundsel. Photo credits: Debalina Saha, MSU Horticulture.



Figure 5. Flowers of common groundsel on attaining maturity, the bracts open fully to reveal a ball of white-tufted seeds. Photo credits: Debalina Saha, MSU Horticulture.



Figure 6. Seeds of common groundsel. Each seed is tipped with white fluffy hairs which aid in wind-dispersal. Photo credits: Debalina Saha, MSU Horticulture.

Flowers: Common groundsel produce flowers from April to October. Flower clusters are surrounded by green bracts with black tips. This characteristic black tip distinguishes common groundsel from other species in the Asteraceae family (Wilén, 2006). Flowers are bright yellow (Fig 4). On attaining maturity, the bracts open to reveal a ball of white-tufted seeds (Wilén, 2006) (Fig 5).

Fruit and Seeds: Fruits are very tiny, about 2.5 mm (1/10 of an inch), light brown, cylindrical with shallow ribs, often hairy and end in a tuft of delicate white hairs that eventually get shed (Fig 5) (University of California IPM, 2020). One seed is present in each fruit (Fig 6). Seeds are present within a single-seeded, wind-disseminated fruit that forms in a white, approximately 0.5-inch-wide puffball collection (Michigan State University Plant & Pest Diagnostics, 2020).

Propagation: Propagation is by seed. Three to four generations can be produced in one season. Germination generally begins in early spring and can continue to late autumn (Uva et al., 1997).

Similar Species: Mugwort (*Artemisia vulgaris*) seedlings are similar to that of common groundsel seedlings. The only difference is the young leaves of mugwort are bristly-hairy and have white, woolly hairs beneath (Uva et al., 1997). Seedlings of common ragweed (*Ambrosia artemisiifolia*) also resemble common groundsel. The lobes of the young leaves of common ragweed are much more deeply dissected than common groundsel (Uva et al., 1997).

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CONTRIBUTORS

Dr. Nora Catlin
Floriculture Specialist
Cornell Cooperative Extension
Suffolk County
nora.catlin@cornell.edu

Dr. Chris Currey
Assistant Professor of Floriculture
Iowa State University
ccurrey@iastate.edu

Dr. Ryan Dickson
Greenhouse Horticulture and
Controlled-Environment Agriculture
University of Arkansas
ryand@uark.edu

Thomas Ford
Commercial Horticulture Educator
Penn State Extension
tgf2@psu.edu

Dan Gilrein
Entomology Specialist
Cornell Cooperative Extension
Suffolk County
dog1@cornell.edu

Dr. Chieri Kubota
Controlled Environments Agriculture
The Ohio State University
kubota.10@osu.edu

Heidi Lindberg
Floriculture Extension Educator
Michigan State University
wolleage@anr.msu.edu

Dr. Roberto Lopez
Floriculture Extension & Research
Michigan State University
rglopez@msu.edu

Dr. Neil Mattson
Greenhouse Research & Extension
Cornell University
neil.mattson@cornell.edu

Dr. W. Garrett Owen
Sustainable Greenhouse & Nursery
Systems Extension & Research
The Ohio State University
owen.367@osu.edu

Dr. Rosa E. Raudales
Greenhouse Extension Specialist
University of Connecticut
rosa.raudales@uconn.edu

Dr. Alicia Rihn
Agricultural & Resource Economics
University of Tennessee-Knoxville
arihn@utk.edu

Dr. Debalina Saha
Horticulture Weed Science
Michigan State University
sahadeb2@msu.edu

Dr. Beth Scheckelhoff
Extension Educator - Greenhouse Systems
The Ohio State University
scheckelhoff.11@osu.edu

Dr. Ariana Torres-Bravo
Horticulture / Ag. Economics
Purdue University
torres2@purdue.edu

Dr. Brian Whipker
Floriculture Extension & Research
NC State University
bwhipker@ncsu.edu

Dr. Jean Williams-Woodward
Ornamental Extension Plant Pathologist
University of Georgia
jwoodwar@uga.edu

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