

Las Flores Weed Workshop

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Weeds of Tomorrow



Presented by Patty Jordan
Napa MG Class of 2016





Weeds

Definition

- **A Plant Out of Place** Scott Oneto
- **A Plant Growing Where Not Wanted** UCMG Handbook
- **A Plant Whose Virtues Have Not Yet been Discovered** Ralph Waldo Emerson



Weeds

Characteristics

- Establish Fast / Grow Fast
- Abundant Seed Production
- Seed Dormancy Ability
- Multiple Adaptations for Spreading
- Few Pests and Diseases
- Very Resourceful at Getting Water and Nutrients



Weeds

Positive Side of Weeds

- Reduce Dust and Soil Erosion
- Provide Cover + Food for Vertebrates like Birds
- Provide Habitat for Beneficial Predators
- Provide Nectar + Pollen for Honeybees
- Can be Eaten by Humans
- Have Therapeutic Herbal + Pharmaceutical Properties



Weeds

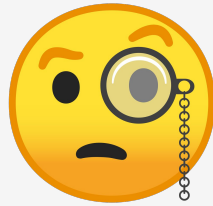
Negative Side of Weeds

- Competes with Food Crops for Water and Nutrients \$\$\$ Crop Loss
- \$\$\$ Agricultural Control Measures
- Reduces Grazing Ability of Land (Spurge) + Recreational Land Value (Yellow Thistle)
- Provides Cover + Food for Vertebrate Pests like Rodents
- Loss of Endangered Species Habitat (Purple Loose Strife)
- Hosts for Insects Pests + Pathogens during Winter
- Reduces Water Resources (Tamarisk)
- Allergens for People
- Provides Fuel for Fires



Weeds

Some Facts



- Ca has 5,000 Native plant species and 1,300 non-native species!
- 50% of Weeds were introduced by the Ornamental Plant Industry!
- 70% of all Weeds are from the Poaceae and Asteraceae Family!
- Weeds account for \$24 Billion in annual agricultural crop loss and \$3 Billion in annual control costs!
- Pigweed produces more than 200,000 seeds per plant!
- Lambsquarters seed can be viable up to 1,700 years!
- Yellow Nutsedge produces 18,000 tubers in one year!



Weeds

What Weeds Tell Us

Do know Some of the Weed Indicators?

- Annual Blue Grass, Crabgrass, Nutsedge in lawns?
- Spotted Spurge, Knotweed ?
- Clovers in lawns?
- Dandelion, Annual Fescue?
- Bermuda Grass in turf perimeters?



Weeds

What Weeds Tell Us

Do You Know of the Weed Indicators?

- Annual Blue Grass, Crabgrass, Nutsedge in lawns? **Overwatering/Poor Drainage**
Dethatch, Aerate, check irrigation
- Spotted Spurge, Knotweed ? **Compacted Area** Mulch, monitor
- Clovers in lawns? **Nitrogen Deficient** Better Fertilization schedule
- Dandelion, Annual Fescue? **Bare Spot Opportunities** Mulch, use groundcover
- Bermuda Grass in turf perimeters? **Mowing too Short** Raise Mower height



Weeds

Noxious

A Non-Native plant species that have been designated by state or national agricultural authorities as injurious to **agricultural** and/or **horticultural crops** and/or humans and **livestock**.

Ratings A,B,C,D and Q. An “A” rating is of the highest importance and can include banning, quarantine and eradication. Typically occurring as low populations which the State feels they can contain and eradicate without it spreading.



Weeds

Invasive

- **Invasive Weed: A Non-Native species whose introduction causes economic or environmental harm or harm to human health. No regulatory framework. Occurs primarily in wild areas and riparian areas and not agricultural areas.**



Weeds

- See Cal Invasive Plant Council extensive list.
- <http://www.cal-ipc.org/plants/profiles>









SUPPORT CAL-IPC

CAL IPC

Home About ▾ Plants ▾ Resources ▾ Solutions ▾ Join, Renew or Donate

Plants A to Z

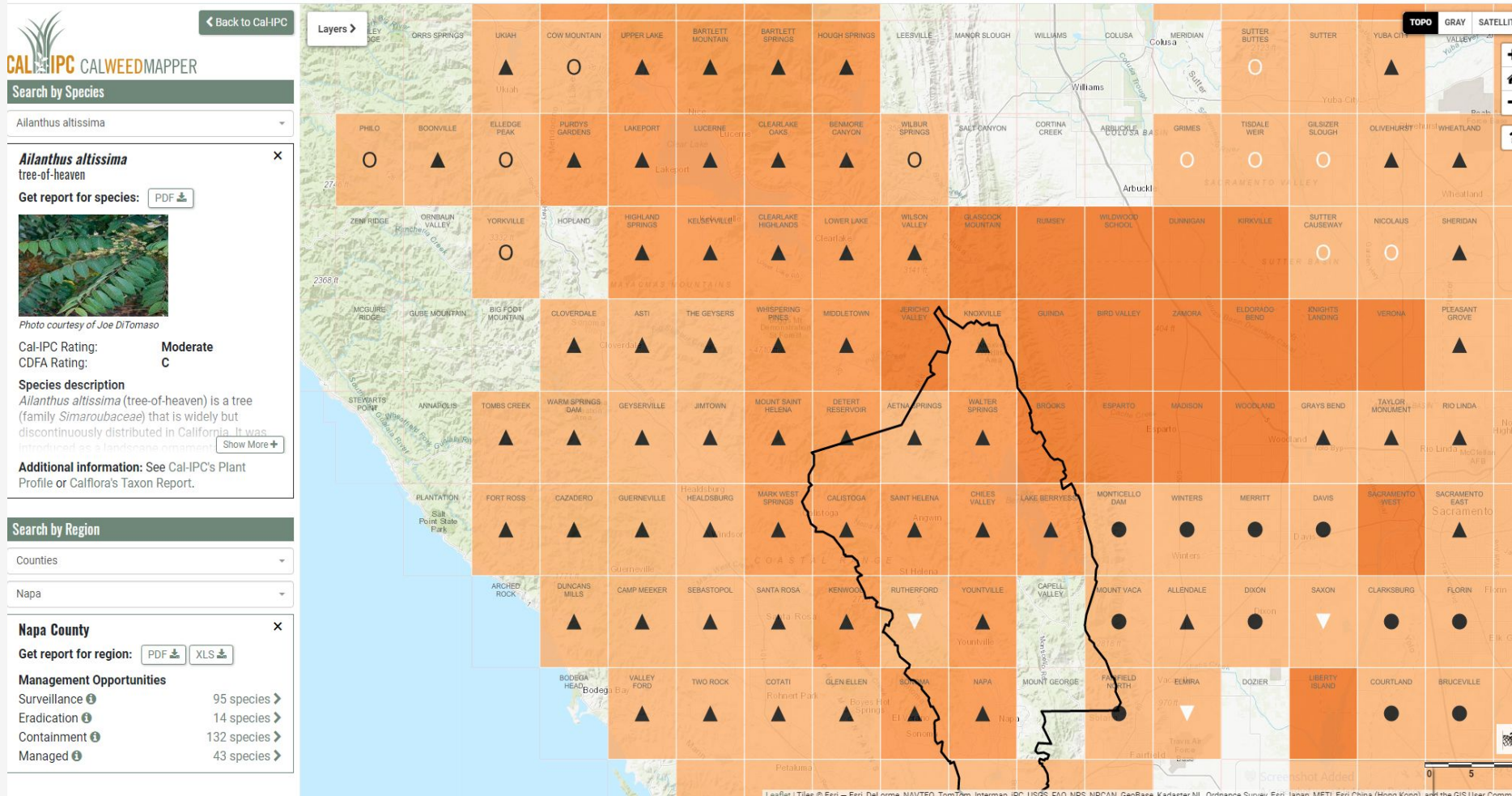
Browse below to see all plants on the Cal-IPC Inventory, including both invasive plants and "Watch" species. Clicking on the scientific name will take you to the Plant Profile, where you'll find links to more information on the plant.

<i>Acacia baileyana</i>  cootamundra wattle	<i>Acacia cyclops</i>  cyclops <i>Acacia</i>	<i>Acacia dealbata</i>  silver wattle	<i>Acacia longifolia</i>  Sydney golden wattle
<i>Acacia melanoxylon</i> 	<i>Acacia paradoxa</i> 	<i>Acacia pycnantha</i> 	<i>Acacia saligna</i> 



Weeds

and <https://calweedmapper.cal-ipc.org/>



See the extent and intensity of weed populations.





Weeds

Check on an specific quadrangle to see current status

CAL-IPC CALWEEDMAPPER

Search by Species

Ailanthus altissima

Ailanthus altissima
tree-of-heaven

Get report for species: PDF

Photo courtesy of Joe DiTomaso

Cal-IPC Rating: Moderate
CDFA Rating: C

Species description
Ailanthus altissima (tree-of-heaven) is a tree (family Simaroubaceae) that is widely but discontinuously distributed in California. It was introduced as a landscape ornamental.

Additional information: See Cal-IPC's Plant Profile or Calflora's Taxon Report.

Search by Region

Counties

Napa

Napa County

Get report for region: PDF XLS

Management Opportunities

Surveillance	95 species >
Eradication	14 species >
Containment	132 species >
Managed	43 species >

Ailanthus altissima @ YOUNTVILLE

Quad Info | Quad History | Occurrence Observations

Value: 3 - Abundance medium, spread increasing rapidly.

Management: The species is not under management in this quad.

Source: Napa County: Map The Spread 2011-07-26

Attendees:

- Eric Barnett, Napa County Regional Park and Open Space District
- Chip Bouril, Natural Resources Conservation Service
- Leif Bryant, Napa Flood District
- Humberto Izquierdo, Napa County Ag. Dept.
- Steve Konakis, Napa Valley Unified
- Tony Norris, Napa County Regional Park and Open Space District
- John Roncoroni, UCCE Napa County
- Chris Sauer, Napa County Flood Control Dist.
- Chino Yip, Napa County Regional Park and Open Space District

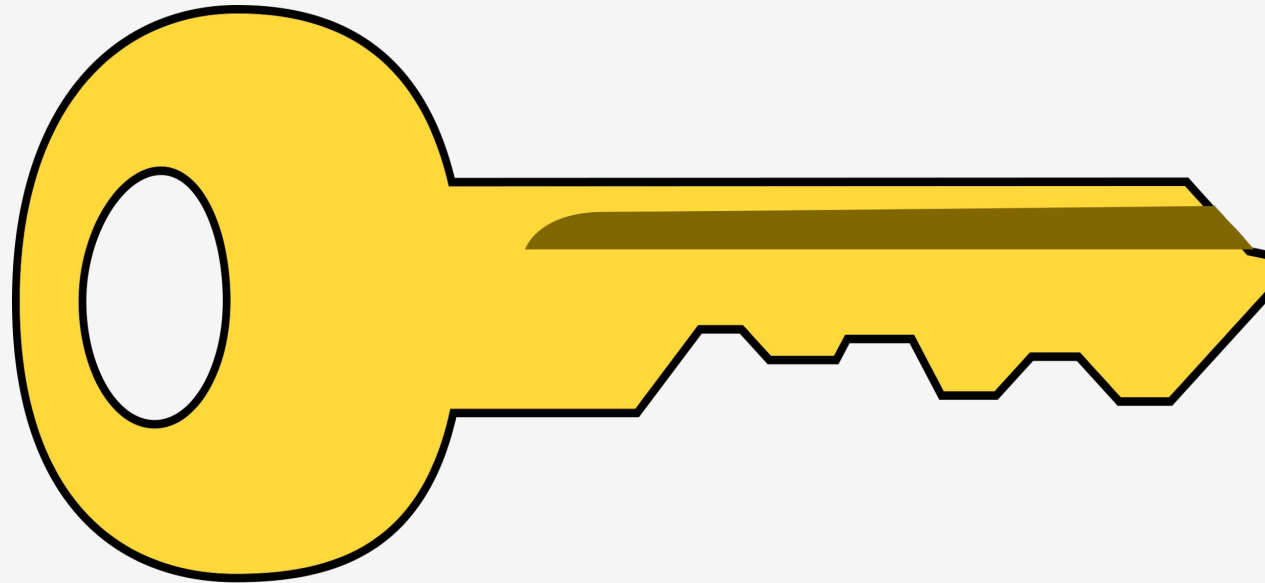
Look up each surveyed quadrangle for specific information.





Weeds

The Key to Weed Control Is Breaking their Life Cycle



Target the weed BEFORE its Flowering Stage

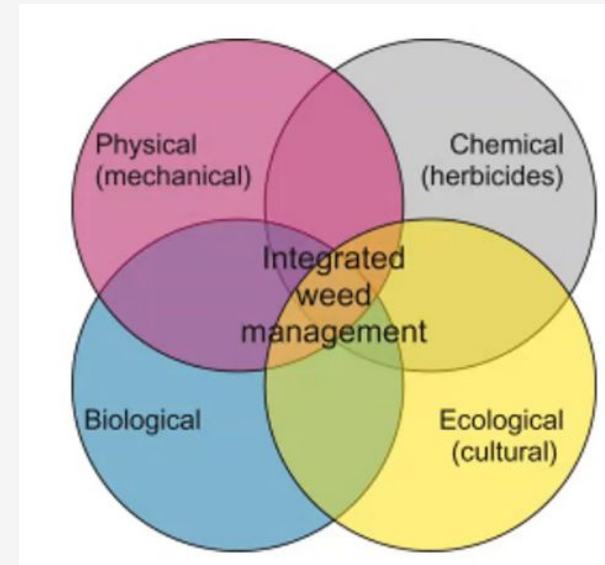


Weeds

Weed Management Strategy

- Identify the weed, life cycle, habitat
- Integrated Weed Management

1. Cultural
2. Mechanical
3. Biological
4. Chemical



- The most effective, long-term way to manage pests is by using a combination of methods that work better together than separately.



Weeds

Integrated Pest Management IPM

Is a sustainable, science-based, decision-making process that combines cultural, physical, biological and chemical tools to identify, manage and reduce risk from pests and pest management tools and strategies in a way that minimizes overall economic, health and environmental risks.





Weeds

Cultural

Modify the environment to improve the competitive advantage of desirable plants and decrease the weed's competitive edge



Weeds

Cultural

Modify the environment to improve the competitive advantage of desirable plants and decrease the weed's competitive edge

- Proper soil preparation
- Correct plant selection
- Irrigation management
- Proper mowing height
- Reduction of soil compaction
- Crop rotation



Weeds

Mechanical Uses tools and barriers to control weeds



Weeds

Mechanical Uses tools and barriers to control weeds

- Hand pulling, hoe, rake, shovel (best when small)
- Cultivation: water-wait-cultivate (shallow)
 - Careful with perennials that propagate via fragments.
- Rototil or disc (may bring seeds to surface)
 - Excessive soil disruption has many negative impacts
- Flaming (best on small annuals)
 - Requires special safety precautions
- Mowing or chopping
 - Careful with perennials that propagate via fragments.
- Mulching (fabrics and/or mulches block light)
- Solarization



Weeds

Biological

Employs animals or natural enemies to reduce weed populations.



Weeds

Biological

Employs animals or natural enemies to reduce weed populations.

- Goats- brush
- Sheep and Cow - grasses
- Geese and Chickens - weed seeds
- Insects and pathogens- long term strategy



Weeds

Chemical

Use of chemicals to kill weeds



Weeds

Chemical

Use of chemicals to kill weeds

- Contact vs Systemics
- Selective vs Non-Selective
- Pre-Emergent vs Post Emergent

The last resort. You must chose carefully. Always Read and Follow the Label. Before you select, you need to know the weed, life cycle, soil type, environ conditions (temp, wind, rain), is your weed on the susceptible list?, do you have the application equipment, correct calibration and protective clothing?



Weeds

Weed ID Resources

- Weeds of the West, book
- Weed Pest Identification and Monitoring Cards, UCANR 3541
- Online
 - UC IPM Weed Gallery
 - Weed Research and Information Center , WRIC

[Let's Explore these two online resources](#)



Weeds

Weed ID Resources

UC IPM Weed Gallery

Weed photo gallery

The UC IPM Weed Photo Gallery includes many, but not all, weed species commonly found in California farms and landscapes.

Choose a category below or skip to a [LIST OF ALL WEEDS](#).

Identify your weeds



Broadleaf
Leaves are wide, veins branch out in different directions.
[Identification](#) | [Tutorial](#) | [Broadleaf list](#)



Grass
Leaves are narrow, arranged in sets of two; stems are round.
[Identification](#) | [Tutorial](#) | [Grass list](#)



Sedge
Leaves are narrow, arranged in sets of three; stems are triangular.
[Identification](#) | [Tutorial](#) | [Sedge list](#)

Leaf shapes

Leaves vary in shape.

Deeply cut (dissected)



Heart (cordate)



Football (elliptic)



Round (orbicular)



Arrow (hastate)



Kidney (reniform)



Wedge (uneiform)



Lance (lanceolate)



Narrow (linear)



UNIVERSITY OF CALIFORNIA, AGRICULTURE & NATURAL RESOURCES
UC IPM
Statewide Integrated Pest Management Program

UC IPM Home > Weed Gallery > Weeds by Category

How to Manage Pests
Identification: Weed Photo Gallery, All Categories

The UC IPM Weed Photo Gallery includes many, but not all, weed species commonly found in California farms and landscapes. Additional species will be added over time. [Acknowledgments](#).

[All weeds](#) | [Key to weeds in turf](#)

- Aquatics
- Grasses
- Broadleaves
- Sedges

Click on table headings to sort columns. Tip: Sort multiple columns simultaneously by holding down the shift key and clicking a second, third or even fourth column header.

Legend: ▲ = Ascending, ▼ = Descending, ◆ = Unsorted. Table sorting functions require Javascript.

Aquatics (Identification)—Top of page

Common Name	Scientific Name	Family	Category
Arrowhead, California	<i>Sagittaria montevidensis</i>	Alismataceae (Waterplantain Family)	Aquatic
Arrowhead, Oregon	<i>Sagittaria longiloba</i>	Alismataceae (Waterplantain Family)	Aquatic
Bluish, Ricefield	<i>Scirpus mucronatus</i>	Cyperaceae (Sedge Family)	Aquatic
Bluish, River	<i>Scirpus rivularis</i>	Cyperaceae (Sedge Family)	Aquatic
Bluish, Upright	<i>Echinochloa berteroi</i> (C. cordifolius)	Alismataceae (Waterplantain Family)	Aquatic
Cattail	<i>Typha</i> spp.	Typhaceae (Cattail Family)	Aquatic
Duckweed	<i>Heteranthera limosa</i>	Pontederiaceae (Pickersweed Family)	Aquatic
Najas	<i>Najas</i> spp.	Hydrocharitaceae (Waterweed Family)	Aquatic
Sedge, Smallflower Umbrella	<i>Cyperus difformis</i>	Cyperaceae (Sedge Family)	Aquatic
Spinyhorn, Blunt	<i>Eleocharis obtusa</i>	Cyperaceae (Sedge Family)	Aquatic
Sprayletto, Bearded	<i>Leptochloa fascicularis</i>	Poaceae (Grass Family)	Aquatic
Waterhyacinth	<i>Belcose</i> spp.	Scrophulariaceae (Figwort Family)	Aquatic
Waterplantain, Common	<i>Alisma plantago-aquatica</i>	Alismataceae (Waterplantain Family)	Aquatic

Broadleaves (Identification)—Top of page

Common Name	Scientific Name	Family	Category
Amaranth, Low	<i>Amaranthus deflexus</i>	Amaranthaceae (Pigweed Family)	Broadleaf
Arrowhead, California	<i>Sagittaria montevidensis</i>	Alismataceae (Waterplantain Family)	Broadleaf
Arrowhead, Oregon	<i>Sagittaria longiloba</i>	Alismataceae (Waterplantain Family)	Broadleaf
Bassia, Fivehook	<i>Bassia hyssopifolia</i>	Chenopodiaceae (Goosefoot Family)	Broadleaf
Bedstraw, Catchweed	<i>Galium aparine</i>	Rubiaceae (Madder Family)	Broadleaf
Bittersweet, Field	<i>Cornifolium arvense</i>	Compositaceae (Mormongrass Family)	Broadleaf
Bittersweet, Little	<i>Cardamine oligosperma</i>	Brassicaceae (Mustard Family)	Broadleaf

The Weed Gallery helps you identify your weed based on shapes



Weeds

Weed ID Resources UC IPM Weed Gallery

Senecio vulgaris L.
Common groundsel, Old man in the spring, Old man of spring

Senecio vulgaris, a dicot, is an **annual herb** that is **not native** to California.

Plant Range

Observation Search (2000 records)

Plant Characteristics

Bloom Period

Photos from Calflora / CalPhotos

Family: Asteraceae
Genus: Senecio

© 2022 Calflora

Communities: weed, characteristic of disturbed places

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HOME

ON THIS SITE

What is IPM?
Home & landscape pests
Agricultural pests
Natural environment pests
Exotic & invasive pests
Weed gallery
Natural enemies gallery
Weather, models & degree-days
Pesticide information
Research
Publications
Events & workshops
Online training
Links
About us
Contact us

Weed Gallery > Sunflower Family: Asteraceae [PRINT](#)

Common groundsel (*Senecio vulgaris*)

Common groundsel is a ubiquitous winter annual broadleaf, but can grow all year in coastal areas of California. It inhabits agricultural land and other disturbed places. Except for deserts, common groundsel is found throughout California up to an elevation of 4900 feet (1500 m). Infestations are most problematic during cool, moist periods. Plants die during extended hot and dry periods. Common groundsel contains toxic compounds called pyrrolizidine alkaloids. When ingested in large quantity, or even in small amounts over several weeks or months, they are toxic to humans and livestock. However, livestock losses caused by feeding on common groundsel are uncommon and most poisonings are due to ingestion of contaminated hay or hay cubes over a period of time.

Click on images to enlarge

Habitat
Fields, vegetable and agronomic croplands, gardens, nurseries, orchards, vineyards, landscaped areas and yards, roadsides and other disturbed, unmanaged places.

Seedling
Cotyledons (seed leaves) are narrowly football shaped to oblong, 1/10 to 2/5 of an inch (3–11 mm) long, with a rounded to somewhat pointed tip, a tapered base, and often purplish below. The first leaves are egg shaped, have edges with shallow teeth, are alternate to one another along the stem, and are about 3/10 to 1/2 of an inch (8–12 mm) long. Third and fourth leaves are more deeply lobed.

Young plant
Young plants remain as rosettes until maturity.

MANAGEMENT
Common groundsel is best controlled by eliminating the plant before it flowers. Since seeds can still mature even if the plant itself is killed, it is imperative to remove the plant from the area if there is any evidence of flowering. Seeds of common groundsel are not long-lived, usually remaining viable for about one year. Therefore, controlling this weed before flowering will have a great impact on the size of the next year's population.

Cultural and Mechanical Control
In most situations, common groundsel is easily controlled by hand removal or cutting the plant off at its base by hoeing. Monitoring the area on a regular basis and removing the weed throughout the growing season will greatly reduce the impact of the weed the next year. In larger areas, rototilling of young plants is effective. Mowing can be effective if the blade is set as close to the ground as possible.

Mulches are very effective for controlling common groundsel. Seedlings cannot push through a 3-inch-deep layer of mulch. Blow-in seeds cannot establish on mulch if the surface is allowed to dry out. The key to control when using mulches is to choose a mulch size that is large enough to allow water to pass through and the mulch surface to dry out. This is best accomplished by using coarse mulch, usually sold as medium chips. Fine mulch such as sawdust and peat moss will absorb water and actually become a suitable site for the common groundsel seeds to establish. Using mulch that has large pieces is also not recommended because these types will have too much space between the pieces. Seeds can drop to the soil underneath and grow up between the spaces. Synthetic mulches, such as landscape fabric, provide a physical barrier to seedling development. However, these are only effective for controlling seeds that are already in the soil. They will not be effective in controlling seeds that have blown in during the current growing season.

Biological Control
The most promising method of biological control is the use of the rust fungus *Accumia lagenophorae*. This fungus provided about 30% control in greenhouse tests. Research is being conducted to find ways to improve its efficacy. There are no insects that are effective for controlling common groundsel.

Chemical Control
Common groundsel in the home garden and landscape is best controlled using cultural and mechanical methods. If these methods cannot be used, herbicides containing diquat or glyphosate will control growing plants in home landscape beds. Only glyphosate can be used around edible crops and it will severely injure or kill any plant it touches. The sprayer tip should be shielded so that the spray does not contact any desirable plants, as either of these herbicides will injure many ornamental plants. There are no preemergent (before the plant emerges from the soil) chemical controls available for home use that are effective for controlling common groundsel.

WARNING ON THE USE OF PESTICIDES

ACTIVE INGREDIENTS
Glyphosate

REFERENCES
Fischer, B. 1998. *Grower's Weed Identification Handbook*. Oakland: Univ. Calif. Div. Agr. Nat. Res. Publ. 4030.
Parchoma, G., ed. 2002. *A Guide to Weeds in British Columbia*. British Columbia: British Columbia Ministry of Agriculture, Food and Fisheries.
University of California Statewide IPM Program. *Integrated Pest Management Weed Photo Gallery*, an online photographic reference to many weeds commonly found in California. Accessed May 23, 2006.

PUBLICATION INFORMATION
UC IPM Weed Index: Common Groundsel
UC ANR Publication 74130 [Download PDF](#)

Author: C. A. Willen, UC Statewide IPM Program, San Diego County
Produced by IPM Education and Publications, University of California Statewide IPM Program

PDF: To display a PDF document, you may need to use a [PDF reader](#).

The Weed Gallery describes weed characteristics, distribution and provides management information.



Weeds

Weed ID Resources

Weed Research and Information Center , WRIC

Weed Identification & Management

Home

Weed ID Tool

Weed Selector Tool

Weed Identification Tool Search location: California

Step 1: Select the type of weed you are trying to identify. You may change your choice of weed type, or restart the ID process at any time.

broadleaf
▼
go to step 2

restart ID process

BROADLEAF: These herbaceous (non-woody) plants typically produce noticeable flowers. Leaves are often broad with netted veins, but they may also be narrow and veinless.

GRASSLIKE: These herbaceous (non-woody) plants lack noticeable flowers. The leaves are ribbon-like with parallel veins, and are often tightly rolled.

WOODY: Trees, shrubs, and sub-shrubs with obvious woody stems that persist year after year.

WRIC asks you to answer questions and finds plants in its database that match.

What if I don't understand what you are asking for? If you don't understand a word, click the HELP button located next to the question you are answering. This will provide explanations of the terms with pictures.

Where was the weed found?

Agriculture field: no selection ▼

natural and grazed areas (non-crop): no selection ▼

Urban: no selection ▼

General characteristics

Growth Form: no selection ▼ ?

Life Cycle: no selection ▼

Tendrils: no selection ▼

Produces milky sap: no selection ▼ ?

Leaf characteristics

Leaf arrangement: no selection ▼

If leaf is simple: no selection ▼ ?

If leaf is compound: no selection ▼ ?

Leaf margin: no selection ▼ ?

Petioles: no selection ▼ ?

Leaf hairs: no selection ▼

Spines/thorns/prickles: no selection ▼

Leaf venation: no selection ▼

Stem characteristics

Stems square: no selection ▼ ?

Leaves on flowering stems: no selection ▼ ?

Spines/thorns/prickles: no selection ▼

Floral characteristics





Flower color: no selection ▼

Flower symmetry: no selection ▼ ?

Spines/thorns/prickles: no selection ▼

search database

Your database search has yielded 6 possible matches found in (CA)

Scientific Name	Common Name	Pictures
Epilobium brachycarpum	panicle or tall annual willowherb; Epilobium paniculatum	
Galium aparine	catchweed bedstraw	
Galium divaricatum	Lamarck's bedstraw	
Galium murale	tiny bedstraw	



Weeds

The Weed Scavenger Hunt

The public is asked to look around the Las Flores building and parking lot for colored flags which mark the presence of a weed. The public will try to match the weed with the correct name. After 15-20 minutes the group will be asked to reconvene and go over the answers. General control methods will be discussed.



Weeds

Let's explore the PlantRight Website, <https://plantright.org>

PlantRight works with California's nursery industry to keep invasive plants off our landscapes and to promote the sale of exclusively non-invasive alternatives.

- Priority List of Invasive plants for 2022
- The Plants to Watch List
- Success Stories of Weeds No Longer Sold
- Sign up for The 2022 Spring Survey to participate



Weeds

Weeds of Tomorrow **May already be at the nurseries**

- **Educate yourself** on those plants who pose the highest risk of escaping into our agricultural or wild lands.
- **Educate others.**
- **Advocate for the banning** of these plants.

Additional information links:

UC integrated pest management definition/description:

<https://www2.ipm.ucanr.edu/What-is-IPM/>

UC IPM

Weed Research and Information Center

<https://wric.ucdavis.edu/>

Weed Photo Gallery

http://ipm.ucanr.edu/PMG/weeds_intro.html

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