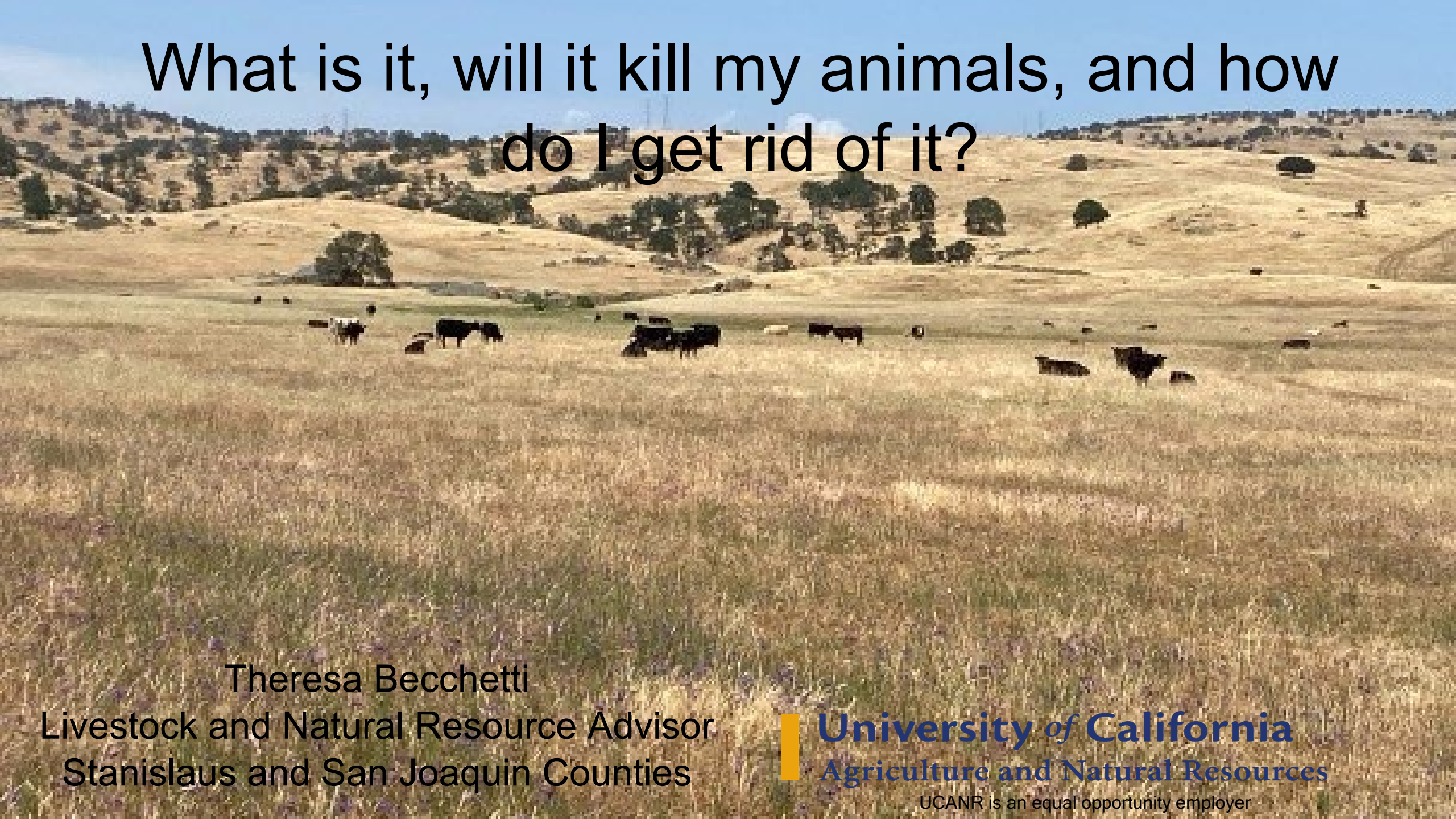
What is it, will it kill my animals, and how do I get rid of it?



Theresa Becchetti
Livestock and Natural Resource Advisor
Stanislaus and San Joaquin Counties

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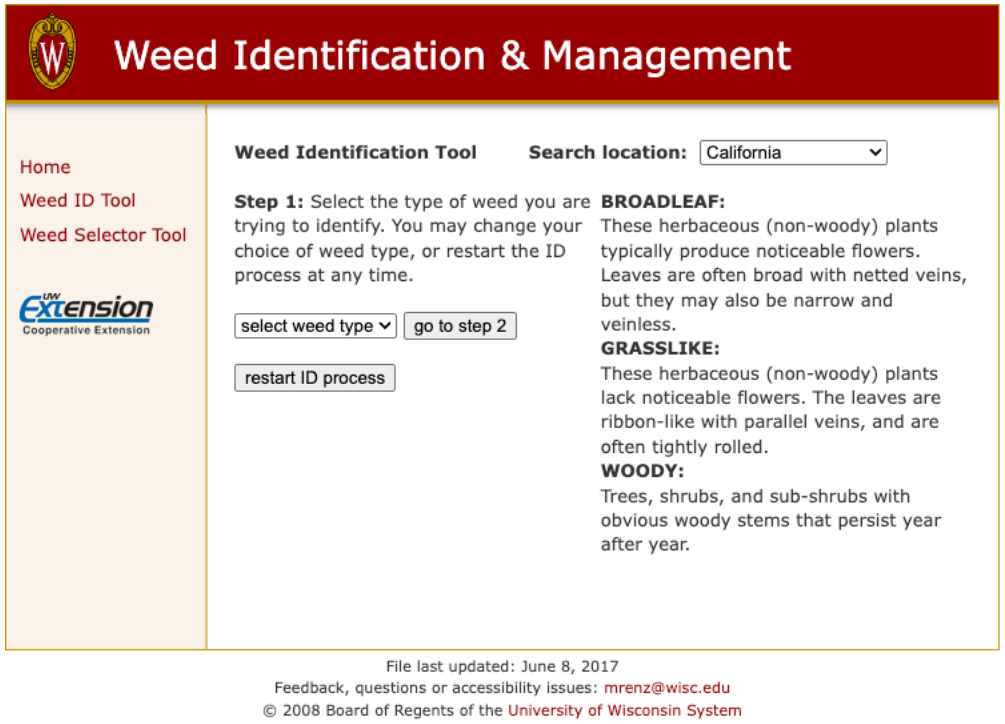
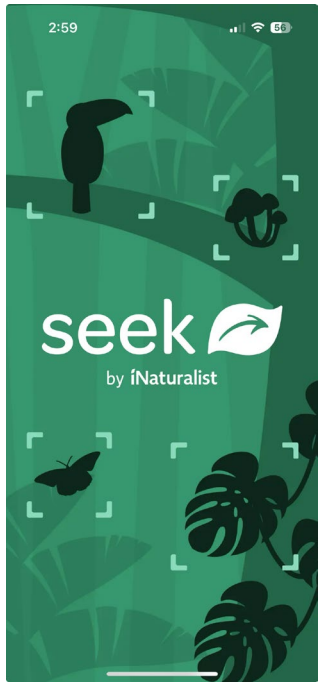
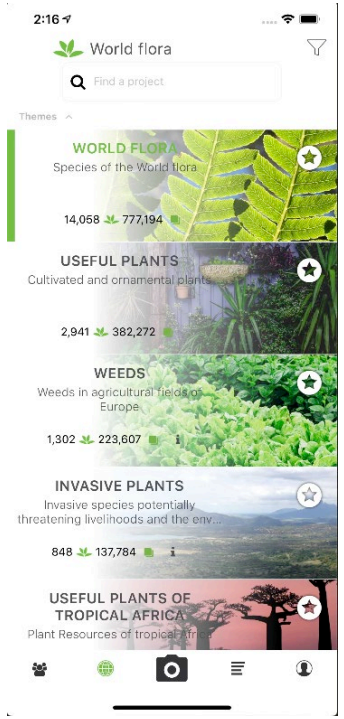
What is it?



https://weedid.wisc.edu/weedid.php



Seek by iNaturalist – Apple or Android



Pl@ntNet- Apple or Android

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What is it?

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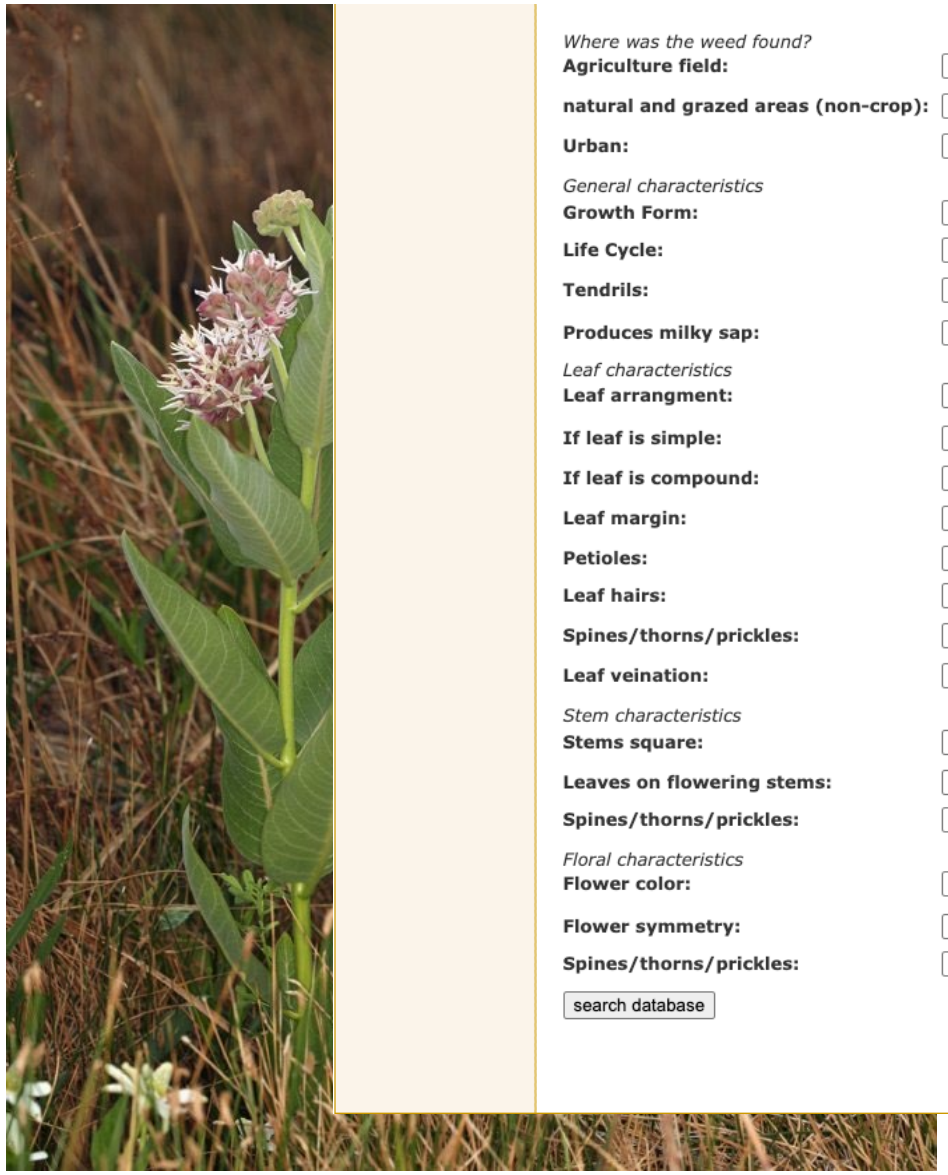
What is it?



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 arrangment: 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 veination: 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

Where was the weed found?

Agriculture field: no selection

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

Urban: no selection

General characteristics

Growth Form: upright

Life Cycle: no selection

Tendrils: no selection

Produces milky sap: present

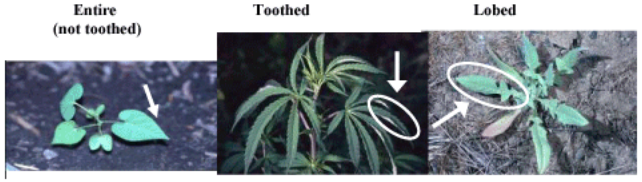
Leaf characteristics

Leaf arrangment: no selection

If leaf is simple: not lobed

If leaf is compound: no selection

Leaf margin: entire (not toothed)



Petioles: no selection

Leaf hairs: no selection

Spines/thorns/prickles: no selection

Leaf veination: pinnate

Stem characteristics

Stems square: no selection

Leaves on flowering stems: no selection

Spines/thorns/prickles: no selection

Floral characteristics

Flower color: no selection

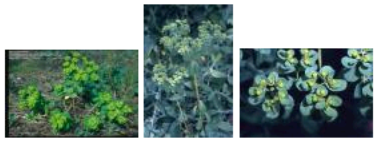
Flower symmetry: no selection

Spines/thorns/prickles: no selection

search database

What is it?

Your database search has yielded 20 possible matches found in (CA)

Scientific Name	Common Name	Pictures
Asclepias fascicularis	Mexican whorled milkweed	
Cichorium intybus	chicory	
Crepis capillaris	smooth hawksbeard	
Euphorbia helioscopia	sun spurge	

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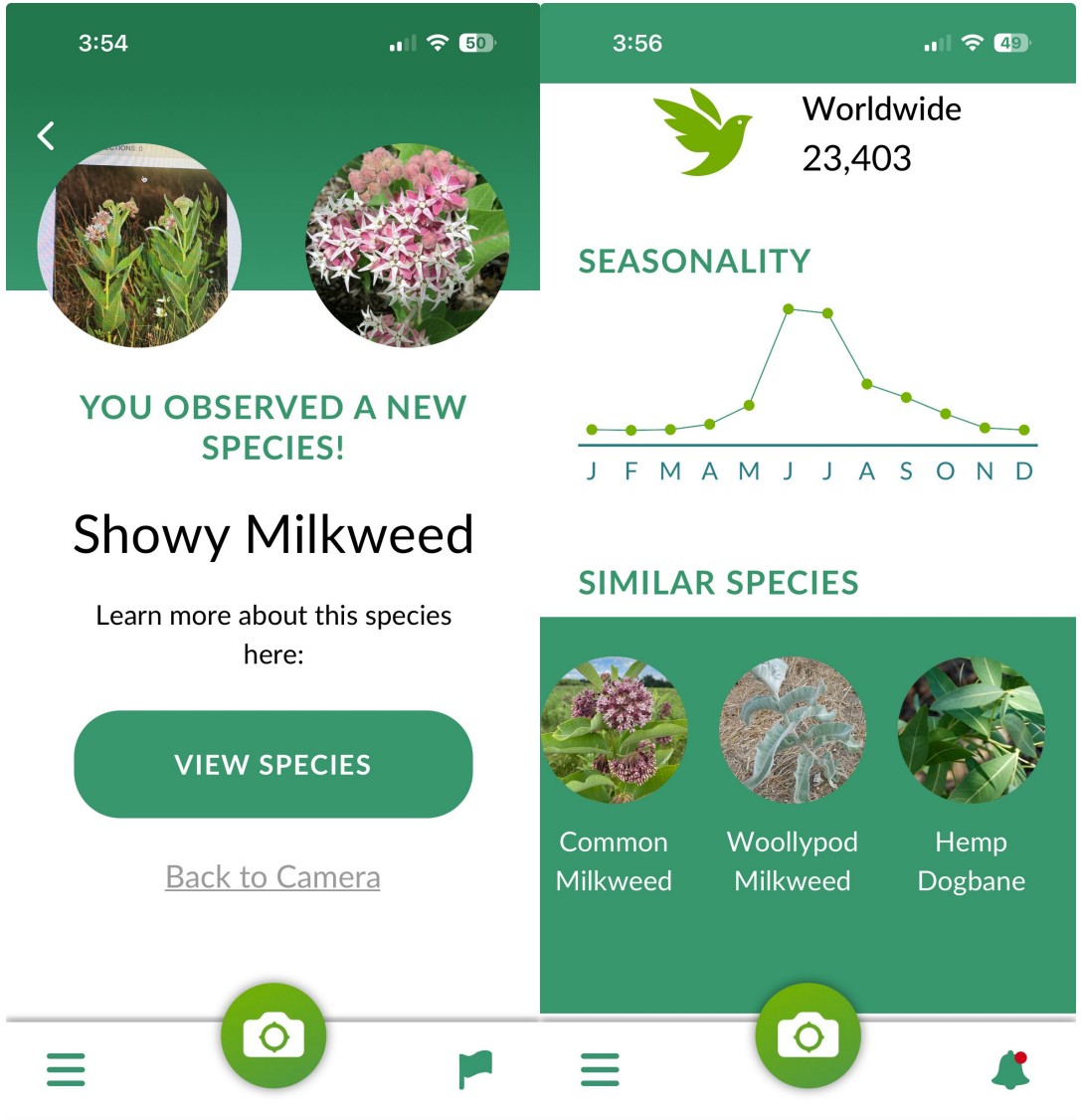
What is it?


3:54
50
YOU OBSERVED A NEW SPECIES!
Showy Milkweed
Learn more about this species here:
VIEW SPECIES
Back to Camera
3:56
49
Worldwide
23,403
SEASONALITY
J F M A M J J A S O N D
SIMILAR SPECIES
Common Milkweed
Woollypod Milkweed
Hemp Dogbane

What is it?

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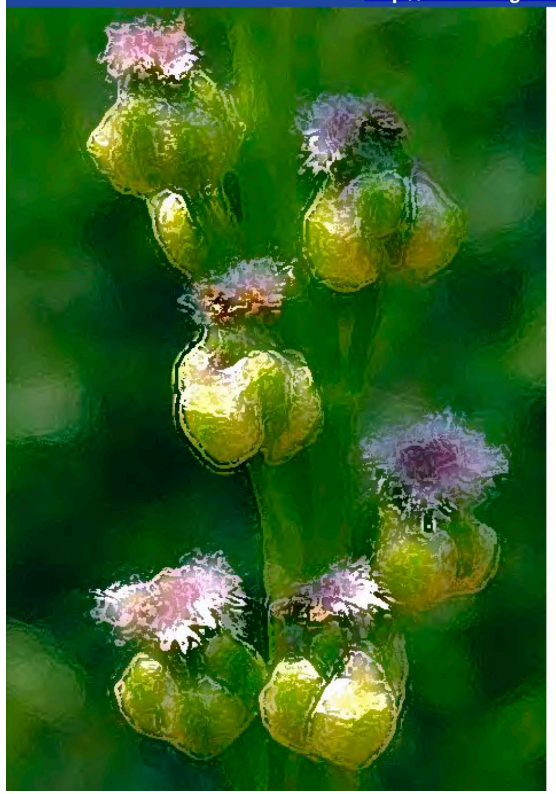
Will it kill my animals?

Making a Difference for California | University of California Agriculture and Natural Resources | UC PEER REVIEWED
http://anrcatalog.ucdavis.edu | Publication 8398 | January 2011



Livestock-Poisoning Plants of California

LARRY FORERO, University of California Cooperative Extension Livestock Advisor, Shasta and Trinity Counties; **GLENN NADER**, University of California Cooperative Extension Livestock and Natural Resources Advisor, Sutter-Yuba and Butte Counties; **ARTHUR CRAIGMILL**, University of California Cooperative Extension Environmental Toxicology Specialist, Sierra Foothill Research and Extension Center; **JOSEPH M. DITOMASO**, University of California Cooperative Extension Weed Specialist, Department of Plant Sciences, UC Davis; **BIRGIT PUSCHNER**, Professor of Veterinary Toxicology, California Animal Health and Food Safety Laboratory; and **JOHN MAAS**, University of California Cooperative Extension Veterinarian, School of Veterinary Medicine, UC Davis.

Poisonous plants cause significant losses of livestock every year. A successful livestock operator must know which poisonous plants occur on a given range or pasture and how they can be controlled or avoided. This publication shows which plants are poisonous, tells how they affect stock, and suggests ways to reduce losses from poisoning.

Undesirable effects may result from a single ingestion of a large amount of a poisonous plant, but with few exceptions, livestock will not eat poisonous plants unless forced to by hunger. The single most important way to prevent poisoning is to use proper range and pasture management practices to provide ample forage, encouraging consumption of nontoxic plants. Areas infested with poisonous plants should be avoided when trailing, holding, or unloading animals. Supplemental feed may protect stock if these conditions cannot be avoided, but

https://anrcatalog.ucanr.edu/pdf/8398.pdf

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Will it kill my animals?

Will it kill mv animals?

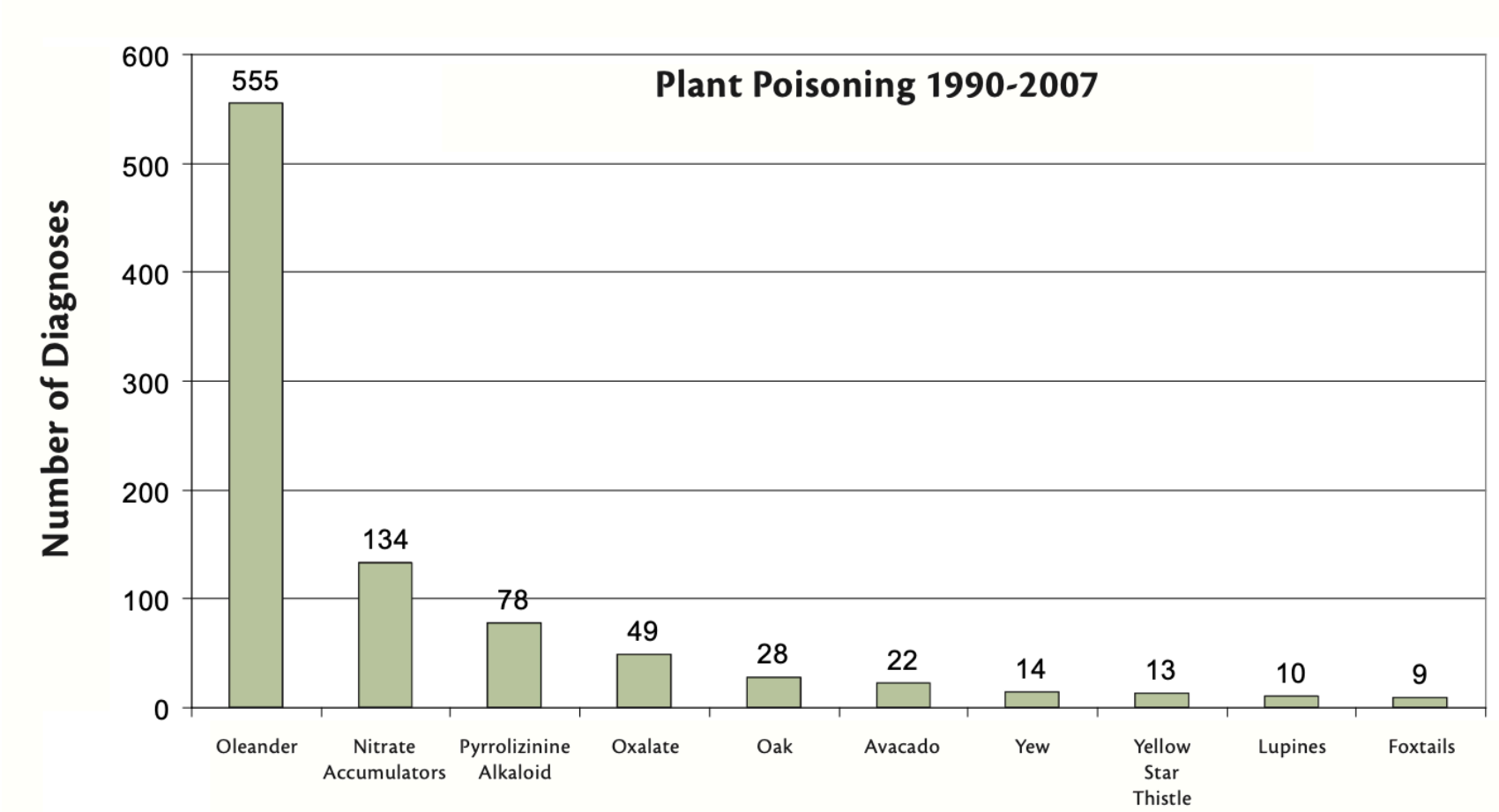

Figure 1. Sources of plant poisoning in livestock, 1990–2007. *Source:* CAHFS.

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Will it kill my animals?

Table 2. Most commonly diagnosed plant poisonings for selected livestock, in descending order of occurrence

Cattle	Sheep	Horses	Goats
oleander	oleander	oleander	avocado
nitrate/nitrite*	oxalate‡	pyrrolizidine alkaloids†	nitrate/nitrite
oxalate	nitrate/nitrite	yellow starthistle	oxalate
pyrrolizidine alkaloids	lupine	dogbane	lupine
oak	perennial ryegrass	foxtail	oleander

Source: CAHFS.

Notes:

*Nitrate/nitrite: Present in johnsongrass *(Sorghum halapense)* and sudangrass (*S.bicolor*); oat hay and other grass hays; lambsquarters and goosefoot (*Chenopodium* spp.); and pigweed (*Amaranthus* spp.).

†Pyrrolizidine alkaloids: Present in fiddleneck (*Amsinckia* spp.), tansy ragwort *(Senecio jacobaea)*, and groundsel (*Senecio* spp.).

‡Oxalate: Present in greasewood *(Sarcobatus vermiculatus)*; sorrel (*Oxalis* spp.); dock (*Rumex* spp.); pigweed (*Amaranthus* spp.); and lambsquarter and goosefoot (*Chenopodium* spp.).

Will it kill my animals?

Milkweed common name	***Asclepias* species name**	**Estimated toxic dosage for sheep, cattle, and horses**
antelope horns	*A. asperula*	>1% bw
broadleaf	*A. latifolia*	0.2–0.4% bw
Indian	*A. eriocarpa*	0.2% bw
narrow-leaved	*A. fascicularis*	0.5–1% bw
showy	*A. speciosa*	1–2% bw

Source: Adapted from Burrows and Tyrl 2001.
Notes:
bw = body weight
dm = dry matter

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MAKE A GIFT

Poison Hemlock

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Published 1/13

In this Guideline:

- Identification
- Biology
- Impact
- Management
- About Pest Notes
- Publication
- Glossary

Poison hemlock, *Conium maculatum*, is a member of the plan
as carrots, celery, and parsnip, and herbs such as parsley, cila
poisonous weed that is sometimes mistaken for one of its cro

Poison hemlock was introduced from Europe as an ornamenta
western United States and is commonly found at lower elevat
banks, creek beds, and fence lines, as well as on the edges o
woodlands, floodplains of natural aquatic systems, and grazin
competitive where moisture is abundant, it can also survive ir
be found on the Cal-IPC Cal WeedMapper Web site.

IDENTIFICATION

Poison hemlock's growth form changes during its developmen
leaves to emerge (seed leaves, or cotyledons) are simple, tap
veined undersurface. The first true leaves are smooth, pale g
sides of a main stalk.

During the first year, growth is usually limited to a large roset
the base, and divided several times along the main stalk of th
hemlock lacks hairs on its leaves and stems.

During the spring of its second year, the plant develops branc
stems are hollow (except at the nodes), typically grow to 6 fe
distinctively mottled with purple spots. Green stems and leav
white taproot is long and sometimes branched.

Plants bloom from spring until summer in the second year of
convex shapes on the end of stalks. The plant typically dies a

BIOLOGY

Poison hemlock is a herbaceous plant that reproduces solely b
production, the plant doesn't have a well-developed mechanis
spread some seeds, most simply drop close to the parent plar
dispersed over a considerable time period, beginning in July a

ipm.ucanr.edu

MANAGEMENT

Most management strategies are designed to reduce the incidence of poisoning in livestock. When poison hemlock infestations are present, injury can be minimized by preventing grazing in areas where the plant is the only available forage or by removing pregnant livestock from infested areas at the most susceptible period of the animal's gestation.

It is important to prevent a small-scale infestation of poison hemlock from becoming a more significant problem. This can be accomplished by periodically inspecting the area for newly established plants. Once identified, remove individual plants by hand pulling, hoeing, or spot application of an herbicide. Wear gloves to minimize direct contact with the toxic sap. It is essential to prevent isolated plants or a small cluster of plants from producing seed. Don't burn plants or plant debris, because burning may release toxins into the air. Use certified weed-free hay in order to prevent poisoning livestock.

Mechanical Control

Hand removal is recommended for small infestations. When pulling the plants, the entire taproot should be removed to prevent regrowth. However, care must be taken with manual control to minimize soil disturbance that can encourage further germination of seeds at infested sites. Solid carpets of hemlock seedlings aren't uncommon following soil disturbance. Plowing or repeated cultivation of newly germinated plants will prevent poison hemlock establishment. In areas where cultivation isn't practical or possible, repeated mowing once the plants have bolted but before they have flowered can reduce further seed production. Routine mowing reduces poison hemlock's competitive ability, depletes its energy reserves in the taproot, and prevents seed production. Close mowing has the additional advantage of reducing the amount of toxic leaf material available for livestock grazing.

Biological Control

The European palearctic moth *Agonopterix alstroemeriana* is the main herbivore feeding on poison hemlock. This moth was probably introduced by accident, and poison hemlock is considered its only known host plant. The larvae live in conspicuous leaf rolls and feed on foliage, buds, and flowers in spring and early summer. The adult moths emerge in summer and can be found from June until March of the following year. Despite its widespread occurrence, the moth hasn't been shown to be an effective control agent for most infestations of poison hemlock.

Chemical Control

Although several herbicides are available for controlling poison hemlock, herbicides should be used only on seedlings or small rosettes and not on fully mature plants. In addition, it is best to handpull individual plants or small infestations, which are typical of gardens and landscapes. Herbicides such as 2,4-D, triclopyr, and glyphosate, available to both residential users and small noncommercial operations, may be a more effective option with larger infestations. In California, herbicides such as chlorsulfuron, hexazinone, and imazapyr are available to licensed applicators.

The broadleaf selective herbicide 2,4-D is most effective when applied soon after plants reach the rosette stage. Both the amine and ester formulations of 2,4-D are effective. Using 2,4-D may make poison hemlock more attractive to livestock but doesn't change its toxicity, so some caution must be exercised if using 2,4-D in grazed pastureland or in silage production.

Like 2,4-D, triclopyr is also a broadleaf selective herbicide that is most effective on smaller plants. It doesn't kill most grasses. Apply it during the seedling to rosette stage of growth.

Glyphosate is nonselective, so exercise caution to minimize injury or mortality of desirable plants that might help suppress new poison hemlock seedlings. Apply to actively growing plants before they begin to bolt. Cooler temperatures can reduce the effectiveness of glyphosate.

Chlorsulfuron is somewhat selective against broadleaf weeds and not only gives excellent preemergent control but can also provide some postemergent foliar activity on poison hemlock. Desirable grasses should be well established before application. Apply chlorsulfuron to actively growing poison hemlock plants in the rosette stage. Other preemergent photosynthetic inhibitors, such as hexazinone, give excellent control of poison hemlock. In alfalfa, herbicides should be applied when the forage crop is dormant.

Treating poison hemlock with herbicides may require repeated applications for a couple of years until the seedbank has been significantly depleted. Once the weed is under control, maintaining desirable forage species with proper pasture management, fertilization, irrigation, and drainage can effectively help prevent reinfestations.

WARNING ON THE USE OF PESTICIDES

REFERENCES

Burroughs, G. E., and R. Pyrl. 2001. *Toxic Plants of North America*. Ames, Iowa: Iowa State Univ. Press.

DiTomaso, J. M., and E. A. Healy. 2007. *Weeds of California and Other Western States*. Oakland: Univ. Calif. Agric Nat. Res. Publ. 3488.

PUBLICATION INFORMATION

How do I get rid of it?

https://wric.ucdavis.edu/

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How do I get rid of it?

Weed Research & Information Center

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Herbicides available for homeowners
Weed control material available for homeowners

Weed ID tool

Biology and management

Pest Notes are the University of California's official guidelines for pest monitoring techniques, pesticides, and nonpesticide alternatives for managing pests in homes and landscapes.

» Annual bluegrass
» Barb goatgrass
» Bermuda buttercup
» Bermudagrass
» Blackberries, wild
» Broomrape :: flyer
» Broomrape :: handout
» Brooms :: Getting a Handle on Broom
» Brooms :: Pest Notes
» Burning nettle
» Cape ivy :: distribution, growth analysis, and reproductive biology
» Catchweed bedstraw
» Chickweeds
» Clovers
» Crabgrass
» Creeping field cress
» Creeping woodsorrel
» Dallisgrass
» Dandelions
» Dodder
» Dyer's woad
» Field bindweed
» Goatsrue
» Green kyllinga
» Groundsel, common
» Hairy fleabane
» Horseweed
» Johnsongrass :: biology and management
» Johnsongrass :: distinguishing johnsongrass and young summer grass weeds
» Jointed goatgrass :: biology and ecology
» Jointed goatgrass :: why is it a noxious weed
» Jubatagrass :: brochure
» Jubatagrass :: Pest Notes
» Kikuyugrass
» Knotweed, common
» Leafy spurge
» Mallows
» Medusahead :: control with intensive grazing
» Medusahead :: management guide
» Medusahead :: state of the weed handout
» Medusahead :: state of the weed presentation
» Mistletoe
» Nutsedge :: Pest Notes
» Nutsedge :: video
» Pampasgrass :: brochure
» Pampasgrass :: invasive plants
» Pampasgrass :: woody weed invaders
» Perennial pepperweed :: biology, ecology and control
» Perennial pepperweed :: brochure
» Perennial pepperweed :: Pest Notes
» Plantains
» Poison hemlock
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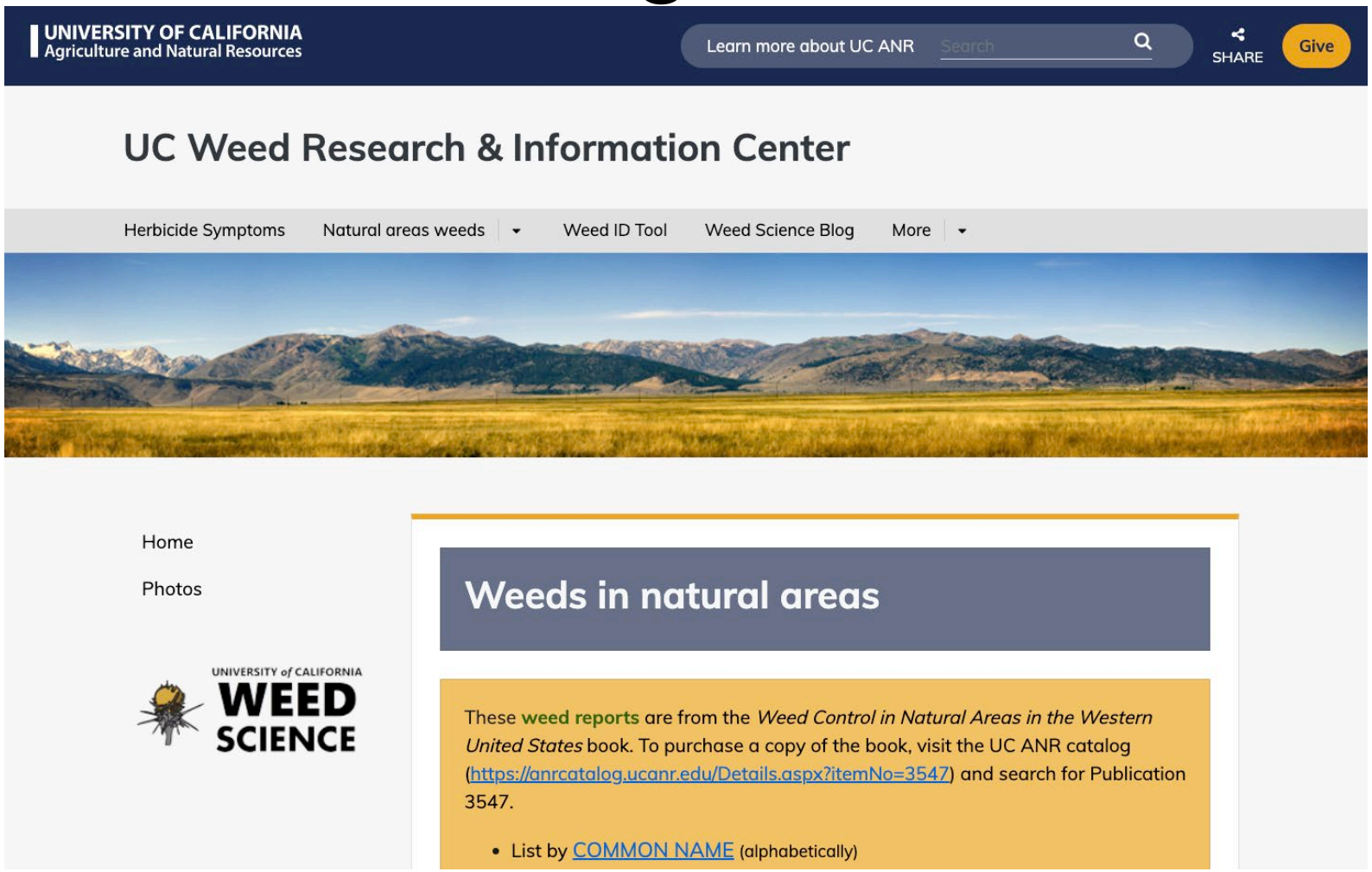

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Scotch broom	*Cytisus scoparius*	Fabaceae
Scotch thistle	*Onopordum acanthium*	Asteraceae
Scouringrushes	*Equisetum* spp.	Equisetaceae
Sea rocket	*Cakile maritima*	Brassicaceae
Seashore vervain	*Verbena litoralis*	Verbenaceae
Sheep sorrel	*Rumex acetosella*	Polygonaceae
Shepherd's-purse	*Capsella bursa-pastoris*	Brassicaceae
Shortpod mustard	*Hirschfeldia incana*	Brassicaceae
Showy milkweed	*Asclepias speciosa*	Asclepiadaceae
Siberian elm	*Ulmus pumila*	Ulmaceae
Silverleaf nightshade	*Solanum elaeagnifolium*	Solanaceae
Slender false-brome	*Brachypodium sylvaticum*	Poaceae
Slender oat	*Avena barbata*	Poaceae
Slenderflower thistle	*Carduus tenuiflorus*	Asteraceae
Smilograss	*Piptatherum miliaceum*	Poaceae

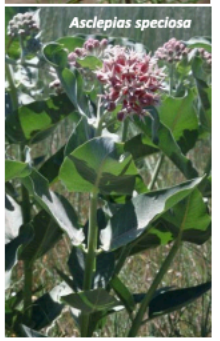
A **WEED REPORT** from the book *Weed Control in Natural Areas in the Western United States*

This WEED REPORT does not constitute a formal recommendation. When using herbicides always read the label, and when in doubt consult your farm advisor or county agent.

This WEED REPORT is an excerpt from the book *Weed Control in Natural Areas in the Western United States* and is available wholesale through the UC Weed Research & Information Center (wric.ucdavis.edu) or retail through the Western Society of Weed Science (wsweedscience.org) or the California Invasive Species Council (cal-ipc.org).

Asclepias fascicularis Decne.; Mexican whorled milkweed
Asclepias speciosa Torr.; showy milkweed

Mexican whorled and showy milkweeds



Family: Asclepiadaceae
Range: Mexican whorled milkweed is widespread throughout much of the western United States, including Washington, Oregon, Idaho, California, Nevada and Utah. Showy milkweed is found in all western states from Texas north to British Columbia.
Habitat: Roadsides, ditchbanks, pastures, and cultivated fields. Typically found in areas that remain moist through much of the summer, such as moist prairies and flood plains. They can grow in all soil textures from sea level to 7000 ft elevation.
Origin: Both species are native to North America.
Impact: Milkweeds are most problematic in pastures and range because in addition to being distasteful to livestock, the entire plant can be toxic to sheep, cattle, horses and domestic fowl. The toxic compound is considered to be cardenolide (cardiac glycosides). Typically, milkweeds are only eaten when forage is limited. In natural areas native milkweeds may be considered desirable plants, an important component of the plant community. The larvae of monarch butterflies feed solely on milkweed species.

Mexican whorled milkweed and showy milkweed are erect perennial forbs that grow up to approximately 3 to 4 ft in height. Their sap is a milky white latex. Mexican whorled milkweed has lanceolate leaves around 6 inches long and 0.75 inch wide. The leaves are arranged in whorls of 3 to 6 and are glabrous or covered with minute hairs. In addition, the leaves are often folded upwards along the midvein. Showy milkweed has oval to oblong-shaped opposite leaves covered with soft wholly hairs. The leaves are 4 to 7 inches long on short stalks.

Milkweeds reproduce by seed and underground roots, although the primary means of spread is by seed. They have an umbel-like inflorescence. Mexican whorled milkweed flowers are pale pink, purple or greenish-white. The flowers have 5 sepals and stamens. The petals are 5-lobed, reflexed downward, and 4 to 5 mm long. Showy milkweed has rose-purple colored petals with hairy backs and pinkish hoods that fade to yellowish.

Mexican whorled milkweed has narrow seed pods that are 2 to 3 inches long and smooth. The seeds are light brown, oblong, flattened, and 3 to 8 mm long with a tuft of deciduous silky hairs approximately 1 inch long. Showy milkweed pods are 3 to 5 inches long and densely covered with woolly hairs. At maturity the seed pods burst and while most seeds fall close to the parent plant, some can disperse greater distances in the wind. It is not known how long the seeds survive in the soil, but it is expected that it would be several years.

NON-CHEMICAL CONTROL

Mechanical (pulling,	Hand pulling is a viable method if the population size is very small.

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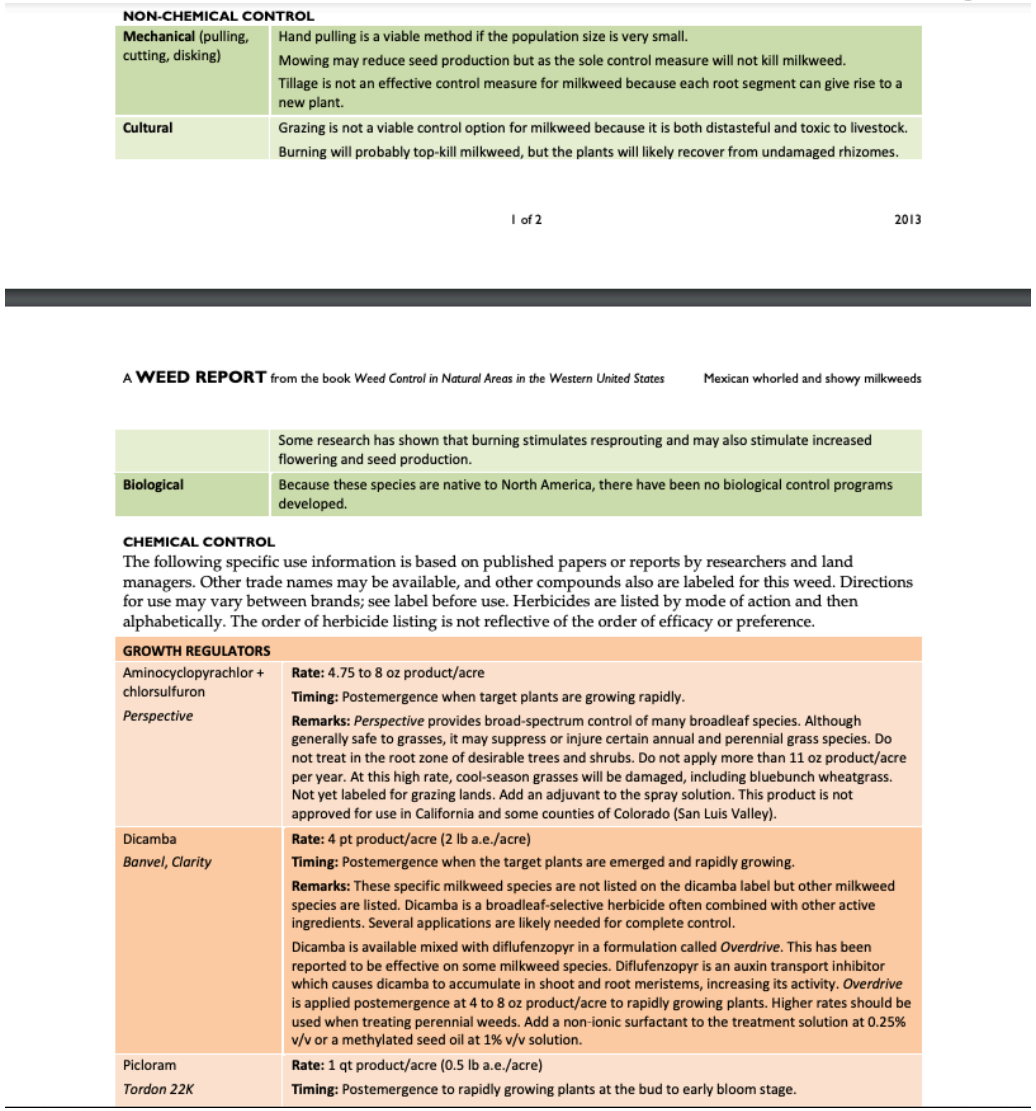

NON-CHEMICAL CONTROL

Mechanical (pulling, cutting, disking)	Hand pulling is a viable method if the population size is very small. Mowing may reduce seed production but as the sole control measure will not kill milkweed. Tillage is not an effective control measure for milkweed because each root segment can give rise to a new plant.
Cultural	Grazing is not a viable control option for milkweed because it is both distasteful and toxic to livestock. Burning will probably top-kill milkweed, but the plants will likely recover from undamaged rhizomes.

1 of 2 2013

A **WEED REPORT** from the book *Weed Control in Natural Areas in the Western United States* Mexican whorled and showy milkweeds

	Some research has shown that burning stimulates resprouting and may also stimulate increased flowering and seed production.
Biological	Because these species are native to North America, there have been no biological control programs developed.

CHEMICAL CONTROL

The following specific use information is based on published papers or reports by researchers and land managers. Other trade names may be available, and other compounds also are labeled for this weed. Directions for use may vary between brands; see label before use. Herbicides are listed by mode of action and then alphabetically. The order of herbicide listing is not reflective of the order of efficacy or preference.

GROWTH REGULATORS	
Aminocyclopyrachlor + chlorsulfuron *Perspective*	**Rate:** 4.75 to 8 oz product/acre **Timing:** Postemergence when target plants are growing rapidly. **Remarks:** *Perspective* provides broad-spectrum control of many broadleaf species. Although generally safe to grasses, it may suppress or injure certain annual and perennial grass species. Do not treat in the root zone of desirable trees and shrubs. Do not apply more than 11 oz product/acre per year. At this high rate, cool-season grasses will be damaged, including bluebunch wheatgrass. Not yet labeled for grazing lands. Add an adjuvant to the spray solution. This product is not approved for use in California and some counties of Colorado (San Luis Valley).
Dicamba *Banvel, Clarity*	**Rate:** 4 pt product/acre (2 lb a.e./acre) **Timing:** Postemergence when the target plants are emerged and rapidly growing. **Remarks:** These specific milkweed species are not listed on the dicamba label but other milkweed species are listed. Dicamba is a broadleaf-selective herbicide often combined with other active ingredients. Several applications are likely needed for complete control. Dicamba is available mixed with diflufenzopyr in a formulation called *Overdrive*. This has been reported to be effective on some milkweed species. Diflufenzopyr is an auxin transport inhibitor which causes dicamba to accumulate in shoot and root meristems, increasing its activity. *Overdrive* is applied postemergence at 4 to 8 oz product/acre to rapidly growing plants. Higher rates should be used when treating perennial weeds. Add a non-ionic surfactant to the treatment solution at 0.25% v/v or a methylated seed oil at 1% v/v solution.
Picloram *Tordon 22K*	**Rate:** 1 qt product/acre (0.5 lb a.e./acre) **Timing:** Postemergence to rapidly growing plants at the bud to early bloom stage.

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What is it, will it kill my animals and how do I get rid of it?

- More resources will evolve but your UCCE Livestock Advisors will be here to help!

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