



to subtend. When vertically sliced, the receptacle is diagnostically cone-shaped, solid in the center, and lacks chaff. The phyllaries are oblong, in a series of two to five, are green in the middle, dried and thin on margins. The achenes diagnostically have three deep ribs that are well-separated, rounded oil-glands. It spreads only by seed; like other Asteraceae, it is a prolific seed producer. Seeds lack anatomical dispersal structures so remain close to parent plants.

Identification of this species is difficult and underwent numerous past taxonomic changes. There are several Asteraceae species that are easily confused with scentless chamomile from a distance. These include two other List B species, stinking chamomile (*Anthemis cotula*) and oxeye daisy (*Leucanthemum vulgare*), as well as German chamomile, sea mayweed (*Tripleurospermum maritimum*), chamomile (*Chamaemelum nobile*), pineapple weed (*Matricaria discoidea*), native annual fleabane (*Erigeron annuus*) and whiplash daisy (*Erigeron flagellaris*) (iNaturalist 2018).

It is native to mountains and river valleys in the Caucus region, Russia, Uzbekistan, Kazakstan, parts of China (eFloras 2019,). It was introduced into European prairies and spread through agriculture (Kay 1969, Woo et al. 1999). Diploid plants (two chromosome sets), which are more common, come from western Europe; tetraploid plants (four chromosome sets) come from marginal edges of its range in eastern and central Europe.

Scentless chamomile (*Tripleurospermum inodorum* L.) is an annual forb in the Asteraceae family, also known as scentless false mayweed, scentless mayweed, and false chamomile, not to be confused with the tea producing German chamomile (*Matricaria chamomilla*).

Distinguishing scentless chamomile from similar looking species is difficult. The lack of odor is one clue; lack of hairs is another. Mature plants are about 1 to 1.5 feet tall. Its alternate leaves are 2 to 8 cm long, divided pinnately, and each lobe is pinnately divided again (bipinnatifid), giving a fern-like appearance. It has more than two stem leaves. Its roots are shallow and fibrous. White ray flowers have shallow five-lobed margin, which sometimes are asymmetrical. It has ten to 24 ray flowers. Fully developed yellow disc flowers form a dome shape that causes the white ray flowers



Scentless chamomile

Tripleurospermum inodorum L.

scentless chamomile 2016 Statewide Distribution in Colorado
Tripleurospermum inodorum Based on 2016 Quarterquad and EDDMaps Field Survey Data Up to Approximately 2,001 Infested Acres



Acres estimated to nearest whole acre by county weed supervisors and other data sources; compiled by Colorado Department of Agriculture
 COLORADO Department of Agriculture
 0 acres 1 to 10 acres 11 to 50 acres 51 to 300 acres 0 30 60 Miles

Tetraploidy may indicate sympatric speciation, hybridization, genetic modifications, climatic changes or different introduction pathways (Kay 1969).

Scentless chamomile is ruderal, found mainly in Colorado's disturbed sites in upper montane and subalpine, where soil water content is slightly higher. This is usually on the sides of impermeable surfaces, such as roads, sidewalks, trails, and gravelly areas.

Key ID Points

1. Receptacle is solid in the center, cone-shaped & naked
2. Phyllaries are oblong, green in center & dried on margins
3. Alternate leaves are bipinnatifid into filiform segments
4. Fibrous roots

Integrated Weed Management Recommendations

Effective integrated management means using a variety of eradication methods along with restoration, prevention of seed production and dispersal, and monitoring. Maintain robust healthy native landscapes. Restore degraded sites. Avoid soil disturbance. Prevent seed production and seeds from dispersing, e.g. on contaminated equipment. Rest sites until restored. Modify land use practices. Use methods appropriate for the site, other plants present and land uses.



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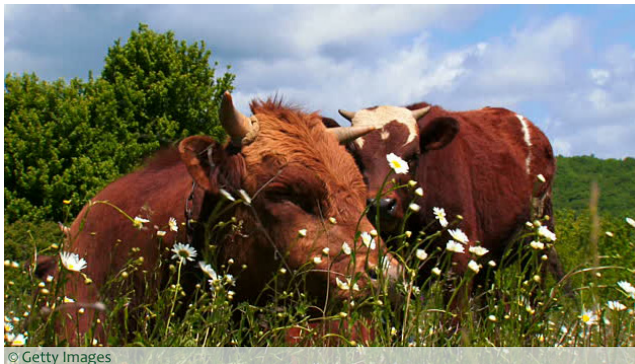
CULTURAL

Since scentless chamomile is ruderal, and sensitive to drought, minimizing soil disturbance and maintaining high native canopy cover of drought tolerant plants is key. It prefers moist soil, so modify drainage where dense colonies of scentless chamomile exist. Tilling during shoulder seasons or hot temperatures, exposes the shallow roots to drying. Since seed viability is more than 6 years, till frequently and seed cover plants. Maintain or restore a competitive assemblage of shrubs, forbs, cool and warm season grasses, annuals and perennials. In restoration efforts, select locally adapted species, soil amendments, soil microbes and mycorrhizal fungi that are ecologically appropriate for the site to improve competitiveness of other species.



MECHANICAL

Since scentless chamomile has shallow roots, mechanical methods can be effective in residential areas and moderate sized infestations. In loose soil, dig to remove the fibrous roots, especially the caudex. Mowing, chopping and deadheading leaves roots behind, stimulates more flower production and are not recommended. Mowing, especially when timed near flowering or seeding phases, often disperses flowers and seeds, which expands the size of the infested area. Collect, bag, and dispose of or destroy flowers; seeds could mature and germinate if left on the ground. Prescribed fire may be an effective tool to control scentless chamomile, but since it prefers roadsides and developed sites it may not be possible to generate the heat needed to damage the caudex and seeds. Little information exists on fire effects to this plant.



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BIOLOGICAL

Scentless chamomile is not palatable to domestic livestock (Woo et al. 1999). Properly managed grazing can improve vigor of desired species and indirectly reduce infestations. In Canada, two biological control agents were released; only one established (Winston et al. 2014). At present, there are no biological control agents authorized in Colorado that would effectively control it. For more information about biological control agents, visit the Colorado Department of Agriculture's Palisade Insectary website at: www.colorado.gov/ag/biocontrol.



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CHEMICAL

NOTE: Herbicide recommendations to control scentless chamomile in pastures and rangeland are found at: <https://goo.gl/TvWnv9>. Rates are approximate and based on equipment with an output of 30 gal/acre. Follow the label for exact rates. Consult local turf and ornamental experts for herbicides appropriate for residential settings. Always read, understand, and follow the label directions. The herbicide label is the LAW!

Scentless chamomile

Tripleurospermum inodorum L.



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