

Alberta Invasive Plant Identification **GUIDE**

Prohibited Noxious and Noxious



Common Mullein

Credits

Information Credit:

Montana State University Invasive Plant Identification Guide
Alberta Invasive Plant Council
Weeds of Canada
Weeds of the Prairies
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Ontario Ministry of Agriculture and Rural Affairs
A field guide to Invasive Plants of Wisconsin

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Produced by Wheatland County
Contact: 403.934.3321 for more information

Alberta Invasive
Plant Identification
GUIDE



2013

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Legislation

Alberta Weed Control Act

In 2010 a new Weed Control Act was Proclaimed. The new Weed Control Act regulation includes a new schedule of weed designations. Previously there were three weed categories, *restricted weeds*, *noxious weeds* and *nuisance weeds*. These categories were replaced with the new weed designations of *Prohibited Noxious* and *Noxious*.

Prohibited Noxious Weed: means a plant designated in accordance with the regulations as a prohibited noxious weed and includes the plant's seeds. This weed designation can be seen as regulatory support for an "Early Detection, Rapid Response" stage of invasive plant management. Plants in this category are either not currently found in Alberta or are found in few locations such that eradication could be possible. Under the Weed Control Act a person has a responsibility to destroy a prohibited noxious weed.

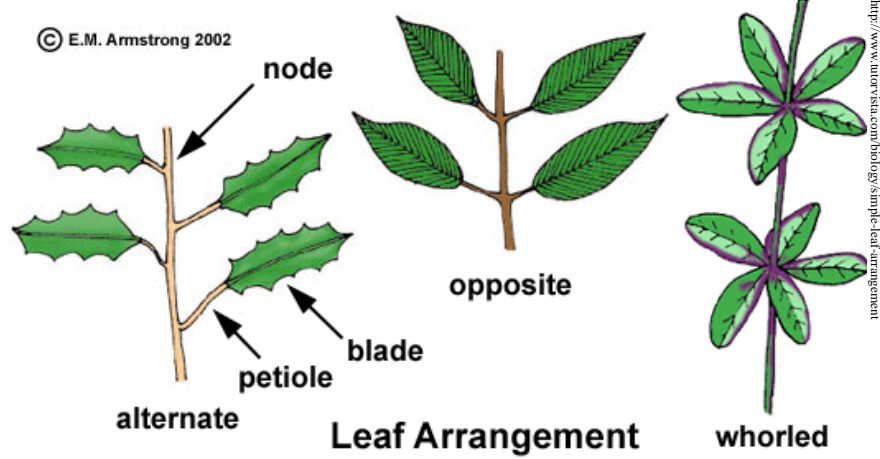
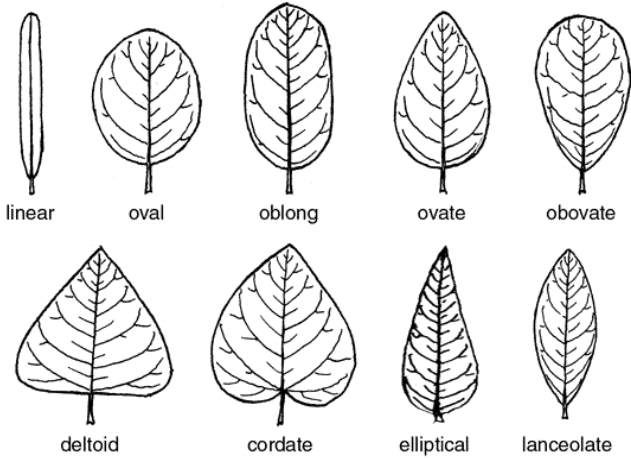
Noxious Weed: means a plant designated in accordance with the regulations as a noxious weed and includes the plant's seeds. This weed designation can be seen as regulatory support for a "containment" stage of invasive plant management. Plants listed in this category are considered to widely distributed to eradicate. A local authority may conduct control programs for these weeds if they feel they may have significant ecological or economic impact on lands within their municipality.

The full Weed Control Act is available on line at the Alberta Queens Printer Website or at: www.agriculture.alberta.ca

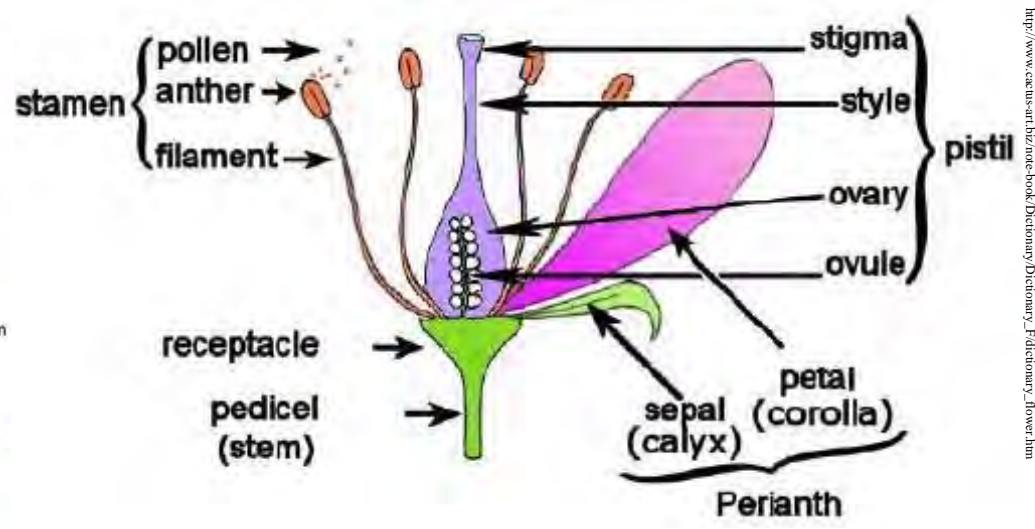
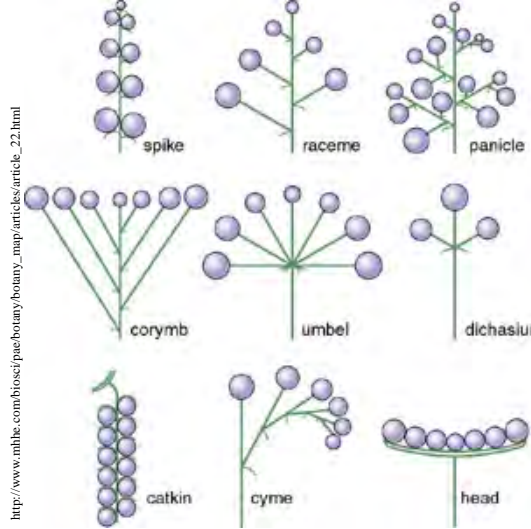
If you have questions or concerns regarding the Alberta Weed Control Act contact:

- The Alberta Ag-Info Centre Phone: 310-FARM or 310-3276 or,
- Your local County or municipal Agricultural Fieldman or Weed Inspector

Identification Tools

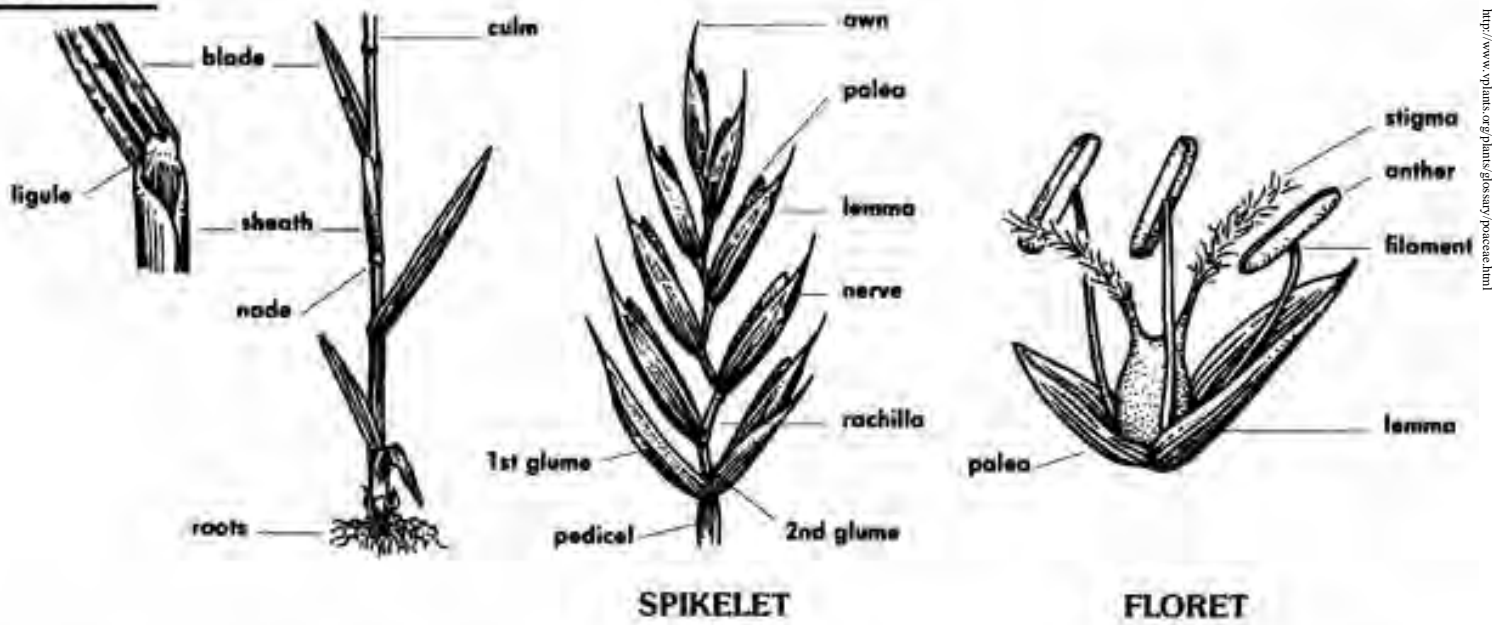


http://www.clemson.edu/extension/natural_resources/landowner/youth_enviro_n_education/terminology.html



From Stern, Introductory Plant Biology, 8th edition, © 2000 McGraw-Hill Companies, Inc.

GRASSES



<http://www.tutorvista.com/biology/simple-leaf-arrangement>

http://www.cca.us-art/biz/note-book/Dictionary/Dictionary_Floristry_Flower.htm

<http://www.plants.org/plants/glossary/flower.htm>

Weed Thumbnails

White Flowers



Scentless
Chamomile
Pg. 60



Hoary Alyssum
Pg. 26



Knotweed
Complex
Pg. 37



Common Baby's
Breath
Pg. 52



White Cockle
Pg. 62



Diffuse Knapweed
Pg. 31



Hoary Cress
Pg. 66



Common
Buckthorn
Pg. 16



Oxeye Daisy



Broad-Leaved
Pepper Grass
Pg. 69



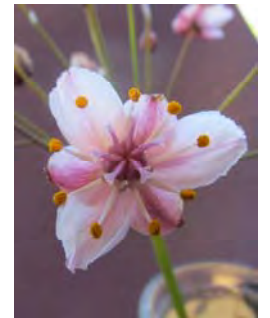
Autumn Olive
Pg. 12



Giant Hogweed
Pg. 27



Garlic Mustard
Pg. 22

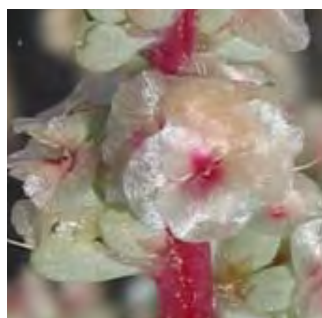


Flowering Rush
Pg. 21

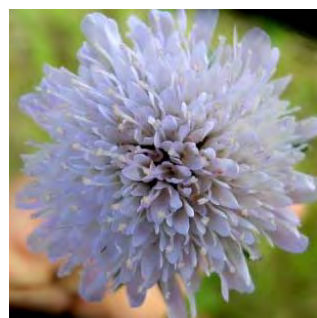
Pink Flowers



Field Bindweed
Pg. 54



Saltlover
Pg. 45



Field Scabious
Pg. 70



Squarrose knapweed
Pg. 35

Weed Thumbnails

Purple Flowers



Purple Loosestrife
Pg. 38



Common Crupina
Pg. 18



Spotted
Knapweed
Pg. 34



Himalayan Balsam
Pg. 13



Plumeless Thistle
Pg. 50



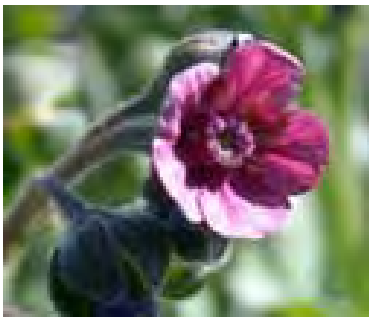
Salt Cedar
Pg. 44



Burdock
Pg. 58



Canada Thistle



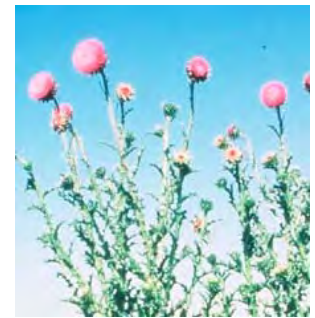
Hounds Tongue
Pg. 67



Dame's Rocket
Pg. 64



Red Bartsia
Pg. 15



Nodding Thistle
Pg. 49



Creeping
Bellflower
Pg. 53



Russian Knapweed
Pg. 33



Marsh Thistle
Pg. 48



Tyrol Knapweed
Pg. 36

Weed Thumbnails

Yellow Flowers



Hawkeed spp.
Pg. 24



St. John's Wort
Pg. 46



Dyer's Woad
Pg. 19



Rush Skeleton
Weed



Tansy Ragwort
Pg. 42



Cinquefoil, Sulfur
Pg. 17



Leafy Spurge
Pg. 72



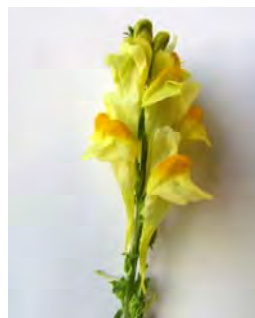
Common Tansy
Pg. 73



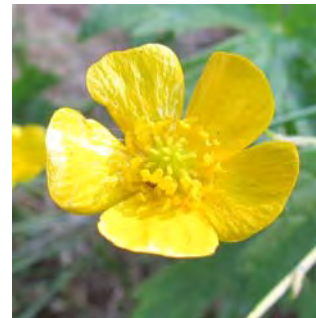
Yellow Star Thistle
Pg. 47



Iris, Pale Yellow
Pg. 28



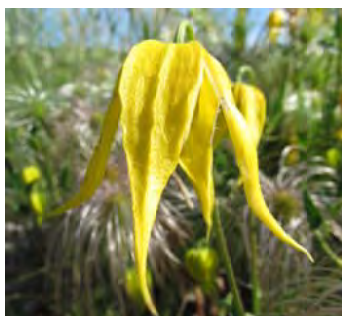
Yellow Toadflax



Tall Buttercup
Pg. 59



Dalmatian
Toadflax
Pg. 75



Yellow Clematis
Pg. 61



Common Barberry
Pg. 14



Puncture Vine
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Bighead Knapweed
Pg. 29

Thumbnails

Yellow Flowers



Yellow Nutsedge
Pg. 40



Perennial Sow Thistle
Pg. 71



Common Mullin
Pg. 68

Green Flowers



Eurasian Water Milfoil
Pg. 20



Downy Brome
Pg. 56



Jointed Goat
Grass
Pg. 23



Japanese Brome
Pg. 57



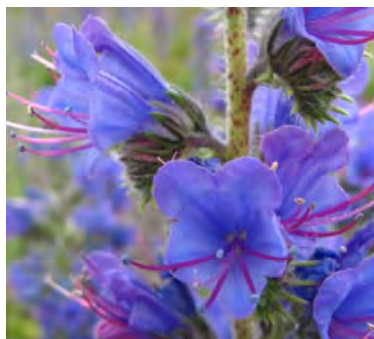
Medusa Head
Pg. 39

Orange Flowers



Orange Hawkweed
Pg. 25

Blue Flowers



Bluweed

Dark Purple Flowers



Black Henbane



Prohibited Noxious Weeds

Prohibited Noxious weeds pose a serious threat and must be eradicated. These weeds spread rapidly and are highly competitive. Weeds in this category are restricted to prevent establishment in Alberta.

Autumn Olive

Elaeagnus umbellata, Elaeagnaceae

Category: Prohibited Noxious



- **Information:** Tolerant of a wide range of conditions.
- **Life Cycle:** Perennial shrub.
- **Root:** Nitrogen fixing, woody root.
- **Leaves:** Simple, alternate, silver-grey color, wavy leaf margins.
- **Stems:** Multi-stems, up 6m tall.
- **Flower:** Tube/bell shaped, fragrant, creamy white to yellow flowers.
- **Seed/Fruits:** Small, fleshy, red, egg shaped with scales.
- **Control:** Manual (hand pull seedlings), mechanical, chemical.

Balsam, Himalayan

Impatiens glandulifera, Balsaminaceae (Impatiens family)

Category: Prohibited Noxious



Ron Bartholow, Wheatland County



Ron Bartholow, Wheatland County



Tom Heatic, USDA Forest Service, Bigwood.org



Wheatland County



Ron Bartholow, Wheatland County

- **Information:** Originally from India, introduced as an ornamental, other names include Policeman's Helmet, Impatiens, Touch-me-not. Is a weed of concern because of potential impacts on riparian areas.
- **Life Cycle:** Annual.
- **Root:** Shallow and fibrous.
- **Leaves:** Simple, oblong, large, serrated edge, oppositely arranged on the stem.
- **Stems:** Large, hollow, 4 sided, grows up to 120cm.
- **Flower:** Showy, irregular, pink-purple-white, 5 petals.
- **Seed/Fruits:** Pods are explosive when ripe, seeds can shoot up to 10m, and can float.
- **Control:** Do not plant, easily pulled by hand.

Barberry, Common

Berberis vulgaris, Berberidaceae (Barberry Family)

Category: Prohibited Noxious



- **Information:** Introduced from Europe and Asia as an ornamental, this weed is tolerant of a wide range of conditions.
- **Life Cycle:** Perennial shrub.
- **Root:** Woody.
- **Leaves:** Alternate, spines occurring at the base of each leaf, leaf margins finely toothed, dull green, 2-5cm long.
- **Stems:** 1-3m tall, bushy shrub, yellow-grey, spines in groups of 3.
- **Flower:** Hanging cluster of yellow flowers, 10-20 flowers per raceme (inflorescence).
- **Seed/Fruits:** Red clusters of berries, individual berries are 1cm long, 1-3 black seeds per berry.
- **Toxicity:** Alternate host for stem rust fungus.
- **Control:** Manual control, treat stumps in autumn, early control.

Bartsia, Red

Odontites vernus, Scrophulariaceae (Figwort family)

Category: Prohibited Noxious



- **Information:** Originated from Europe, is a weed of pastureland, hayland and roadside ditches.
- **Life Cycle:** Annual.
- **Root:** Taproot
- **Leaves:** Narrow and hairy with a toothed edge. Leaves are oppositely arranged and clasp the stem.
- **Stems:** Upright, branching, 15-30cm tall.
- **Flower:** Snapdragon type flower, reddish purple, hairy.
- **Seed/Fruits:** 1400 seeds per plant, hairy.
- **Toxicity:** May be parasitic to grasses.
- **Control:** Cultivation.

Buckthorn, Common

Rhamnus cathartica, Rhamnaceae
Category: Prohibited Noxious



Permission granted by e-mail on June 28, 2011 by Gary Fewless

Jan Sumanek, State Pesticide Administration, Bugwood.org

- **Information:** Originated from Eurasia, introduced as an ornamental plant, tolerant of a wide range of conditions.
- **Life Cycle:** Perennial woody shrub.
- **Root:** Woody root.
- **Leaves:** Dark green, glossy, oval shaped, pointed tip, 3-4 veins, slightly jagged edges.
- **Stems:** Shrub or small tree, trunk up to 25cm in diameter, up to 7m tall, grey-brown, rough texture, twigs tipped with a spine.
- **Flower:** Yellow/ yellow-green, 4 petals, male and female flowers on separate plants.
- **Seed/Fruits:** Small black fruit, 3-4 seeds.
- **Control:** Mechanical, basal bark treatment.

Cinquefoil, Sulphur

Potentilla recta, Rosaceae (Rose family)

Category: Prohibited Noxious



- **Life cycle:** Annual, biennial or perennial.
- **Root:** Fibrous spreading roots.
- **Leaves:** Palmately compound with 5-7 toothed leaflets; relatively few basal leaves. Most leaves grow along upright stem. Leaves stalked; leaf stalk length and size decreasing toward apex.
- **Stems:** One to several erect stems 30-60cm tall, may be branched with terminal, multi-flower inflorescence. Stems have hairs perpendicular to stem and leafstalks.
- **Flower:** Five light yellow petals with deeply notched tips and a yellow center.
- **Seed/Fruit:** Comma-shaped, brownish purple, covered with net-like ridges.

Note: These characteristics distinguish sulphur cinquefoil from native cinquefoils. Sulphur Cinquefoil leaves are green, not silvery, on the underside; its seeds are ridged while others usually are not; it has comparatively more stem leaves and fewer basal leaves than other *Potentilla* species, and its hairs are at right angles to the stem while others are usually oppressed.

Crupina, Common

Crupina vulgaris, Asteraceae (Sunflower Family)
Category: Prohibited Noxious



- **Life cycle:** Winter annual.
- **Root:** Short taproot.
- **Leaves:** Fleshy oval seedling leaves widest near the tip, with distinct purple midrib. Rosette and stem leaves pinnately lobed with short stiff spines, alternate and smaller toward the apex.
- **Stems:** One main stem 30-90cm tall, branch several times.
- **Flower:** One to five, 1.5cm long flower heads at branch tips or in upper leaf axils. Narrow (length three to four times greater than width) rose-purple petals.
- **Seed/Fruit:** A ring of dark, stiff bristles encircle the seed.
- **Control:**

Dyer's Woad

Isatis tinctoria, Brassicaceae (Mustard Family)

Category: Prohibited Noxious

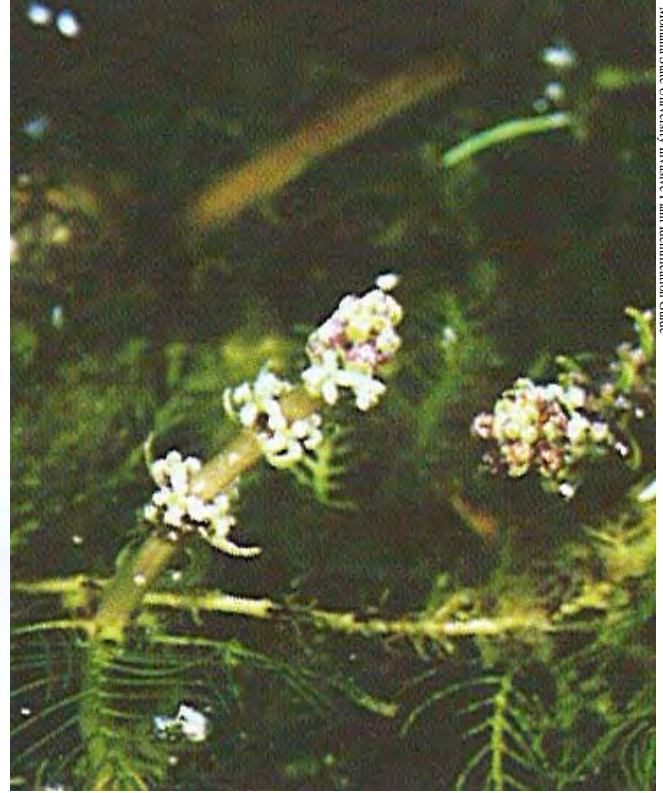
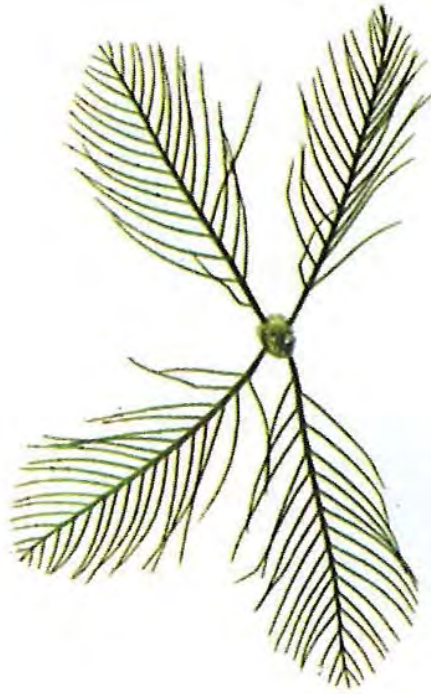


- **Life cycle:** Winter annual, biennial or short-lived perennial.
- **Root:** Taproot and some lateral roots.
- **Leaves:** All leaves bluish-green with white midrib. Rosette (first form) leaves have long slender stalks, are widest near the tip and covered with soft hairs. Stem leaves lack hairs, are alternate, lance shaped, and clasp the stem.
- **Stems:** 30 - 120cm tall, multi-branching.
- **Flower:** Cluster on upper stem in a flat-topped inflorescence. Yellow petals 3mm long and wide.
- **Seed/Fruit:** Purplish brown, tear drop shaped seed pods hang from small stalks.
- **Control:** Chemical.

Eurasian Water Milfoil

Myriophyllum spicatum, Haloragaceae (Water Milfoil Family)

Category: Prohibited Noxious



- **Life cycle:** Aquatic perennial.
- **Root:** Numerous at base and along stem.
- **Leaves:** Three to four bright-green leaves, 3cm long with 12 to 48 thread-like divisions are whorled around stem at each joint. Leaves rarely extend above water surface and mat when removed from water.
- **Stems:** Slender, hairless, leafless toward base, 3m long or longer and 2mm thick. Grow to water surface then branch forming dense floating mats. Somewhat whitened when dry.
- **Flower:** Rigid, pink flowering spike, 5 to 20cm long, held erect above water surface. Small, yellow, four petaled flowers arranged in clusters.
- **Seed/Fruit:** Hard, segmented capsule contains four seeds.

Flowering Rush

Butomus umbellatus, Butomaceae (Flowering Rush Family)

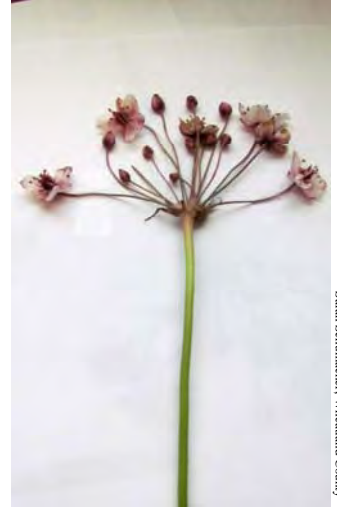
Category: Prohibited Noxious



Sarah Schumacher, Wheatland County

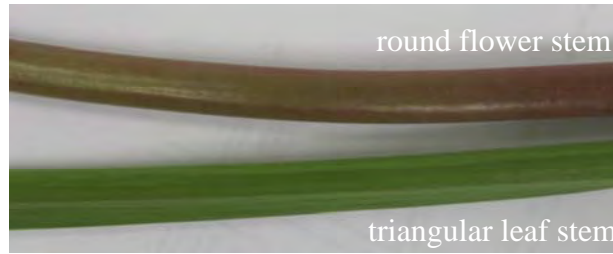


Sarah Schumacher, Wheatland County

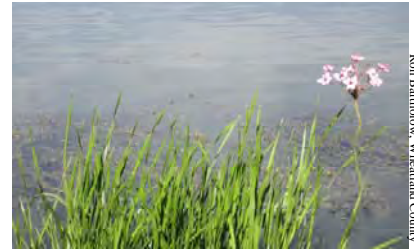


Sarah Schumacher, Wheatland County

Montana State University Invasive Plant Identification Guide



Sarah Schumacher, Wheatland County



Ron Bartholow, Wheatland County

- **Information:** Thrives in moist areas such as sloughs and canals.
- **Life cycle:** Perennial.
- **Root:** Thick creeping rhizomes and bulblets.
- **Leaves:** Erect or floating leaves, opposite, 90cm long and 1 -1.5cm wide with smooth edges, triangular cross section, and twisted ends.
- **Stems:** Leafless, green and have a round cross section.
- **Flower:** Three purplish brown bracts where flower stalk attaches to stem tip. Umbrella-shaped clusters of pink to white flowers with three petals 2-3cm in diameter.
- **Seed/Fruit:** Inflated, dark brown beaked fruits 1-1.5cm long.
- **Control:**

Garlic Mustard

Alliaria petiolata, Brassicaceae (Mustard Family)

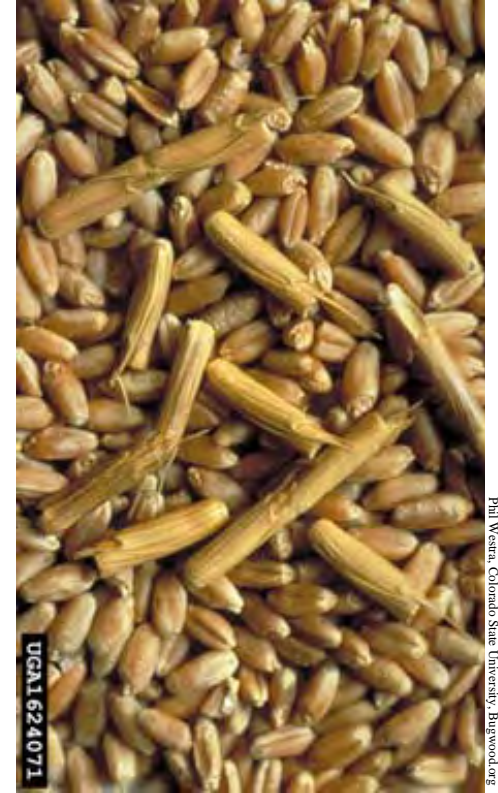
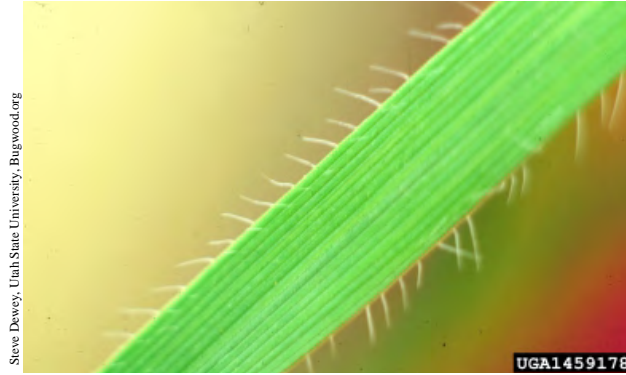
Category: Prohibited Noxious



- **Information:** Grows in moist, woody areas.
- **Life Cycle:** Herbaceous biennial, Rosette in the first years growth, flowers in the second.
- **Root:** White, slender taproot.
- **Leaves:** Rosette leaves are heart shaped and dark. Mature leaves are spade shaped with a jagged, toothed edge. Leaves are alternately arranged on the stem and have a garlic odor when crushed.
- **Stems:** Plant can grow from 1-1.5m tall.
- **Flower:** Small white flowers, 4 petals.
- **Seed/Fruits:** 150-850 seeds per plant, pods.
- **Toxicity:** May be allelopathic (toxic) towards other plants.
- **Control:** Hand pick before seed set, make sure to get the entire root.

Goatgrass, Jointed

Aegilops cylindrical, Poaceae (Grass Family)
Category: Prohibited Noxious



- **Information:** Originated in Russia, similar to Winter Wheat, Wheat and Jointed Goatgrass are genetically related and can hybridize.
- **Life Cycle:** Winter annual.
- **Root:** Fibrous root.
- **Leaves:** Hairy on the leaf edge.
- **Stems:** Erect 40-80cm tall, hairy auricles present.
- **Flower:** Spike, long awned glumes on upper spikelets, 2-4 flowers per spikelet.
- **Seed/Fruits:** 2 seeds per spikelet.
- **Toxicity:**
- **Control:** Use clean seed, certificate of seed analysis, destroy plants before seed set.

Hawkweed, Meadow - *Hieracium caespitosum*

Hawkweed, Mouse-ear - *Hieracium pilosella*

Asteraceae (Sunflower Family)

Category: Prohibited Noxious



- **Information:** Introduced from Europe.
- **Life cycle:** Perennial.
- **Root:** Shallow fibrous roots, stolons and rhizomes.
- **Leaves:** Basal rosettes have hairy, narrow, spatula-shaped leaves, dark green above and light green below.
- **Stems:** Rosettes produce 10 to 25 flowering stems up to 90cm tall. Stems have short, stiff hairs and few, if any, leaves. The entire plant contains a milky juice.
- **Flower:** 5 to 30, bright yellow flower heads.
- **Seed/Fruit:** Black, tiny, and plumed.
- **Control:** Chemical.

Orange Hawkweed

Hieracium aurantiacum, Asteraceae (Sunflower Family)

Category: Prohibited Noxious

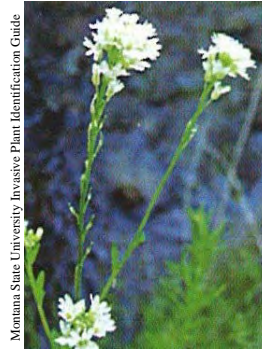


- **Information:** Introduced from Europe as an ornamental.
- **Life Cycle:** Perennial.
- **Root:** Shallow, fibrous, creeping.
- **Leaves:** Rosette leaves are narrow, spatula-shaped, hairy, 10-15cm long, and darker green on the upper surface.
- **Stems:** 30-90cm tall with bristly hairs and 0-3 small leaves. Entire plant contains a milky juice.
- **Flower:** 5 to 30 flower heads form a compact, umbelliform inflorescence at stem apex. Flower heads have red-orange petals with notched tips.
- **Seed/Fruit:** Dark brown or black with ridges and bristly plumes.

Hoary Alyssum

Berteroa incana, Brassicaceae (Mustard Family)

Category: Prohibited Noxious



Sarah Schumacher, Wheatland County



Sarah Schumacher, Wheatland County



Montana State University Invasive Plant Identification Guide

- **Information:** common on sand and gravel soils and establishes on roadsides, railway embankments, and heavily grazed pastures.
- **Life cycle:** Biennial.
- **Root:** Taproot.
- **Leaves:** All are greyish-green with star shaped hairs. Basal leaves 2-8cm long with slender stalks. Stem leaves face upward, pressed to stem. Lower leaves with short stalks, upper leaves lack stalks.
- **Stems:** 30-90cm tall, erect, branched, covered with star-shaped hairs.
- **Flower:** White, small, deeply notched petals on slender stalks, sepals hairy.
- **Seed/Fruit:** Flattened oval seed pods, with star-shaped hairs close to stem; styles remain, pod chambers contain 3 to 7 seeds.
- **Toxic:** Horses.
- **Control:** Hand pick.

Hogweed, Giant

Heracleum mantegazzianum, Apiaceae (Carrot Family)

Category: Prohibited Noxious

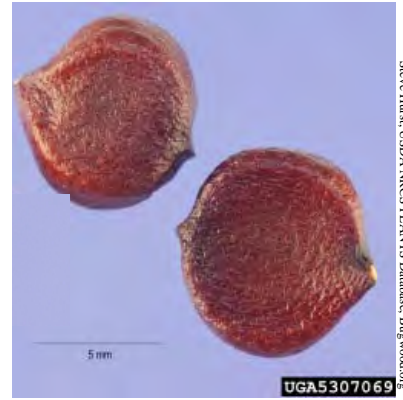


- **Information:** Very tall, grows in moist areas.
- **Life Cycle:** Herbaceous biennial.
- **Root:** Large deep taproot.
- **Leaves:** Compound leaves 10-15cm wide, palmate, underside is covered in coarse white hairs.
- **Stems:** 2-6m tall, hollow stem, 5-10cm wide, covered in bristles and purple mottles.
- **Flower:** Umbel, up to 75cm wide, white, 5 petaled.
- **Seed/Fruits:** 2 wings, flat, each contains 1 seed, up to 20,000 seeds per plan.
- **Toxicity:** Sap on skin can cause rash and blisters, cover skin when dealing with this weed.
- **Control:** Manual, mechanical, stump treatment.

Iris, Pale Yellow

Iris pseudacorus, Iridaceae (Iris Family)

Category: Prohibited Noxious



- **Information:** Native to Europe.
- **Life cycle:** Perennial.
- **Root:** Bulbs and rhizomes.
- **Leaves:** Long, linear, dark green. Leaves emerge from ground in fanlike arrangement. Smooth edged, mostly basal leaves are flattened, sword-like with a pointed tip and raised midrib, and erect with upper part arching.
- **Stems:** 90 -120cm tall, round to flattened.
- **Flower:** Large pale to deep yellow flowers have three downward- and three upward-pointing petals, some with light-brown to purple veins or flecks.
- **Seed/Fruit:** Three-angled cylindrical capsule 2-10cm long, contains many flat brown seeds.
- **Toxic:** Horses, cattle, sheep, goats.
- **Control:**

Knapweed, Bighead

Centaurea macrocephala, Asteraceae (Sunflower Family)

Category: Prohibited Noxious



- **Information:** Also known as Armenian Basket Flower, introduced as an ornamental.
- **Life Cycle:** Perennial.
- **Root:** Woody taproot, woody crown.
- **Leaves:** Broad, lance shaped leaves, pointed tips, rough, hairy, large.
- **Stems:** Up to 1.5m tall.
- **Flower:** Large, single, showy yellow flowers, fringed bracts below the flowers.
- **Seed/Fruits:** Reproduces by seed.
- **Toxicity:**
- **Control:** Early control before seed set.

Knapweed

Black - *Centaurea nigra*, Brown - *Centaurea jacea*, Meadow (hybrid) - *Centaurea* × *moncktonii*
Asteraceae (Sunflower Family) Category: Prohibited Noxious



- **Information:** Introduced from Eurasia, weed of disturbed areas, tolerates a wide range of conditions (brown knapweed prefers cool, moist areas), weed of hayland, Meadow knapweed is a hybrid of black and brown knapweed.
- **Life Cycle:** Herbaceous perennial.
- **Root:** Woody crown, woody taproot.
- **Leaves:** Leaves are not highly divided like many of the other knapweeds.
- **Stems:** 20-80cm, branching mid stem.
- **Flower:** Pink, purple, comb-like bracts below flowers. Brown knapweed has brown bracts and the tips of the bracts of black knapweed are black. Meadow knapweed can be either.
- **Seed/Fruits:** Reproduces by seed.
- **Toxicity:** Allelopathic (toxic) towards other plants.
- **Control:** Long-term control, hand pick, chemical.

Knapweed, Diffuse

Centaurea diffusa, Asteraceae (Sunflower Family)

Category: Prohibited Noxious



- **Information:** Introduced from Eurasia.
- **Life cycle:** Biennial or short-lived perennial.
- **Root:** Taproot.
- **Leaves:** Seedlings have finely divided leaves with small hairs. Mature leaves are divided into linear segments, broadly lance-shaped, grayish-green, covered with woolly hairs, and alternate.
- **Stems:** Up to 60cm tall and highly branched.
- **Flower:** White or pink flower head. Bracts form stiff, cream- to brown coloured spines divided into comb-like teeth.
- **Seed/Fruit:** Brown or grayish, small.
- **Control:** Long term, hand pick, chemical.

Knapweed, Hybrid

Centaurea × psammogena, Asteraceae (Sunflower Family)

Category: Prohibited Noxious



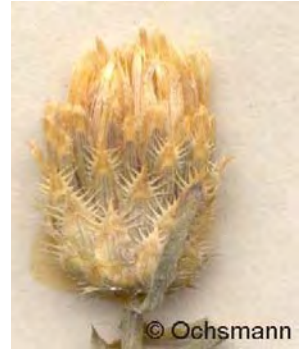
Knapweed, Spotted

+



Knapweed, Diffuse

=



All: http://www.centaurea.net/centaurea_xpsamm-Bilder.htm

- **Information:** Introduced from Eurasia, hybrid of Spotted and Diffuse knapweeds.
- **Life Cycle:** Biennial or short lived perennial.
- **Root:** Woody taproot.
- **Leaves:** Finely divided, covered with fine hairs.
- **Stems:** 20-80cm tall.
- **Flower:** Pink to white.
- **Seed/Fruits:** Prolific seed producer.
- **Toxicity:**
- **Control:** Long term, hand pick, chemical.

Knapweed, Russian

Acroptilon repens, Asteraceae (Sunflower Family)

Category: Prohibited Noxious



- **Information:** Native to Eurasia, forms dense, long lived stands.
- **Life cycle:** Perennial.
- **Root:** Rhizomatous with black, bark-like covering.
- **Leaves:** Basal leaves toothed, covered with fine hairs, grayish-green. Lower stem leaves deeply lobed, 5-10cm long; upper stem leaves narrow, toothed, and up to 6cm long.
- **Stems:** One or more stems up to 90cm tall.
- **Flower:** One purple flower head per branch tip. Bracts rounded with papery tips.
- **Seed/Fruit:** Oval, grey or ivory with long white bristles.
- **Toxic:** Horses.
- **Control:** Long term, hand pick, chemical control late in the season.

Knapweed, Spotted

Centaurea stoebe, Asteraceae (Sunflower Family)

Category: Prohibited Noxious



- **Information:** Introduced from Europe, covers vast areas of land in Canada and in the USA, found in disturbed areas, is allelopathic (toxic towards other plants).
- **Life cycle:** Biennial or short-lived perennial.
- **Root:** Taproot.
- **Leaves:** Rosette leaves are deeply lobed, grayish green, and up to 15cm long. Stem leaves finely divided into linear segments.
- **Stems:** Up to 120cm tall and highly branched.
- **Flower:** One pinkish-purple flower head on each branch. Bracts have dark spot on tip and fringed edges.
- **Seed/Fruit:** Black seeds 2mm long. Prolific seed producer.
- **Control:** Long term, hand pick in rosette stage, chemical control before seed has set.

knapweed, Squarrose

Centaurea virgata, Asteraceae (Sunflower Family)

Category: Prohibited Noxious



- **Information:** Introduced from Eastern Mediterranean/Asia, looks similar to Diffuse Knapweed in growth form but has pink flowers. Weed of range and pasture, open habitats.
- **Life Cycle:** Perennial.
- **Root:** Taproot.
- **Leaves:** Rosette leaves in first years growth, deeply divide leaves on the lower portion of the plant, bract-like leaves on the top, green-grey in color.
- **Stems:** 30-50cm tall, highly branched.
- **Flower:** Pink flowers, smaller than the other pink knapweeds, bracts below the flowers.
- **Seed/Fruits:** Reproduces by seed, remains viable for many years.
- **Toxicity:**
- **Control:** Early detection, grazing.

Knapweed, Tyrol

Centaurea nigrescens, Asteraceae (Sunflower Family)

Category: Prohibited Noxious



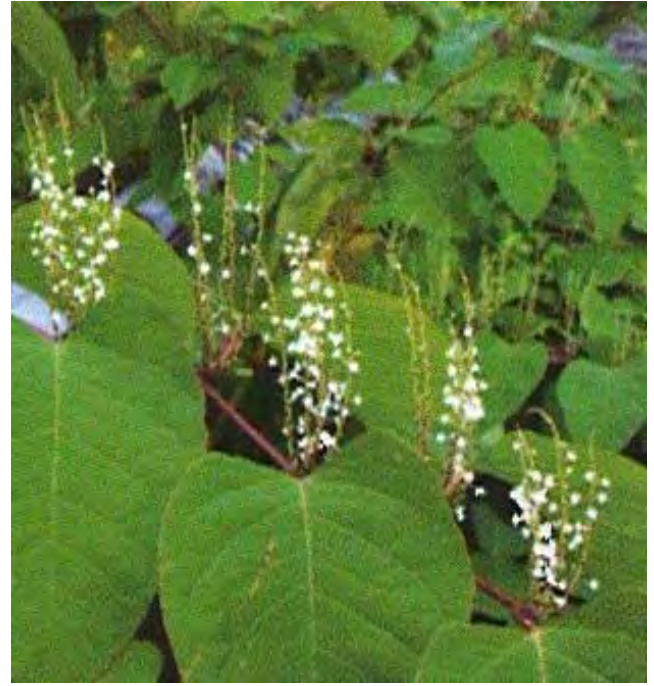
- **Information:** Native to Europe, larger leaf than the other knapweeds, weed of disturbed areas.
- **Life Cycle:** Perennial.
- **Root:** Taproot.
- **Leaves:** Entire, smooth edge, large.
- **Stems:** 30-150cm, erect, branching.
- **Flower:** Pink-purple, bracts present (dark brown-black).
- **Seed/Fruits:** Reproduces by seed.
- **Toxicity:**
- **Control:** Long term, hand pick, chemical.

Knotweed Complex

Fallopia spp./ Polygonum, Polygonaceae (Knotweed Family)

Category: Prohibited Noxious

Knotweed, Giant — *Fallopia sachalinensis*
knotweed, hybrid Japanese — *Fallopia x bohemica*
knotweed, Japanese — *Fallopia japonica*



- **Life Cycle:** Herbaceous perennial.
- **Root:** Rhizomatous.
- **Leaves:** Alternate, stalked, broadly oval to triangular and pointed at the tip. Giant knotweed leaves are 30cm or longer and 2/3 as wide. Japanese knotweed leaves are 15cm long by 7-10cm wide. Himalayan knotweed leaves are 10-20cm long with tapered and elongated tips, basal leaves slightly heart-shaped, and often with soft hairs on veins, margins and lower surfaces.
- **Stems:** Hollow, smooth, weakly woody, jointed, swollen at nodes, 3.5m or taller, base surrounded by membranous sheath.
- **Flower:** Small greenish white flowers in sprays at branch tip. Japanese knotweed inflorescence is larger than that of giant knotweed; the flowers are prominently winged, and their size increases significantly with age.
- **Seed/Fruit:** Black with ribs.
- **Toxic:** Horses, cattle, goats.

Loosestrife, purple

Lythrum salicaria, Lythraceae (Loosestrife Family)

Category: Prohibited Noxious



- **Information:** Native to Europe, Asia and Africa, introduced as an ornamental, poses huge threats to riparian/wetland habitat.
- **Life Cycle:** Perennial.
- **Root:** Short rhizomes and taproot.
- **Leaves:** Clasping, lance-shaped leaves with a notched base and smooth margins are opposite or whorled on stem.
- **Stems:** 1.5-3m tall, square or octagonal.
- **Flower:** Clustered on vertical terminal spike extending 5cm to 90cm down stem, one or more flowering branches; rose to purple with four to eight petals.
- **Seed/Fruit:** Small brown capsules with many seeds, can produce up to 2.5 million seeds/plant, remains viable up to 20 years.
- **Control:** Handpick, chemical.

Medusahead

Taeniatherum caput-medusae, Poaceae (Grass Family)

Category: Prohibited Noxious



- **Information:** Introduced from the Mediterranean, weed of forage.
- **Life Cycle:** Annual.
- **Root:** Fibrous.
- **Leaves:** Produces tillers but very few leaves, narrow.
- **Stems:** Hairy.
- **Flower:** Awns 2-7cm long, stiff, finely barbed.
- **Seed/Fruits:** Seed twists as fruit matures, reproduces by seed, doesn't shatter, 7 seeds per spike.
- **Toxicity:** Barbed awns can cause injury to grazing animals.
- **Control:** Mowing, early grazing and cultivation.

Nutsedge, Yellow

Cyperus esculentus, Cyperaceae (Sedge Family)

Category: Prohibited Noxious



Ken Chamberlain, The Ohio State University, Bugwood.org



Steve Dewey, Utah State University, Bugwood.org



John Cardina, The Ohio State University, Bugwood.org

- **Information:** Native to North America, not hardy in cold climates.
- **Life Cycle:** Perennial.
- **Root:** Creeping, fibrous roots, reproductive tubers.
- **Leaves:** Alternate, grass-like, waxy.
- **Stems:** Triangular stem (3 sided).
- **Flower:** Umbrella shaped cluster, male and female flowers.
- **Seed/Fruits:** Many new plants arise from underground roots, viable seed 50%.
- **Toxicity:**
- **Control:** Do not cultivate.

Puncturevine

Tribulus terrestris, Zygophyllaceae (Caltrop Family)

Category: Prohibited Noxious



- **Information:** Introduced from the Mediterranean and Africa, spread in sheep wool.
- **Life Cycle:** Perennial, summer annual in colder climates.
- **Root:** Woody taproot.
- **Leaves:** Opposite, 8-16 leaflets, hairy, pinnately compound, leaflets less than 1cm wide.
- **Stems:** Branched, hairy stems radiate from the crown, prostrate (on the ground) from 10cm to over 1m long.
- **Flower:** Yellow, 5 petals, 4-10mm wide.
- **Seed/Fruits:** Pod, 2-3 sharp spines(10mm long) 4-5 single seeded nutlets, hard.
- **Toxicity:** Poisonous to livestock.
- **Control:** Hand pick, chemical.

Ragwort, Tansy

Senecio jacobaea, Asteraceae (Sunflower Family)

Category: Prohibited Noxious



Montana State University Invasive Plant Identification Guide



Montana State University Invasive Plant Identification Guide



http://www.co.stevens.wa.us/weedboard/image_weeds/tr2.jpg



Montana State University Invasive Plant Identification Guide

- **Information:** Native to Eurasia, prefers dry open areas.
- **Life Cycle:** Biennial or short-lived perennial.
- **Root:** Taproot.
- **Leaves:** Rosette has 10 - 20 leaves with web-like hairs. Basal leaves 5cm-25cm long, lobed into leaflets and leaflets lobed again. Stem leaves alternate, evenly distributed, lower leaves larger, strong odour when crushed.
- **Stems:** Commonly 30-90cm tall but up to 1.8m Several or solitary stems may branch near the terminal inflorescence. Stems and leaf stalks often purplish and have cobwebby hairs.
- **Flower:** Daisy-like flower heads, yellow petals, yellow center, less than 2.5cm diameter, clustered on terminal stem.
- **Seed/Fruit:** Tiny and tipped by hair-like plumes.
- **Toxic:** Horses, cattle, sheep, goats, humans.

Rush Skeletonweed

Chondrilla juncea, Asteraceae (Sunflower Family)

Category: Prohibited Noxious

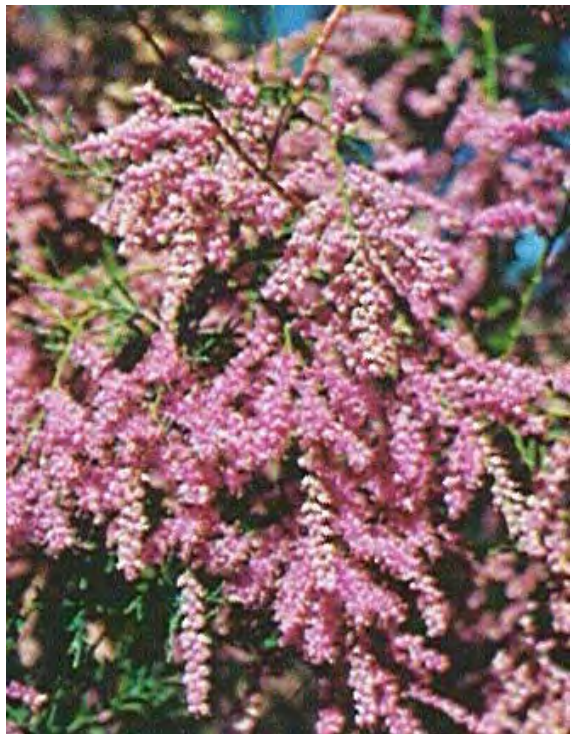


- **Information:** Native to Europe, Asia, Africa, other names include Gum Succory, Devils Grass and Nakedweed.
- **Life cycle:** Perennial.
- **Root:** Taproot.
- **Leaves:** Sharp, deeply toothed rosette leaves wither as the stem grows. Occasional narrow leaves on stem.
- **Stems:** Downward bent, reddish, coarse hairs on the lower 10-15cm of green stems.
- **Flower:** Yellow flower heads 5mm in diameter are scattered on the stems and branch tips. Flowers single or clusters of two to five.
- **Seed/Fruit:** Light brown to black, ribbed, and with white bristles.
- **Control:** Cultivation is not recommended because of the root's ability to re-grow from small sections.

Saltcedar

Tamarix ramosissima, Tamaricaceae (Tamarisk Family)

Category: Prohibited Noxious



Montana State University Invasive Plant Identification Guide



Montana State University Invasive Plant Identification Guide



Montana State University Invasive Plant Identification Guide

- **Information:** Introduced as an ornamental.
- **Life Cycle:** Perennial deciduous or evergreen shrub or small tree, weed of waterways.
- **Root:** Deep taproot and adventitious roots of stems and branches.
- **Leaves:** Small leaves on green stems are alternate, overlapping, and appear scale-like. Foliage salty to taste.
- **Stems:** 1.5-6m tall, highly branched, smooth, dark brown to reddish brown bark.
- **Flower:** Small pink to white with five petaled flowers borne in finger like clusters on terminal and lateral branches.
- **Seed Fruit:** Extremely small seeds with a tuft of hairs on tip are contained in capsules.

Control: Do not plant.

Similar Species:

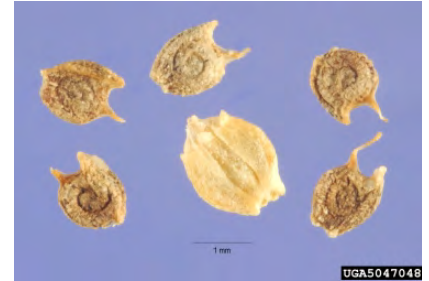
Tamarisk, Chinese - *Tamarix chinensis*

Tamarisk, Smallflower - *Tamarix parviflora*

Saltlover

Halogeton glomeratus, Chenopodiaceae (Goosefoot Family)

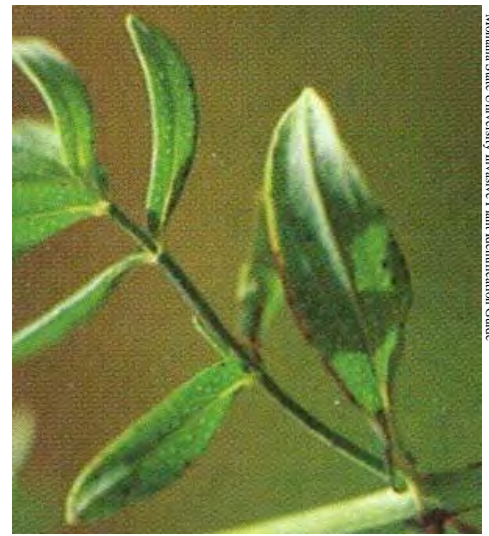
Category: Prohibited Noxious



- **Information:** Other names include halogeton, tolerant of saline and alkaline soils, tumbles.
- **Life Cycle:** Summer annual.
- **Root:** Taproot, up to 5m deep.
- **Leaves:** Small hair at the end of each leaf, alternate, simple, fleshy, tubular, blue-green.
- **Stems:** 8-30cm tall, red when young, yellow-white at maturity, branched.
- **Flower:** Small, inconspicuous, in leaf axil.
- **Seed/Fruits:** Early germination, reproduced from 2 types of seeds, viable for up to 10 years.
- **Toxicity:** Poisonous to sheep, possible effect on larger livestock.
- **Control:** Competition.

St John's-wort, Common

Hypericum perforatum, Clusiaceae Family
Category: Prohibited Noxious



- **Life cycle:** Perennial.
- **Root:** Taproot and lateral roots.
- **Leaves:** Oval-shaped leaves up to 2.5cm long, opposite, lack stalks and teeth, are darker green above, and have in-rolled edges and tiny transparent dots on the surface.
- **Stems:** 30-90cm tall, reddish with black glands, erect, with two opposite longitudinal ridges; may branch many times near the top.
- **Flower:** Numerous five-petaled yellow flowers form flat-topped clusters on terminal branches. Flowers are up to 2.5cm in diameter and bloom from the center out. Black glands along the petal margins.
- **Seed/Fruit:** Rust colored seeds pods are 5mm long and contain numerous seeds in three-pointed capsules.
- **Toxic:** Horses, cattle, sheep.

Starthistle, Yellow

Centaurea solstitialis, Asteraceae (Sunflower Family)

Category: Prohibited Noxious



- **Life cycle:** Annual.
- **Root:** Taproot.
- **Leaves:** Rosette leaves are deeply lobed with pointed tip. Stem leaves are vertical, flat extensions along the stem and covered with cottony hairs.
- **Stems:** Up to 1.5m tall, rigid.
- **Flower:** One yellow flower head per branch. Sharp, straw-colored spines up to 5mm long radiate from the bracts. Meter seed dispersal, a cottony tuft remains on stem.
- **Seed/Fruit:** Light to dark-colored with or without bristles.
- **Toxic:** Horses.
- **Control:** Long term, hand pick, chemical before seed set.

Thistle, Marsh

Cirsium palustre, Asteraceae (Sunflower Family)

Category: Prohibited Noxious



- **Information:** May hybridize with Canada Thistle and native marsh thistles.
- **Life Cycle:** Biennial, rosette in the first year, flowers in the second.
- **Root:** Fibrous root system.
- **Leaves:** Leaves covered with long sticky hairs, lobed, 15-20cm long.
- **Stems:** 1-1.5m tall, branched at top, thick, reddish in color, covered in long sticky hairs.
- **Flower:** Many flowers per plant, purple, bracts spineless.
- **Seed/Fruits:** Small, hard, elongated, tuft of bristles (pappus) for seed dispersal.
- **Toxicity:**
- **Control:** Control in first year (rosette stage) or before seed set.

Thistle, Nodding

Carduus nutans, Asteraceae (Sunflower Family)

Category: Prohibited Noxious



- **Information:** Native to Europe, also known as Musk Thistle, is often a weed of rangelands.
- **Life Cycle:** Biennial, large rosette leaves in the first years growth, flowers in the second.
- **Root:** Fleshy taproot.
- **Leaves:** Clasping, alternately arranged on the stem, spines along edge, hairy, sometimes pinkish, wavy edge.
- **Stems:** Spines along stem, 20cm - 2.5m tall, hairy.
- **Flower:** Large, nodding, purple, large thorny bracts are below the flower.
- **Seed/Fruits:** Pappus present, each flower head may produce up to 1200 seeds.
- **Toxicity:**
- **Control:** hand pick, chemical control before seed set.

Thistle, Plumeless

Carduus acanthoides, Asteraceae (Sunflower Family)

Category: Prohibited Noxious



Sarah Schumacher, Wheatland County



Sarah Schumacher, Wheatland County



Sarah Schumacher, Wheatland County



Sarah Schumacher, Wheatland County

- **Information:** May also be called Bristly Thistle, may also be confused with native thistles.
- **Life Cycle:** Herbaceous biennial, or winter annual. Rosette leaves in the first years growth, flowers in the second.
- **Root:** Taproot, large and fleshy.
- **Leaves:** Clasping, alternately arranged on the stem, spines along edge and at leaf tip, hairy, lobed. Rosette leaves are very large.
- **Stems:** Spines along stem, up to 2m tall.
- **Flower:** Purple, small, erect, spine tipped bracts, smaller than nodding thistle.
- **Seed/Fruits:** Spread by seed, pappus attached to seed, wind dispersal.
- **Control:** Hand pull, chemical control before seed set.



Noxious Weeds

Noxious Weeds have the ability to spread rapidly, cause severe crop losses and economic hardship. These weeds must be controlled to prevent further establishment and spread.

Baby's-breath, Common

Gypsophila paniculata, Caryophyllaceae (Pink Family)

Category: Noxious



Sarah Schumacher, Wheatland County



Sarah Schumacher, Wheatland County



www.invasiveplants.ab.ca



Sarah Schumacher, Wheatland County

- **Information:** Introduced from Europe as an ornamental, other names include *Gypsophila* and maiden's-breath. Commonly found growing as an ornamental and in floral displays.
- **Life Cycle:** Perennial.
- **Root:** Large woody root.
- **Leaves:** Opposite and lance shaped, not noticeable when in bloom.
- **Stems:** Numerous branches.
- **Flower:** Numerous small white flowers, 5 petals, sweet scent.
- **Seed/Fruits:** This plant is highly productive. The seed is black, kidney shaped, and bumpy.
- **Control:** Chemical, hand pick.

Bellflower, Creeping

Campanula rapunculoides Boraginaceae (Borage Family) Category: Noxious



Sarah Schumacher, Wheatland County



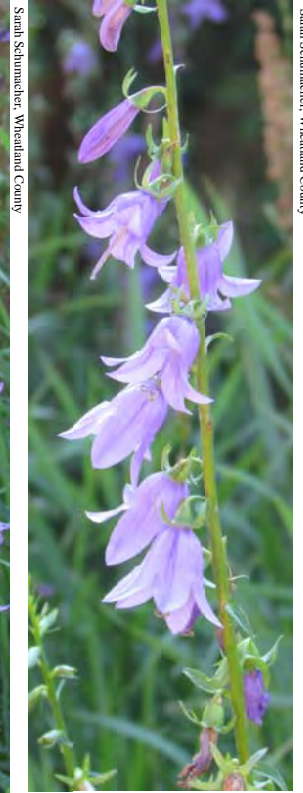
Sarah Schumacher, Wheatland County



Sarah Schumacher, Wheatland County



Sarah Schumacher, Wheatland County



Sarah Schumacher, Wheatland County

- **Information:** Introduced as an ornamental from Europe, other names include Creeping Bellflower, Creeping Bluebell.
- **Life Cycle:** Creeping perennial, reproduces by creeping root and seeds.
- **Root:** Thick creeping rhizomes make this plant very aggressive and difficult to control.
- **Leaves:** Leaves are alternately arranged on the stem, heart shaped, jagged edges.
- **Stems:** No branching, 20-60cm tall.
- **Flower:** Purple, bell shaped, spike.
- **Seed/Fruits:** One plant can produce thousands of seeds per year, seeds are small and light brown.
- **Control:** Long term, hand pull before seed set, difficult to get the entire root, resistant to some chemicals, mowing will not kill this plant, but will prevent flowering.

Bindweed, Field

Convolvulus arvensis, Convolvulaceae (Morning Glory Family)

Category: Noxious



Ron Bartholow, Wheatland County



Sarah Schumacher, Wheatland County



Sarah Schumacher, Wheatland County



Sarah Schumacher, Wheatland County



Sarah Schumacher, Wheatland County

- **Life cycle:** Perennial.
- **Root:** Taproot with lateral creeping roots.
- **Leaves:** Dark green, arrow head shaped with sharp pointed lobes are alternate and grow on one side of the stem.
- **Stems:** Up to 1.5m long, growing horizontally or climbing, often has a twist.
- **Flower:** 2.5cm in diameter, tubular or bell-shaped, and white to pinkish. Two bracts on stem below flower.
- **Seed/Fruit:** Four seeds per fruit, small round.
- **Toxic:** Horses.
- **Control:** Chemical, hand pick.

Blueweed

Echium vulgare, Boraginaceae (Borage Family)

Category: Noxious



- **Information:** Introduced from Africa as an ornamental, also known as Viper's Bugloss, increases in overgrazed pastures.
- **Life cycle:** Biennial.
- **Root:** Black taproot with fibrous lateral roots.
- **Leaves:** Basal leaves are narrow, 1-15cm long, stalked. Stem leaves are alternate, smaller and stalkless near apex, all leaves covered with stiff hairs.
- **Stems:** Up to 90cm tall, covered with short hairs and scattered long, stiff hairs which often have swollen dark bases that form flecks.
- **Flower:** Numerous flowers 1-2cm long arranged on upper side of short stems that elongate after flowering. Buds are reddish purple, becoming bright blue upon flowering. Petals fused at base into a short tube that flares.
- **Seed/Fruit:** Nutlets are clustered in groups of four, greyish brown, angular, roughened, and wrinkled.
- **Toxic:** Horses, sheep.
- **Control:** Hand pick, control in rosette stage.

Brome, Downy (Cheat Grass)

Bromus tectorum, Poaceae (Grass Family)
Category: Noxious



- **Information:** Other names include downy chess, and cheatgrass. This weed can reduce agricultural production and is a fire hazard in roadside ditches.
- **Life Cycle:** Annual or winter annual, blooms early in the growing season.
- **Root:** Fibrous roots.
- **Leaves:** Leaf blades are 2-4 mm wide, 5-12 cm long covered with soft hairs. The ligule is present; toothed, 1-3 mm long.
- **Stems:** Covered with soft hairs, 5-60cm tall.
- **Flower:** Nodding Panicle, often reddish-purple when mature, covered with soft hairs, long awns.
- **Seed/Fruits:** Aggressive seed producer.
- **Toxicity:** Awns can irritate livestock mouths.
- **Control:** Early spring, chemical, hand pick.

Brome, Japanese

Bromus japonicas, Poaceae (Grass Family)
Category: Noxious



Sarah Schumacher, Westland County



NPS Photo by Jim Pasovitz



Sarah Schumacher, Westland County

Photo by:
Richard Old
www.xidservices.com

- **Information:** Similar to Downy Brome, also known as Japanese Chess.
- **Life Cycle:** Annual or winter annual.
- **Root:** Fibrous roots.
- **Leaves:** Leaf blades are 2-4 mm wide, covered with soft white hairs, ligule present.
- **Stems:** Covered with soft hairs, 30-60cm tall.
- **Flower:** Panicles droop to one side, spikelet flattened, shorter awns than downy brome and not as drooping.
- **Seed/Fruits:** Aggressive seed producer.
- **Control:** Graze early before seed set, chemical, hand pick.

Burdock, great - *Arctium lappa*, Burdock, lesser - *Arctium minus*
Burdock, woolly - *Arctium tomentosum*, Asteraceae (Sunflower Family)
Category: Noxious



- **Information:** Introduced from Europe, can be found in disturbed areas.
- **Life Cycle:** Biennial; basal leaves in the first year of growth, flowers in the second.
- **Root:** Taproot.
- **Leaves:** Large leaves, heart shaped, woolly underneath, larger leaves are closer to the ground, alternately arranged on the stem.
- **Stems:** Plant can be as large as 3m tall, stems are thick and hollow.
- **Flower:** Clusters of purple-pink flowers, flowers have hooked bracts.
- **Seed/Fruits:** Large seed pods with hooks attach themselves to clothing and fur, a mature plant can produce from 6,000 to 16,000 seeds.
- **Control:** Control in the rosette stage (first years growth).

Buttercup, Tall

Ranunculus acris, Ranunculaceae (Buttercup Family)

Category: Noxious



Montana State University Invasive Plant Identification Guide



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Sarah Schumacher



Sarah Schumacher, Wheatland County

- **Information:** Introduced from Europe, often found in moist pastures.
- **Life cycle:** Creeping perennial.
- **Root:** Hairy, fibrous, rhizomatous.
- **Leaves:** Hairy leaves are deeply lobed (nearly to the base) into three to five segments with each segment lobed again. Leaves decrease in size toward the top of the plant, uppermost leaves have three to four narrow segments.
- **Stems:** Up to 100cm tall, branched and hairy.
- **Flower:** Glossy yellow flowers in clusters, up to 3cm in diameter with greenish center.
- **Seed/Fruit:** Disc-shaped, reddish brown with short hook.
- **Toxic:** Horses, cattle, sheep, goats
- **Control:** Chemical.

Chamomile, Scentless

Tripleurospermum perforatum, Asteraceae (Sunflower Family)

Category: Noxious



- **Information:** Introduced from Eurasia, also known as Mayweed, False Chamomile.
- **Life Cycle:** Annual, biennial, or short lived perennial (depends on local conditions).
- **Root:** Fibrous roots.
- **Leaves:** Fern-like leaves are highly branched, glossy and scentless.
- **Stems:** Stems are branched, and can be up to 1m tall or as small as 5cm.
- **Flower:** Terminal flowers, yellow centre (disk florets), and white petals (ray florets). Sometimes the petals point downwards like a badminton “birdie”. Will still bloom if mowed.
- **Seed/Fruits:** Prolific seed production.
- **Toxicity:** None
- **Control:** Hand pick, chemical control before seed set.

Clematis, Yellow

Clematis tangutica, Ranunculaceae (Buttercup Family)

Category: Noxious



Sarah Schumacher, Wheatland County



Sarah Schumacher, Wheatland County



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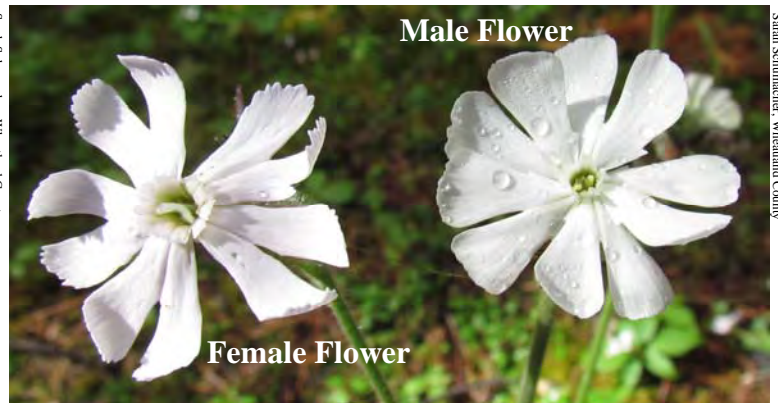
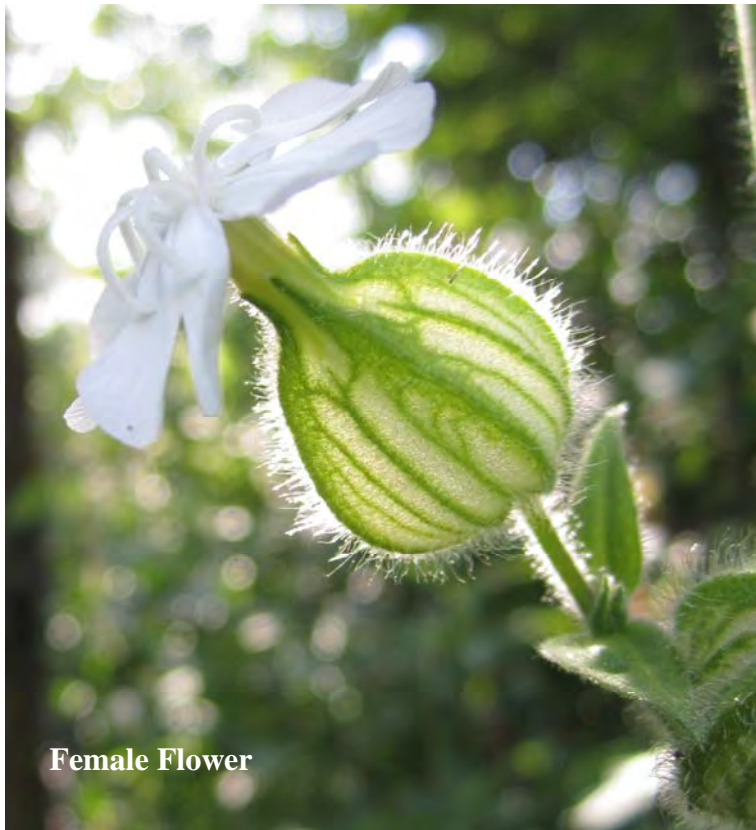
Sarah Schumacher, Wheatland County

- **Information:** Native to Asia, introduced and sold as an ornamental. Often found in urban areas growing on fences.
- **Life Cycle:** Perennial vine.
- **Root:** Creeping root.
- **Leaves:** Leaf tips are pointed and edges are coarsely toothed. Leaves may be slightly hairy on the underside and are deciduous.
- **Stems:** Branched, 3-4 m long, leaves will grow on new and old woody stems.
- **Flower:** Flowers are yellow, 4 petals, bell shaped.
- **Seed/Fruits:** Numerous seeds, long silky tail.
- **Toxicity:**
- **Control:** Hand pull, chemical.

Cockle, White

Silene latifolia Poiret ssp., Caryophyllaceae (Pink Family)

Category: Noxious



- **Information:** Introduced from Europe, other names include White Champion, Champion. Often found in tame pasture or hayland.
- **Life Cycle:** Annual, biennial, short lived perennial.
- **Root:** Deep tap root.
- **Leaves:** Leaves are opposite, sometimes covered with slightly sticky hairs, prominent centre line.
- **Stems:** Hairy, slightly sticky, 20-80cm tall.
- **Flower:** White petaled flowers, male flowers have a 5 veined calyx, female flowers have 20 veins (found on different plants), veins may be green or reddish-brown, flowers are hairy and sometimes slightly sticky.
- **Seed/Fruits:** Aggressive seed producer, seeds are kidney shaped, grey and bumpy.
- **Control:** hand pick, bale hay before seed set.

Oxeye Daisy

Leucanthemum vulgare, Asteraceae (Sunflower family)

Category: Noxious



Sarah Schumacher



Sarah Schumacher, Westland County



Sarah Schumacher

- **Information:** Introduced from Europe as an ornamental. Often found growing as an ornamental.
- **Life cycle:** Short-lived perennial.
- **Root:** Shallow, branched rhizomes.
- **Leaves:** Variable. Basal and lower stem leaves have long narrow stalks and have rounded teeth, upper stem leaves are smaller toward apex, have no stalk, and are toothed.
- **Stems:** 20-80cm tall, simple or once branched, smooth.
- **Flower:** One, 2 - 5cm diameter flower head per stem with white outer petals (ray florets) and a yellow center (disk florets). Unpleasant odour.
- **Seed/Fruit:** Small, black with ribs..
- **Control:** Chemical, deadhead, replace with Shasta Daisy (ornamental).

Dame's Rocket

Hesperis matronalis, Brassicaceae (Mustard Family)

Category: Noxious



Sarah Schumacher, Wheatland County



Sarah Schumacher, Wheatland County



Sarah Schumacher, Wheatland County



Sarah Schumacher, Wheatland County

- **Information:** Introduced from Europe as an ornamental, also known as Dames Violet.
- **Life Cycle:** Perennial.
- **Root:** Shallow root.
- **Leaves:** Stalkless, alternately arranged on the stem, small hairs on both sides, fine toothed edges.
- **Stems:** Branched, medium height.
- **Flower:** Showy purple flowers with 4 petals.
- **Seed/Fruits:** Reproduces by seed, each plant can produce up to 20,000 seeds.
- **Toxicity:** None.
- **Control:** Hand pick, chemical.

Henbane, Black

Hyoscyamus niger, Solanaceae (Nightshade Family)
Category: Noxious



- **Information:** Weed of disturbed areas.
- **Life Cycle:** Biennial. Basal rosette leaves in the first year of growth, flowers in the second.
- **Root:** Taproot.
- **Leaves:** Bell shaped flowers, slightly sticky, offensive odor, large, toothed margin, 15cm wide, 20 cm long.
- **Stems:** Tall plant, up to 1m, sometimes branched.
- **Flower:** Interesting flowers, large, many purple veins, purple centre.
- **Seed/Fruits:** Capsule, hairy, poisonous.
- **Toxicity:** Poisonous to livestock and humans
- **Control:** Chemical control in the first year, basal stage, cut stem at the flowering stage.

Hoary Cress; globe-podded - *Lepidium appelianum*, Lens-podded - *Lepidium chalepense*, Heart-podded - *Lepidium draba*, Brassicaceae (Mustard Family) Category: Noxious



- **Life cycle:** Creeping Perennial.
- **Root:** Aggressive, rhizomatous, deep.
- **Leaves:** Blue green to gray green leaves are alternate, covered with soft white hairs, and lance- to arrow head shaped. Lower leaves stalked; upper leaves clasp stem.
- **Stems:** Up to 60cm tall.
- **Flower:** Numerous white flowers with four petals borne on 1cm long stalk. Dense clusters create white, flat-top appearance.
- **Seed/Fruit:** Seed capsules heart shaped with two reddish brown seeds.
- **Toxic:** May be toxic to cattle.
- **Control:** Chemical, cultivation or mowing may increase populations.

Hound's-Tongue

Cynoglossum officinale, Boraginaceae (Borage Family)

Category: Noxious



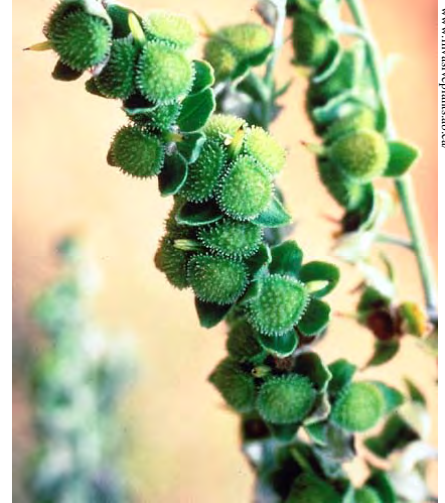
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Mary Ellen (MEd) Hare, Bugwood.org



Montana State University Invasive Plant Identification Guide



www.invasiveplants.ab.ca



Mary Ellen (MEd) Hare, Bugwood.org

- **Life cycle:** Biennial.
- **Root:** Taproot.
- **Leaves:** Rosette leaves are up to 30cm long, velvety, lack teeth or lobes. Stem leaves alternate and smaller toward the apex. “Hound’s Tongue”-like.
- **Stems:** 60cm to 1.2m tall with branches near the top of the plant.
- **Flower:** Five-petaled, reddish purple flowers. Small-ish.
- **Seed/Fruit:** Four bur-like nutlets are covered in hooks which catch onto clothing and fur.
- **Toxic:** Horses, cattle, sheep, goats.
- **Control:** Spray rosette, mow before seed set.

Mullein, Common

Verbascum Thapsus, Scropulariaceae (Snapdragon Family)

Category: Noxious



Sarah Schumacher, Wheatland County



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- **Information:** Introduced from Europe as a medicinal plant. Also known as Candlestick plant, Velvet Dock. Is a weed of disturbed areas, roadsides gravel pits and railway lines. Known as “cowboy toilet paper”.
- **Life Cycle:** Biennial, rosette in the first year of growth, flowers in the second.
- **Root:** Deep taproot.
- **Leaves:** Large leaves, very woolly, oppositely arranged on the stem, larger leaves at the base of the plant, smaller towards the top.
- **Stems:** Up to 2.5 m tall, woolly.
- **Flower:** Dense spike, yellow flowers, 5 petals.
- **Seed/Fruits:** Each plant can produce over 180,000 - 300, 000 small seeds, capsule, hairy, long term viability (100 years).
- **Toxicity:** Has been used as a piscicide (control of fish)
- **Control:** Hand pick, chemical.

Pepper-grass, broad-leaved

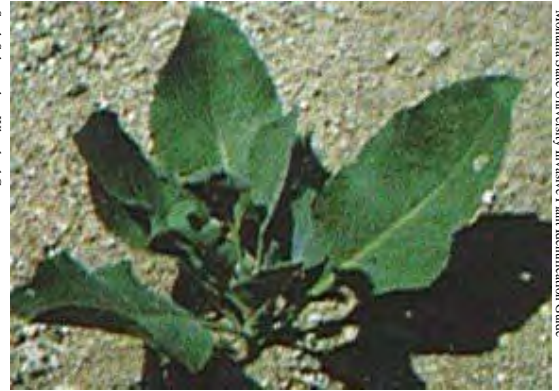
Lepidium latifolium, Brassicaceae (Mustard Family)
Category: Noxious



Sarah Schumacher, Wheatland County



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Montana State University Invasive Plant Identification Guide



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- **Life cycle:** Perennial.
- **Root:** Deep spreading roots.
- **Leaves:** Bright green to gray green, broadest at base and tapering to pointed tip, with prominent whitish mid-vein. Basal leaves are up to 40cm long and 10cm wide with long stalks, covered with a waxy layer. Stem leaves smaller with smaller stalks, alternate, and do not clasp stem.
- **Stems:** 30-90cm tall but can be up to 1.5m tall.
- **Flower:** Small, less than 1cm wide with four white petals, and are borne in dense, rounded clusters on terminal branches.
- **Seed/Fruit:** Flat, rounded, slightly hairy, 2-3mm long, reddish brown capsule contains two tiny seeds.

Scabious, field

Knautia arvensis, Dipsacaceae (Teasel Family)

Category: Noxious



- **Information:** Introduced from Europe, weed of pasture/forage. Also known as Teasel.
- **Life Cycle:** Perennial.
- **Root:** Taproot.
- **Leaves:** Large, opposite, deeply divided, hairy.
- **Stems:** Covered by coarse stiff hairs, covered with black dots. This is a tall plant growing up to 1.3m.
- **Flower:** Pink terminal flower head.
- **Seed/Fruits:** Hairy, pappus, small.
- **Toxicity:**
- **Control:** Chemical.

Sow thistle, Perennial

Sonchus arvensis, Asteraceae (Sunflower Family)
Category: Noxious



- **Information:** Introduced from Europe and Asia. Other names include; Creeping Sow Thistle, and Field Milk Thistle
- **Life Cycle:** Creeping perennial.
- **Root:** Creeping rhizomatous root.
- **Leaves:** Alternate, prickles on the edges, usually on the lower portion of the plant, milky juice.
- **Stems:** Hollow stems, branched at the top portion of the plant, milky juice.
- **Flower:** Yellow flowers (dandelion-like).
- **Seed/Fruits:** Small seed, wings (pappus).
- **Toxicity:**
- **Control:** Chemical.

Leafy Spurge

Euphorbia esula, Euphorbiaceae (Spurge Family)

Category: Noxious



- **Information:** Introduced from Eurasia. Commonly found in pastures and river valleys. Similar to ornamental varieties.
- **Life cycle:** Perennial.
- **Root:** Brownish rhizomes with pink buds.
- **Leaves:** Alternate, narrow, 2-10cm long. Stems and leaves contain a white milky sap (similar to Dandelions).
- **Stems:** Up to 90cm tall.
- **Flower:** Seven to 10 yellowish green flowers in small clusters. The inconspicuous flower is subtended by showy, heart-shaped yellow bracts.
- **Seed/Fruit:** Oblong, grayish to purple, and borne in a three-celled fruit.
- **Toxic:** May be toxic to horses, cattle, humans.
- **Control:** Chemical, targeted grazing (sheep), do not cultivate.

Tansy, Common

Tanacetum vulgare, Asteraceae (Sunflower Family)

Category: Noxious



Sarah Schumacher, Wheatland County



Sarah Schumacher, Wheatland County



Sarah Schumacher, Wheatland County



Wheatland County

- **Information:** Introduced as an ornamental, commonly found across much of Alberta in river valleys and roadside ditches
- **Life cycle:** Perennial.
- **Root:** Rhizomatous, woody.
- **Leaves:** Leaves alternate, consistent in size, and deeply divided into leaflets with toothed margins. Leaves have a strong odour when crushed.
- **Stems:** 30cm -1.8m tall, often purplish red
- **Flower:** Numerous (20 to 100) yellow- orange, button-like flower heads appear in flat-topped, dense clusters on the terminal stem. Flowers lack long (ray) petals.
- **Seed/Fruit:** Yellowish brown seeds have five-toothed ridges.
- **Toxic:** Horses, cattle, humans.
- **Control:** Chemical.

Thistle, Canada

Cirsium arvense, Asteraceae (Sunflower Family)

Category: Noxious



Sarah Schumacher, Wheatland County



Sarah Schumacher, Wheatland County



Sarah Schumacher, Wheatland County



Sarah Schumacher, Wheatland County



Sarah Schumacher, Wheatland County

- **Information:** Introduced from Europe. Found across most of Alberta.
- **Life cycle:** Aggressive creeping perennial.
- **Root:** Horizontal and vertical (rhizomatous).
- **Leaves:** Alternate, wavy, lance shaped, lobed, spine-tipped and lack stalks; Upper leaves smaller than lower leaves.
- **Stems:** 30-120cm tall, lack spines, erect, ridged, branched, and slightly hairy.
- **Flower:** Purple, pink or white with diameter of 1.5-2cm form clusters at branch ends. Bracts have weak prickles (no spines). Have male and female flowers. Have a sweet smell when in bloom.
- **Seed/Fruit:** Long, flattened seeds with tufts of white hairs.
- **Control:** Chemical, late fall application.

Toadflax, Dalmatian

Linaria dalmatica, Scrophulariaceae (Snapdragon Family)

Category: Noxious

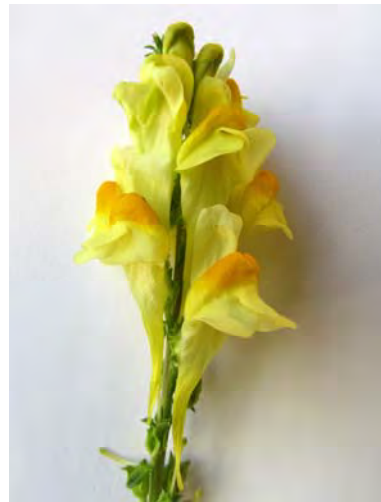


- **Information:** Similar to Yellow Toadflax.
- **Life cycle:** Perennial.
- **Root:** Taproot and horizontal roots with adventitious buds, woody.
- **Leaves:** Leaves and stems waxy, pale green to bluish green. Heart-shaped leaves alternate with smooth edges, and clasp stem.
- **Stems:** Up to 90cm tall, robust.
- **Flower:** Develop at base of the upper leaves, snapdragon-like, bright yellow with an orange throat and a long spur.
- **Seed/Fruit:** Irregular angled seeds in two-celled capsule.
- **Toxicity:**
- **Control:** Chemical.

Toadflax, Yellow

Linaria vulgaris, Scropulariaceae (Snapdragon Family)

Category: Noxious



- **Information:** Introduced from Europe as an ornamental. Also called “butter and eggs”. Is often found in roadside ditches. Has a very pleasant sweet smell.
- **Life cycle:** Perennial.
- **Root:** Creeping rhizomes.
- **Leaves:** Numerous, alternate, pale green to gray-green, individually connected to the stem, long (2 1/2 inches long or longer) and narrow, with smooth edges and slightly rubbery to touch. Smaller leaves are present in the axis of the stem and main leaf (not present on Leafy Spurge).
- **Stems:** 20-60cm inches tall, usually not branched.
- **Flower:** Yellow, snapdragon-like flowers with orange throat, 2.5-3cm long with downward spur/ tail (1 inch long), on short stalks in dense clusters at top of stems. Generally flowers in mid August.
- **Seed/Fruit:** Capsule brown, round to oval with two compartments. Seeds dark brown to black, less than 4cm in diameter, flattened, with papery circular wing.
- **Control:** Chemical mid august.

Glossary

adventitious roots Roots appearing in an unusual or unexpected place on a plant.

alternate Referring to a leaf or bud arrangement in which there is one bud or one leaf at a node.

annual A plant that lives one year or less. A winter annual germinates late one growing season and produces seed and dies during the next growing season.

basal Refers to the base of the plant.

biennial A plant that lives for two growing seasons, normally producing a basal rosette the first year and the flower and fruit the second year.

bract A small leaf-like structure surrounding or enclosing the flower, usually below the petals.

capsule Dry fruit with more than one seed.

clasping Partly surrounding the stem.

fibrous roots Root system with many, fine, diffuse roots.

flower head A cluster of individual flowers in one compact unit, usually referring to compound flower of the Sunflower Family members.

inflorescence One or more flowers which comprise the flowering part of the plant.

lobed Divided less than one-half the distance to the base or mid-vein, usually rounded or obtuse.

midrib The central axis or vein of the leaf blade or leaflet.

noxious weeds Invasive plant which a landowner has a legal responsibility to control, based on the Alberta Weed Act

Glossary

nutlet Hard, small, one-seeded fruit, usually referring to fruits of the Boraginaceae members.

opposite Term applied to leaves or buds occurring in pairs at a node.

palmate Leaflets, lobes, or veins which arise from the same point at the tip of the stalk.

perennial Plants which live two or more years.

pinnate Leaflets or lobes developing from several different points on the main leaf axis.

plume A hair-like or featherlike structure, often on a seed.

rhizomatous Having rhizomes.

rhizome A horizontal stem growing beneath the ground which can develop roots or sprouts at the joints.

rosette A cluster of leaves radiating out from the base of the plant.

sepal One of the outermost flower structures, usually enclosing the other flower parts in the bud.

spur Any long, narrow (sometimes tubular) extension of a petal.

stolon A horizontal stem growing above the ground, which can develop roots or sprouts at the joints.

taproot The primary descending root along the vertical axis of the plant which is larger than the branching roots.

terminal Borne at or belonging to the extremity or summit.

umbelliform inflorescence A many flowered inflorescence in which the flowers' stems arise from a common point, ascend in all directions, and form a relatively level topped flower cluster.

Weed Websites

Alberta Invasive Plant Council

<http://www.invasiveplants.ab.ca/index.html>

Weed Wise gardening in Alberta

<http://www.invasiveplants.ab.ca/Downloads/27x9%20WWbrochure.pdf>

Alberta Weed Act

http://www.qp.alberta.ca/574.cfm?page=W05P1.cfm&leg_type=Acts&isbncln=9780779737420

B.C. Weeds

<http://www.agf.gov.bc.ca/cropprot/weedguid/weedguid.htm>

Ontario Weeds

<http://www.omafra.gov.on.ca/english/crops/facts/ontweeds/weedgal.htm>

Manitoba Weeds

<http://www.gov.mb.ca/agriculture/crops/weeds/index.html>

Centre for invasive species and ecosystem health

<http://www.invasive.org/>

XID Services; Weed Identification

<http://xidservices.com/>

Weed References

Weeds of Canada and the Northern United States

This impressive, richly illustrated field guide identifies more than 150 noxious weeds and another 100 related species. Colour photographs show the weeds at five critical stages. Information on weed legislation by province and state is also listed. A first of its kind, this book is an extraordinary resource for a multitude of users, whether farmer, landscaper, weed specialist or gardener.

Authors: Royer and Richard Dickinson

Published by: Lone Pine Publishing

*Can be purchased at many book stores in Alberta

This book is a comprehensive field guide to the common weeds across the Canadian prairie provinces. With 112 weeds detailed, this book gives you full-color photos of the weeds at different growth stages. Weeds are color-coded by flower color for easy reference, and the full index lets you find the species you want by common, scientific or family name. Charts on life cycle and habitat provide valuable information while the maps help you see how widespread these weeds are. An opening section on weed identification gives tips on what to look for. And the handy coil binding lets you open the book out flat, so you can work with it in the field. 266 pages.

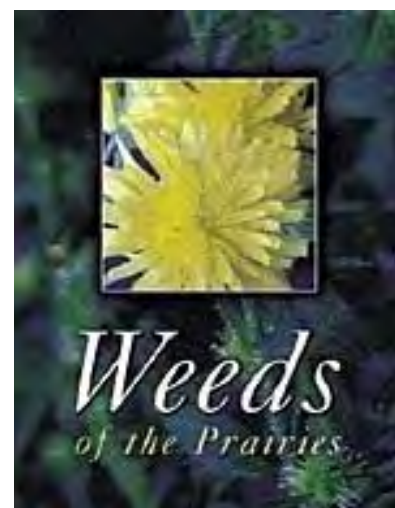
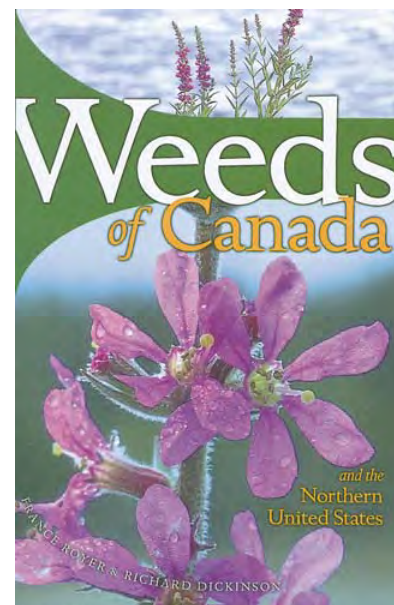
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Early identification of grass and broad-leaved weeds saves time and money! This convenient pocket size booklet helps farmers and others correctly identify weed seedlings. Proper identification allows you to take appropriate measures to deal with weeds. This publication features over 60 coil-bound pages of information on 40 broad-leaved weeds and 10 grasses; a table of contents organized by cotyledon (seed-leaf) shape to make identification easier; 49 drawings of cotyledon (seed-leaf) shapes; 50 large full-color photos of weed seedlings and a helpful glossary of terms. 65 pages.

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