Alfalfa Field Day
UC Davis

May 11, 2017

Common Toxic Plants in our Region

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Plants on Display

1. Oleander
2. Common groundsel
3. Fiddleneck
4. Lupine
5. Yellow Star Thistle
6. Foxtail barley
7. Bristlegrass
8. Sowthistle (non-toxic)

Resources:

- Livestock Poisoning Plants of California. DANR. Publication 800 (available online) http://alfalfa.ucdavis.edu/-files/pdf/LivestockPoisoningPlantsNov2010.pdf
- A Guide to Plant Poisoning of Animals in North America by Anthony Knight and Richard Walter

Nerium oleander– Oleander

10 – 20 leaves can kill a cow or a horse

All parts of the plant are toxic whether fresh or dried. Even the fumes if burned are toxic!

Characteristics:

- Perennial, evergreen shrub
- Leaves are simple in whorls of 3 or 4, lanceolate, sharply pointed. Leaves are dark green above and pale green below with prominent midrib and secondary, parallel veins.
- Inflorescences are dense compound cymes with showy white, pink or red flowers.
- Fruit pods are elongated with many seeds.

Poisonous Parts: all parts
Toxicity: ~ 10 leaves can kill a cow or horse
Toxin: cardiac glycosides, e.g. oleandrin
Species Affected: all animal species and humans
Target organs: cardiovascular, digestive
MOTA: Inhibition of Na/K-ATPase
Treatment: GI decontamination, treat cardiac abnormalities

Senecio vulgaris– Common groundsel

More than 100 species of Senecio are known to be poisonous. Found worldwide

Senecio vulgaris is most common west of the Cascade Mountains. It is a noxious weed in many crops, including forages, cereals, berries, and vegetable gardens. Senecio vulgaris grows wild in fields and along roadsides in temperate and subtropical climates.

Characteristics: DIFFICULT TO IDENTIFY!

- Erect, 10 – 30 cm tall, typically branching plant
- Leaves simple, alternate, lanceolate, deeply pinnately lobed
- Composite flower heads in terminal corymbs (flattened terminal clusters) with showy, yellow flowers
- Presence of a single layer of touching, but not overlapping, greenish bracts surrounding the flower
- Common plant to be confused with: Sowthistle (non-toxic)

Poisonous Parts: all parts of the plant, especially the flowers
Toxin: pyrrolizidine alkaloids
Species Affected: cattle, horses >>> sheep, goats
Target Organs: Liver and secondary skin
MOTA: toxic pyrroles result in hepatic damage
Clinical Signs: related to liver disease, photosensitization
Treatment: often useless! Supportive care

Amsinckia intermedia – Fiddleneck

Weed in dry cultivated soils and waste grounds

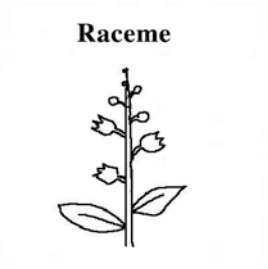
Mainly in the Western US, but continues to spread eastward

Characteristics:

- Erect, sparsely branching annual weed covered with numerous white hairs
- Leaves are hairy, lanceolate and alternate
- Small orange to yellow flowers are terminally on a characteristic fiddleneck-shaped raceme
- Flowers are all on one side of the axis

Poisonous Parts: all parts of the plant, especially the flowers
Toxin: pyrrolizidine alkaloids
Species Affected: cattle, horses >>> sheep, goats
Target Organs: Liver and secondary skin
MOTA: toxic pyrroles result in hepatic damage
Clinical Signs: related to liver disease, photosensitization
Treatment: often useless! Supportive care

Lupinus spp. – Lupine



Characteristics:

- Up to 3 ft tall, perennial
- Alternate, palmately compound leaves, each 5 - 17 leaflets
- Flowers arranged along the main axis (raceme), compact white, blue-purple, red or yellow pea-shaped flowers
- Fruit is a multi-seeded pod (legume family)

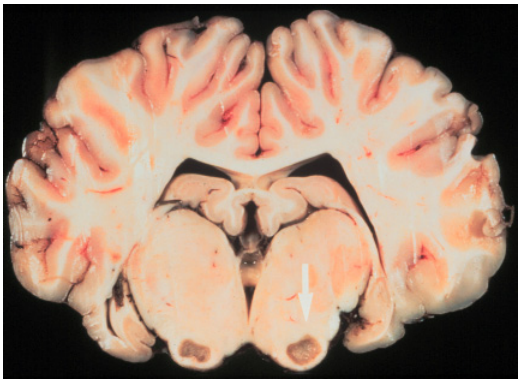
Poisonous Parts: all parts, seeds most toxic
Toxin: alkaloids
Toxicity: dried and fresh toxic
Species Affected: livestock
Target Organs: teratogenic (crooked calf), acute fatal neurologic disease (primarily in sheep; rarely in cattle and horses)
MOTA: alkaloids act on autonomic nervous system
Clinical Signs: if exposure in 1st trimester - deformed legs, cleft palate; tremors, sudden death in sheep (rare)
Diagnosis: clinical signs, pasture observation (eaten plants), lupine alkaloids in GI contents, urine, and plant material
Treatment: none

Centaurea solstitialis – Yellow Star Thistle

Characteristics:

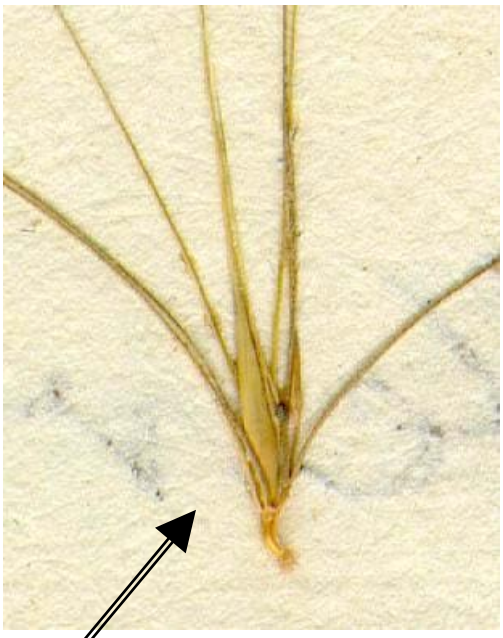
- Annual weed up to 12”
- Leaves with cottony hair
- Basal leaves are deeply lobed
- Stem leaves are linear
- Yellow ray flowers
- Bracts have long yellow spines

Poisonous Parts: all parts, fresh and dried plant is toxic
Toxin: lactones (neurotoxins)
Toxicity: large quantity (own body weight) over 1-2 months
Species Affected: horses
Target Organs: brain (certain regions)
MOTA: toxins destroy dopaminergic neurons (ENE)
Clinical Signs: “chewing disease”, violent head tossing, frequent yawning, weight loss, depression
Diagnosis: clinical signs, YST exposure, post-mortem
Treatment: not effective; irreversible brain damage



Hordeum jubatum – Foxtail Barley

Also known as Foxtail, Skunk grass, Skunktail, Squirreltail, Wild barley



Characteristics:

- Bunch grass 20 -60 cm high
- Inflorescence (seed head) is a dense, unbranched, barley-like spike with finely barbed, long, green or purplish awns that turn yellowish when mature and breaking apart into seed-bearing units
- Each unit has a very sharp point and 7 long awns that are blown by the wind or carried in animal fur and clothing.

Poisonous Parts: No toxin – Mechanical Damage
Toxin: NA
Species Affected: All, but especially dogs
Target organs: skin, throat, ears, nose, others
MOTA: bristles have tiny, forward pointing barbs only slide in one direction → skin irritation, abscesses, infections
Treatment: remove foreign body, general care

Setaria species – Bristly Foxtail

Found in Alfalfa Hay – mainly risk for

Characteristics:

- Bunch type grass up to 4 feet tall
- Leaves are flat, smooth and appear near the base
- Seedhead is a cylindrical bristly panicle, reaching 6 inches in length. It is green, yellow or purple.
- Spikelets are approximately 3 mm long and each spikelet has several bristles. The bristles have barbs.

Poisonous Parts: No toxin – Mechanical Damage
Toxin: NA
Species Affected: All livestock animals, mainly horses
Target organs: oral cavitiy, GI tract
MOTA: barbs on bristles cause irritation of mucous membranes, possibly abscesses, infections and anorexia
Treatment: remove foreign body, general care for abscesses