Weed Identification Guide

Material for this publication was prepared by the Weed Science Services Section of the Plant Industry Branch of the Nova Scotia Department of Agriculture and Marketing and the Plant Health Section of the Plant Industry Branch of the New Brunswick Department of Agriculture.

This publication was a joint effort among Agriculture Canada and the provinces of Nova Scotia and New Brunswick with financial assistance of the Canada/Nova Scotia Livestock Feed Development Agreement and the Canada/New Brunswick Livestock Feed Development Agreement.

Assistance provided by Charles Surette (photography), Sharon Campbell and Margaret Mann is gratefully acknowledged. Appreciation is extended to Dr. Doug Doohan whose suggestions, advice, and editorial comments were invaluable.

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Revision: May 25, 2005
Original Date Published: 1991

Agriculture Canada
New Brunswick Agriculture and Rural Development
Nova Scotia Department of Agriculture and Marketing
Introduction

A weed is any plant growing in an area where it is not wanted. We try to control weeds because they compete with crops for light, moisture, space and nutrients. Certain weed species can harbour plant diseases and insect pests. Other species may be poisonous, allergenic or irritant to humans and/or livestock. Medical and economic problems such as illness, death, rashes, hayfever, or a reduction in quality of fur, meat and milk products may result.

Weeds have many unique characteristics which make them extremely difficult to control. Most produce a tremendous number of seeds. The seeds of some weed species may be dormant for many years, with only a small percentage germinating each year. Weeds generally mature earlier than the crop and often seeds will be dropped before crop harvest and remain in the field. Weeds are generally more competitive than crops and can often survive under unfavorable growing conditions.

Early identification of emerged weed species is critical for choosing the best weed control methods. This guide will enable you to identify weeds at three growth stages.

Summer annuals complete their lifecycle from seed to maturity in less than one year. They germinate in the spring, mature, set seed and die in the fall. Winter annuals germinate in the fall, overwinter as seedlings or small rosettes and mature, set seed and die the following spring or early summer. Some weeds are capable of both the summer and winter annual lifecycle.

Biennials complete their lifecycles in less than two years. Germination and the production of an overwintering rosette of leaves occur the first year. The second year, flowering, seed production, and plant death occur. Control is best obtained during the first year.

Perennials live for more than two years. They reproduce vegetatively from roots, rhizomes, buds, or tillers, or from seed, or both. They can be especially difficult to control because of their persistent root systems.

Several weed control options are available. Prevention is the most practical and economical form of weed control. Always use certified seed, clean off farm implements when travelling from field to field, control weeds in fence lines, right-of-ways, irrigation ditches, etc. Be alert for new weeds on your farm, so they can be controlled before they become a serious problem. Mechanical control may utilize hoeing, timely cultivation (excellent for seedlings and annuals), and mowing to prevent seed production. Cultural control may utilize techniques such as proper grazing management, good soil fertility practices, proper drainage, rotation and choosing good competitive crop varieties to encourage maximum crop competition. Biological control is the control of weeds with plant pathogens or insects. Several of our most troublesome pasture weeds can be controlled with this method. For example, tansy ragwort is controlled by the cinnabar moth. Chemical control utilizes various herbicides to control weeds. Weeds must be correctly identified in order to select a herbicide that will be effective. Herbicides will be most effective on annual and biennial weeds during the seedling stage. Herbicides will be most effective on perennial weeds during the seedling stage or just prior to flowering (bud stage) or in the fall.

Remember to always read the label of the herbicide to determine crops registered, weeds controlled and safety precautions.

The best weed control program will not rely on one control method, but rather will integrate several methods of weed control.
<table>
<thead>
<tr>
<th><strong>Glossary</strong></th>
</tr>
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<tbody>
<tr>
<td>Alternate Leaves</td>
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<tr>
<td>Auricle</td>
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<tr>
<td>Awn</td>
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<td>Axil</td>
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<td>Basal Leaves</td>
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<tr>
<td>Blade</td>
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<td>Bracts</td>
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<tr>
<td>Capsule</td>
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<tr>
<td>Cotyledon</td>
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<tr>
<td>Entire</td>
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<tr>
<td>Ligule</td>
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<tr>
<td>Linear</td>
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<td>Lobe</td>
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<tr>
<td>Margin</td>
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<td>Mid-vein</td>
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<tr>
<td>Node</td>
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<tr>
<td>Oblong</td>
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<tr>
<td>Opposite Leaves</td>
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<tr>
<td>Panicle</td>
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<tr>
<td>Prostrate</td>
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<tr>
<td>Ray Floret</td>
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<td>Rhizome</td>
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<tr>
<td>Rosette</td>
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<tr>
<td>Spike</td>
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<td>Spore</td>
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<td>Stalk</td>
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<td>Stolon</td>
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<tr>
<td>Toothed</td>
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<tr>
<td>True Leaves</td>
</tr>
<tr>
<td>Umbel</td>
</tr>
<tr>
<td>Whorl</td>
</tr>
</tbody>
</table>
To use the table below:

a) Compare first true leaf shape with shape in left-hand column.

b) When similar shape is located click on the weeds listed in the second column and compare true leaves in photos with weed specimen for identification.

NOTE: Weed species are arranged according to first true leaf shape. Leaf shape may change as weed matures.

If you know the name of the weed, you may use the alphabetical index.

<table>
<thead>
<tr>
<th>FIRST TRUE LEAF</th>
<th>WEED</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image1" alt="Corn Spurry" /></td>
<td>Corn Spurry&lt;br&gt;Horsetail, Field</td>
<td>Leaves are needle-shaped and first leaves are usually whorled.</td>
</tr>
<tr>
<td><img src="image2" alt="Cudweed" /></td>
<td>Cudweed, Low</td>
<td>Leaves are linear and first leaves in tight rosettes. Later leaves can vary.</td>
</tr>
<tr>
<td><img src="image3" alt="Bladder Campion" /></td>
<td>Bladder Campion&lt;br&gt;Hawkweed, Mouse-eared&lt;br&gt;Lady's Thumb&lt;br&gt;Milkweed, Common&lt;br&gt;Ox-eye Daisy&lt;br&gt;Purslane&lt;br&gt;Toadflax, Yellow&lt;br&gt;Wormseed Mustard</td>
<td>Leaves tapering at each end. Entire, toothed, or wavy-edged margins. Leaves have rounded or pointed tips.</td>
</tr>
<tr>
<td><img src="image4" alt="Bull Thistle" /></td>
<td>Bull Thistle&lt;br&gt;Canada Thistle&lt;br&gt;Shepherd's Purse</td>
<td>Leaves are deeply wavy. Fairly regular indentations giving a lobed appearance. Oblong shaped leaf.</td>
</tr>
<tr>
<td><img src="image5" alt="Burdock" /></td>
<td>Burdock, Common&lt;br&gt;Chickweed, Common&lt;br&gt;Chickweed, Mouse-eared&lt;br&gt;Fleabane, Canada&lt;br&gt;Plantain, Broad-leaved&lt;br&gt;Redroot Pigweed&lt;br&gt;Stitchwort, Grass-leaved</td>
<td>Leaves egg shaped to oval. Entire toothed or slightly wavy margins. Leaves have rounded ends or tapering to a point</td>
</tr>
<tr>
<td><img src="image6" alt="Field Violet" /></td>
<td>Field Violet&lt;br&gt;Groundsel, Common&lt;br&gt;Hempnettles</td>
<td>Leaves egg shaped to oval. Margins are regularly notched like a saw or rounded teeth.</td>
</tr>
<tr>
<td><img src="image7" alt="Coltsfoot" /></td>
<td>Coltsfoot&lt;br&gt;Dandelion&lt;br&gt;Goldenrod&lt;br&gt;Lambsquarters</td>
<td>Leaves egg shaped, oval to triangular. Margins are irregularly and coarsely toothed or wavy.</td>
</tr>
<tr>
<td>Perennial Sow Thistle</td>
<td>Yellow Rocket</td>
<td>Leaves circular or disc shaped, sometimes kidney shaped. Generally broader than long, rounded teeth or distantly toothed or wavy margins.</td>
</tr>
<tr>
<td>----------------------</td>
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</tr>
<tr>
<td></td>
<td>Sheep Sorrel</td>
<td>Leaves arrow-head shaped or heart-shaped with basal lobes.Margins entire or distinctly toothed or wavy.</td>
</tr>
<tr>
<td></td>
<td>Wild Buckwheat</td>
<td>Leaves in a whorl. Several identical leaves arranged in a whorl around each node on the stem.</td>
</tr>
<tr>
<td></td>
<td>Cleavers/Smooth Bedstraw</td>
<td>Leaves in a whorl. Several identical leaves arranged in a whorl around each node on the stem.</td>
</tr>
<tr>
<td></td>
<td>Wild Radish</td>
<td>Leaves divided. Margins with irregular lobes. Enlarged terminal lobe with smaller lateral lobes.</td>
</tr>
<tr>
<td></td>
<td>Tansy Ragwort</td>
<td>Leaves divided. Margins with irregular lobes. Enlarged terminal lobe with smaller lateral lobes.</td>
</tr>
<tr>
<td></td>
<td>Pineappleweed</td>
<td>Has leaflets arranged along each side of a common stalk. Outline oblong, oval or roughly triangular. Leaflets may be further divided. Narrowly linear to disc-shaped, entire or lobed margins.</td>
</tr>
<tr>
<td></td>
<td>Ragweed, Common</td>
<td>Has leaflets arranged along each side of a common stalk. Outline oblong, oval or roughly triangular. Leaflets may be further divided. Narrowly linear to disc-shaped, entire or lobed margins.</td>
</tr>
<tr>
<td></td>
<td>Scentless Chamomile, Stinking Mayweed</td>
<td>Has leaflets arranged along each side of a common stalk. Outline oblong, oval or roughly triangular. Leaflets may be further divided. Narrowly linear to disc-shaped, entire or lobed margins.</td>
</tr>
<tr>
<td></td>
<td>Wild Carrot</td>
<td>Has leaflets arranged along each side of a common stalk. Outline oblong, oval or roughly triangular. Leaflets may be further divided. Narrowly linear to disc-shaped, entire or lobed margins.</td>
</tr>
<tr>
<td></td>
<td>Yarrow</td>
<td>Has leaflets arranged along each side of a common stalk. Outline oblong, oval or roughly triangular. Leaflets may be further divided. Narrowly linear to disc-shaped, entire or lobed margins.</td>
</tr>
<tr>
<td></td>
<td>Buttercup, Tall/Creeeping</td>
<td>Leaves having lobes, divisions etc. spreading from a single point. Leaf outlines generally disc-shaped.</td>
</tr>
<tr>
<td></td>
<td>Black Medick</td>
<td>Leaves split into 3 leaves or divisions (like clover).</td>
</tr>
<tr>
<td></td>
<td>Vetch, Tufted</td>
<td>Has regular leaflets arranged along each side of a common stalk. Leaves oval or tapering to each end and are separate and of equal size.</td>
</tr>
<tr>
<td></td>
<td>Barnyard Grass</td>
<td>Has regular leaflets arranged along each side of a common stalk. Leaves oval or tapering to each end and are separate and of equal size.</td>
</tr>
<tr>
<td></td>
<td>Crabgrass, Small</td>
<td>Has regular leaflets arranged along each side of a common stalk. Leaves oval or tapering to each end and are separate and of equal size.</td>
</tr>
<tr>
<td></td>
<td>Foxtail, Green/Yellow</td>
<td>Has regular leaflets arranged along each side of a common stalk. Leaves oval or tapering to each end and are separate and of equal size.</td>
</tr>
<tr>
<td></td>
<td>Quackgrass</td>
<td>Has regular leaflets arranged along each side of a common stalk. Leaves oval or tapering to each end and are separate and of equal size.</td>
</tr>
<tr>
<td></td>
<td>Wild Oats</td>
<td>Has regular leaflets arranged along each side of a common stalk. Leaves oval or tapering to each end and are separate and of equal size.</td>
</tr>
<tr>
<td></td>
<td>Witchgrass</td>
<td>Has regular leaflets arranged along each side of a common stalk. Leaves oval or tapering to each end and are separate and of equal size.</td>
</tr>
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Barnyard Grass
*Echinochloa crusgalli* (L.) Beauv.

**Summer Annual**
Reproducing by seed and nodes rooting at soil contact

**Roots**
Fibrous

**Stem**
Erect or horizontally spreading
Seedlings have flat stem with purplish base
Hollow with swollen nodes, may be branched

**True Leaves**
Usually hairless, no auricle or ligule
Broad, slightly rough
Leaves rolled in the bud

**Flowers**
Branched panicles
Flowering from July to September

**Habitat**
Cultivated fields, barnyards, waste areas

**Note**
Common where moisture is adequate
Seeds may attract some birds
Black Medick
*Medicago lupulina (L.)*

**Summer Annual**
Reproducing by seed

**Cotyledons**
Oval, short, pale

**Roots**
Branched taproot

**Stem**
May be erect, usually prostrate and spreading, hairy

**True Leaves**
Alternate, three leaflets with central leaflet on a long stalk
Leaves toothed above the middle
Hairy central leaf

**Flowers**
Small, yellow, dense clusters at ends of stalks
Clover-like flower

**Habitat**
Pastures, occasionally in cultivated fields

**Note**
Twisted black seedpods form soon after flowering
Bladder Campion
Silene cucubalus Wibel

Perennial
Reproducing by seed and rooting crown branches

Cotyledons
Oblong

Roots
Branched taproot

Stem
Erect, branching from base

True leaves
Opposite, long, narrow to ovate
United at base, waxy texture
Upper leaves prominently veined

Flowers
Clusters at end of branches
Smooth papery balloon capsule with purplish veins running through it
Five white petals (two lobed) extending from the capsule

Habitat
Pastures, roadsides, waste areas

Note
White Cockle similar but has hairy elongated teeth at top of balloon capsule
Burdock, Common
Silene cucubalus Wibel

Bienniel
Reproducing by seed

Cotyledons
Spoom shaped, waxy surface

Roots
Thick taproot

Stem
Erect, branched, hollow, hairy
Grooved lengthwise

True Leaves
Large rosette first year
Leaves later alternate
Coarsley veined
Soft white hair on underside

Flowers
Purple, heads grouped and surrounded
by bracts (outer bracts have
hooks) forming a bur

Habitat
Pastures, roadsides, waste areas

Note
Burs easily attach to fur, hair or clothing
Leaves resemble rhubarb
Buttercup, Tall/Creeeping

Ranunculus acris L. / R. repens L.

**Perennial**
Reproducing by seed
Creeping - also by runners

**Cotyledons**
Round to oval, stalked

**Roots**
Tall: Coarse fibrous
Creeping: Fibrous, rooting at nodes

**Stem**
Clustered, branched, hairy
Creeping: prostrate
Tall: erect

**True Leaves**
Long-stalked, alternate, soft
Hairy on both sides of leaf
Creeping: stalked with 3-lobed leaf blade
Tall: stalked with 5-lobed leaf blade

**Flowers**
Bright yellow overlapping petals, numerous

**Habitat**
Damp fields, low ground, meadows, some cultivated fields

**Note**
Poisonous if grazed
Not harmful if dried in hay
Chickweed, Common

*Stellaria media* L. Vill. L.

**Summer or Winter Annual**
Reproducing by seed

**Cotyledons**
Oval with pointed tip

**Roots**
Fibrous, rooting at nodes

**Stem**
Spreading, weak, with swollen nodes
One line of hairs along stem of mature plants, branched

**True Leaves**
Opposite, oval to round with pointed tip
One line of hairs along stalks of lower leaves
Upper leaves stalkless

**Flowers**
Five white two-lobed petals
Star-shaped

**Habitat**
Grain fields, pastures and cultivated areas

**Note**
Good crop competitor due to its shade tolerance
Rooting stem nodes form mats
Chickweed, Mouse-eared
Cerastium vulgatum L.

Perennial
Reproducing by seed and horizontal rooting systems

Cotyledons
Oval with pointed tips

Roots
Fibrous, rooting at nodes

Stem
Mostly prostate, sometimes erect
Hairy and branched

True Leaves
Opposite, hairy on both sides
Stalkless, dark green

Flowers
Five white two-lobed petals

Habitat
Pastures, cultivated fields, waste areas

Note
Prefers moist areas
Very hairy, pointed leaves, hence the name "mouse-eared"
Cleavers/Smooth Bedstraw

_Galium aparine L./ G. mollugo L._

**Cleavers: Annual**
Reproducing by seed

**Bedstraw: Perennial**
Reproducing by seed or rhizomes

**Cotyledons**
Opposite, oval to round

**Roots**
Fibrous

**Stem**
Square, sprawling
Cleavers: downward pointing hairs on stem corners, weak, reclining
Bedstraw: smooth, hairless

**True Leaves**
Narrow, oblong in whorls of six or eight
Cleavers: rough hairs
Bedstraw: smooth

**Flowers**
Four small white petals
Produced on branched clusters at stem ends and axils

**Habitat**
Grain and forage fields, roadsides

**Note**
Cleavers' rough hairs extremely clingy
Colts-foot
*Tussilago farfara* L.

**Perennial**
Reproducing by rhizomes and seeds

**Cotyledons**
Oblong, rounded base

**Roots**
Rhizome

**Stem**
Flower stems: erect, covered with pink scales and white fluff
Leaf stems: emerge only after flower stems die, red and wooly, no scales

**True Leaves**
Large, long stalked, rounded with toothed margins
Underneath has dense white hair

**Flowers**
Yellow heads like dandelion

**Habitat**
Cultivated areas, waste areas, roadsides

**Note**
Prefers moist soil
Corn Spurry
*Spergula arvensis* L.

**Annual**
Reproducing by seed

**Cotyledons**
Narrow, fleshy, needle-shaped

**Roots**
Short taproot

**Stem**
Usually hairless
Sometimes sticky with swollen nodes
Single or branched

**True Leaves**
Whorls of 6 to 30 on stem
Narrow, fleshy, needle-like
Rounded upper surface
Grooved lower surface

**Flowers**
Small, white
One flower per stalk on upper part of plant

**Habitat**
Grain and cultivated fields, waste areas
Common in moist areas

**Note**
Not susceptible to 2,4-D or MCPA
Horsetail similar but has scale-like leaves and often three-sided terminal branches
May be sticky to the touch
Crabgrass, Smoot
*Digitaria ischaemum* (Schreb.) Muhl.

**Summer Annual**
Reproducing by seed

**Roots**
Fibrous, stems root at lower nodes

**Stem**
Erect, branched, sprawling
Lower stem purple

**True Leaves**
Smooth, tuft of hairs at base of lower leaves
No auricle, membranous ligule
Rolled in the bud

**Flowers**
Branched panicle
Flowers from July to September
Forked, finger-like stalks

**Habitat**
Cultivated fields, waste areas, roadsides

**Note**
Large crabgrass is similar except it is hairy and larger Often the first grass to escape control of atrazine treated fields
Cudweed, Low

*Gnaphalium uliginosum* L.

**Summer annual**
Reproducing by seed

**Cotyledons**
Linear shape

**Roots**
Taproot and fibrous

**Stem**
Branched from base
Covered with white woolly fuzz
Short, prostrate

**True Leaves**
Alternate, narrow, linear
Mostly covered with white, wooly fuzz
Lower leaves may be hairless

**Flowers**
Densely clustered at ends of branches or in leaf axils
Mostly white surrounded by light brown scales

**Habitat**
Cultivated fields, pastures, roadsides

**Note**
Prefers damp, acid soils
Dandelion
*Gnaphalium uliginosum* L.

**Perennial**
Reproducing by seed or root fragments

**Cotyledons**
Thin, not fleshy
Margins may be smooth, but varies

**Roots**
Taproot

**Stem**
Unbranched, leafless
Hollow with milky sap
Flower stalk

**True Leaves**
Basal leaves only
Forming a rosette
Long with coarsely toothed margins
Milky sap present
Triangular lobes on each side of leaf
Teeth point toward base

**Flowers**
Bright yellow
Found at terminal end of stem

**Habitat**
Cultivated fields, pastures, hayfields, roadsides

**Note**
Plant parts used for food, drink, medicine
Field Violet
Viola arvensis Murr.

Summer or Winter Annual
Reproducing by seed

Cotyledons
Oval, broad

Roots
Fibrous

Stem
Erect, short, spreading
With or without hairs, hollow

True Leaves
Alternate
Young plants: rounded scalloped edges, long stalks
Older plants: oblong
Round-toothed,
Leafy appendage at each node

Flowers
Solitary, white with pale yellow or purple markings

Habitat
Grain crops, cultivated fields
Pastures, waste areas

Note
Flower similar to garden pansy, but much smaller
Fleabane, Annual

*Erigeron annus (L.) Pers.*

**Summer Annual, Sometimes Biennial**
Reproducing by seed

**Cotyledons**
Round, short-stalked

**Roots**
Taproot and fibrous

**Stem**
Erect with spreading short hairs
Branched above

**True Leaves**
Alternate, hairy
First leaves form rosette
Basal and lower leaves: broad, coarsely toothed, tapering to a long stalk
Middle and upper leaves: narrower, often entire short-stalked or stalkless

**Flowers**
Resemble daisies except smaller and more numerous
White, may have pink or blue tinge
Found in clusters at terminal ends
Habitat
Cultivated fields, pastures, meadows, waste places, roadsides

**Note**
Name derived from belief that dried flowers would get rid of fleas from a home
**Foxtail, Green/Yellow**

*Setaria viridis (L.) Beauv. / S. glauca (L.) Beauv.*

**Summer Annual**
Reproducing by seed

**Roots**
Fibrous

**Stem**
Erect or spreading

**True Leaves**
Rolled in the bud, no auricle
Green Foxtail: Young plant leaves may have hairy upper leaves, rough to touch, ligule has a fringe of hairs
Yellow Foxtail: Distinguished from green foxtail by having numerous long, kinky hairs extending from leaf base near stem

**Flowers**
Dense spike at end of stem
Green Foxtail: seeds yellowish brown
Yellow Foxtail: seeds yellow

**Habitat**
Grain fields, waste areas, roadsides

**Note**
Grows in all soil textures
Goldenrod
Solidago spp.

Perennial
Reproducing by seed and rootstalk

Cotyledons
Small, spoon-shaped

Roots
Fibrous, from rhizome

Stem
Erect, not branched
Smooth near base
Downy above

True Leaves
Long, narrow tapering to a long point
Sharply toothed and hairy
Three veined

Flowers
Small, numerous
Yellow in color, on short stalks at top of plant

Habitat
Meadows, pastures, old fields

Note
Goldenrod does not usually persist under cultivation
There are many different species of goldenrod
Groundsel, Common
*Senecio vulgaris* L.

**Summer or Winter Annual**
Reproducing by seed

**Cotyledons**
Linear shape

**Roots**
Taproot and fibrous

**Stem**
Erect, often branched fleshy, hollow

**True Leaves**
Alternate
Irregular leaf shape
Upper leaves clasp stem
Lower leaves stalked
Staircase-like toothed margins

**Flowers**
Yellow cylindrical heads at end of branches
Smooth black bracts found at the bottom of the flower heads

**Habitat**
Cultivated fields, roadsides, waste areas

**Note**
Seeds remain viable in the soil for many years
Poisonous to livestock, Pyrrolizidine alkaloids cause liver damage in horses and cattle
Hawkweed, Mouse-eared

Hieracium pilosella L.

**Perennial**
Reproducing by seeds and runners

**Cotyledons**
Round to oval

**Roots**
Fibrous, from runners (stolons)

**Stem**
Erect leafless, hairy
Leafy stolons, milky sap

**True Leaves**
Forming rosette, no stem leaves
Underside, white, woolly
Basal club shaped leaves only

**Flowers**
Yellow, similar to dandelions
One per stem
Habitat
Pastures, roadsides, old fields

**Note**
Prefers acid soil
Differs from Devil's Paintbrush in flower colour and by having only one flower per stem
Many types of hawkweed
Hemp-nettle
Galeopsis tetrahit L.

**Summer Annual**
Reproducing by seed

**Cotyledons**
Round to oval with distinct notched tip

**Roots**
Fibrous taproot

**Stem**
Square and hairy
Simple or branched
Erect, downward pointing bristly hairs

**True Leaves**
Opposite, oval with large rounded teeth on both sides
Stalked, hairy, prominently veined

**Flowers**
Short, dense
White, pink and purple
Clustered at stem joint
Petals joined and two-lipped

**Habitat**
Grain fields, gardens, pastures, waste areas

**Note**
Resistant to 2,4-D
Horsetail, Field

*Equisetum arvense L.*

**Perennial**
Reproducing by spores and rhizome sections

**Cotyledons**
None, sends up two different types of stems (vegetative and reproductive)

**Roots**
Rhizome

**Stem**
Reproductive: early May
White to light brown, hollow
Jointed stems with nodes surrounded by yellowish-brown sheaths with dark brown teeth, tip has brownish cone-shaped spike containing spores
Vegetative: slender, green
Wiry with whorled branches at each node, stems easily pulled apart at nodes and can be pushed back together

**True Leaves**
Green, linear, jointed
Whorled with six to eight branches at each node

**Flowers**
Absent
Spore-producing cone at end of reproductive stem

**Habitat**
Poorly drained, sandy or gravelly soils, cultivated fields

**Note**
Intense competitor
Poisonous to livestock and may be more poisonous in hay than in the field
**Lady's-thumb**
*Polygonum persicaria L.*

**Summer Annual**
Reproducing by seed

**Cotyledons**
Thick, narrow
Short with rounded tips

**Roots**
Fibrous taproot

**Stem**
Erect, reddish, swollen nodes
Smooth, usually branched
Membranous leaf sheath at stem joint

**True Leaves**
Alternate, long, narrow
Triangular dark spot in center of leaf
Sparsely hairy on veins and margins, smooth edges

**Flowers**
Pinkish, clustered on end of stalk arising from stem/leaf joint

**Habitat**
Grain fields, waste areas, cultivated fields

**Note**
Resistant to 2,4-D and MCPA
Green smartweed is similar in appearance
Lamb's-quarters  
*Chenopodium album* L.

**Summer Annual**  
Reproducing by seed

**Cotyledons**  
Fleshy, narrow, rounded tip  
Pinkish underside

**Roots**  
Branched taproot

**Stem**  
Erect, grooved and often branched

**True Leaves**  
Alternate, broadly toothed  
Diamond or triangular shaped  
Long-stalked partially covered with whitish grey meally particles  
Underside of young leaves pinkish

**Flowers**  
Green clusters at end of stem or where leaf joins the stem  
No petals Habitat  
Grain fields, forages, cultivated fields

**Note**  
Seeds remain viable in soil for many years
Milkweed, Common
Asclepias syriaca L.

**Perennial**
Reproducing by seed and creeping roots

**Cotyledons**
- Longer than wide
- Shiny under-surface
- White granules above

**Roots**
Thick, white rhizomes

**Stem**
- Erect, thick, hairy
- Usually unbranched
- Milky sap

**True Leaves**
- Opposite, oblong
- Upper surface usually without hair
- Under surface soft and woolly
- Prominant midvein beneath
- Entire on short thick stalk

**Flowers**
- Dense ball-like cluster at top of stem and upper leaf axils
- White or purple
- Five petals bent downward on stalk

**Habitat**
Pastures, waste areas

**Note**
Forms warty pods that open in the fall
*(See Milkweed factsheet)*
Mustard, Wormseed

*Erysimum cheiranthoides* L.

**Summer or Winter Annual**
Reproducing by seed

**Cotyledons**
Spoon-shaped to oval, tapering to stalk
Notched tip at terminal end

**Roots**
Fibrous taproot

**Stems**
Erect, rough due to two-branched hairs
Stem usually branched

**True Leaves**
Alternate, nearly linear
Tapered at both ends
Three-branched hairs on leaves
Margins wavy

**Flowers**
Small, pale yellow four petals
Pods erect nearly parallel to stem

**Habitat**
Cultivated fields, grain fields
Waste areas

**Note**
Plants often purplish at maturity
Mustard seed oil in feed is poisonous
Ox-Eye Daisy
*Chrysanthemum leucanthemum* L.

**Perennial**
Reproducing by seed and short root stalks

**Cotyledons**
Oblong

**Roots**
Shallow, fibrous with short rhizomes

**Stem**
Erect, emerging from rosette
Simple or branched

**True Leaves**
Stem leaves alternate, deeply cut, clasping
Basal leaves long stalked, broadly spoon-shaped

**Flowers**
White petals with yellow disk center on long stalks
Solitary flower heads

**Habitat**
Cultivated fields, pastures, waste areas

**Note**
May give undesirable flavor to milk if grazed by dairy cows
No flowers produced the first year
Pineappleweed
Matricaria matricarioides (Less.) Porter

Summer Annual
Reproducing from seed

Cotyledons
Small, narrow
Fused together, pointed

Roots
Fibrous taproot

Stem
Smooth, erect, branched

True Leaves
Alternate, finely divided
Carrot-like

Flowers
Cone or egg-shaped
Yellowish green
No petals present

Habitat
Grain fields, forages, waste areas, roadsides

Note
Found on disturbed or packed soils
Pineapple aroma from leaves when crushed

19271bg.jpg
19272bg.jpg
19273bg.jpg
Plantain, Broad-leaved

*Plantago major* L.

**Perennial**
Reproducing by seed

**Cotyledons**
Oval to egg shape with blunt tips
Prominent veins

**Roots**
Fibrous taproot

**Stem**
Leafless

**True Leaves**
Basal rosette
Large, broad thick leaf stalks
Strongly ribbed

**Flowers**
Numerous, green, long spikes

**Habitat**
Cultivated fields, barnyards
Grows in adequate moisture

**Note**
Pollen may cause hayfevers
Narrow leaf plantain is similar but has narrow leaves and a shorter flower spike
Purslane

*Portulaca oleracea* L.

**Summer Annual**
Reproducing by seed

**Cotyledons**
Oval, thick, short, fleshy

**Roots**
Fibrous taproot

**Stem**
Thick, fleshy
Reddish, prostrate, spreading

**True Leaves**
Thick, fleshy, oval
Mostly alternate
Crowded close together
Rounded, entire

**Flowers**
Small, inconspicuous
Found in leaf axils
Pale yellow

**Habitat**
Cultivated fields, waste areas

**Note**
Not shade tolerant, therefore not a problem in grain
Flowers only open in the sun
Forms large mats
Quack-grass
Agropyron repens (L.) Beauv.

**Perennial**
Reproducing by seeds and rhizome buds

**Roots**
Rhizomes, white, cordlike
scaly, many buds

**Stem**
Smooth, hollow

**True Leaves**
Linear, clasping auricles
Slightly hairy on top of leaf
Fringed or entire ligule

**Flowers**
Spike with one row of spikelets
on each side of stem

**Habitat**
Cultivated fields, pastures, waste areas

**Note**
A single plant may produce
135 metres of rhizomes per year
Complete control can be difficult to obtain
Ragweed, Common

*Ambrosia artemisiifolia L.*

**Annual**
Reproducing by seed

**Cotyledons**
Rounded, thick
Short, broadly club-shaped

**Roots**
Fibrous

**Stem**
Erect, often hairy
Branched, bushy

**True Leaves**
Finely divided, fernlike,
Deeply lobed, lower leaves opposite but become alternate

**Flowers**
Numerous, green
Clustered at branch tips

**Habitat**
Grain fields, waste areas, roadsides, cultivated fields, disturbed pastures

**Note**
Common cause of hayfever
Redroot Pigweed

*Ambrosia artemisiifolia* L.

**Annual**
Reproducing by seed

**Cotyledons**
Long, narrow and pointed
Purplish color on underside

**Roots**
Taproot

**Stem**
Erect, hairy, branched
Base of stem is red in young plants

**True Leaves**
Alternate
First true leaves often have notched tips
Pointed, oval
Prominent white veins
Long stalked, wavy entire margin

**Flowers**
Green, no petals
Densely clustered at ends of branches

**Habitat**
Cultivated fields, waste areas

**Note**
Root is usually reddish-pink
Scentless Chamomile/Stinking Mayweed

*Matricaria maritima* L.
*Anthemis cotula* L.

**Summer or Winter Annual or Short Lived Perennial**
Reproducing by seed

**Cotyledons**
Scentless: small, rounded
Stinking: club-shaped

**Roots**
Fibrous taproot

**Stems**
Erect
Branched from middle up
Scentless: smooth
Stinking: finely hairy

**True Leaves**
Alternate
Finely divided, carrot-like Flowers
Resemble daisies

**Habitat**
Grain and forage fields, waste areas

**Note**
Stinking mayweed has an odour when crushed
Sheep Sorrel
*Rumex acetosella L.*

**Perennial**
Reproducing by seed and rhizomes

**Cotyledons**
Oblong, thick

**Roots**
Taproot and rhizomes

**Stem**
Erect, jointed, wiry
Often red-tinged

**True leaves**
Seedling rosette, arrow-shaped
Lobed at basal end of leaf
Upper leaves slender and stalkless, often without lobes

**Flowers**
Small clusters along terminal ends of stem, no petals
Orange-reddish or green

**Habitat**
Pastures, roadsides Note
Presence often indicates acid soil
Shepherd's-Purse

_Capsella bursa-pastoris (L.) Medic._

**Summer or Winter Annual**
Reproducing by seed

**Cotyledons**
Rounded, small and stalked

**Roots**
Branched, fibrous taproot

**Stem**
Erect, simple or branched
Covered with grey hairs

**True Leaves**
Forms a rosette
Dandelion-like leaves, upper surface hairy
Mature leaves deeply lobed with triangular terminal section
Stem leaves alternate, stalkless and clasp the stem

**Flowers**
Four white petals clustered at end of short stalks
Triangular seed pods with notch at blunt end, the stem elongates after the seed pods develop along the stem

**Habitat**
Cultivated fields, roadsides, waste areas

**Note**
Seed pods shaped like pouches
shepherds used, hence the name
Stitchwort, Grass-leaved
Stellaria graminea L.

**Perennial**
Reproducing by seed and rooting nodes along horizontal stem

**Cotyledons**
Longer than wide
Tapered to short stem

**Roots**
Fibrous

**Stem**
Square, branched, prostrate

**True Leaves**
Opposite
Seedling leaves spoon-shaped
Narrow, stalkless, tapering towards tip, entire

**Flowers**
Five white petals
Long flowering stalks

**Habitat**
Cultivated fields, pastures grain fields, waste areas

**Note**
Growth habit similar to chickweed
Tansy Ragwort

*Senecio jacobaea L.*

**Biennial or Short Lived Perennial**
Reproducing by seed, root buds and fragments

**Cotyledons**
Broadly oval, rounded at base

**Roots**
Fibrous

**Stem**
Woolly near top
Branched above middle
Usually hairless

**True Leaves**
Rosette first year
Rosette and basal leaves stalked
Stem leaves small and stalkless
Alternate, dark green, deep irregular lobes

**Flowers**
Golden yellow
Clustered on branch ends
Flat-topped

**Habitat**
Pastures, hayfields, roadsides, waste areas

**Note**
Poisonous to livestock, pyrrolizidine alkaloids cause liver damage in horses and cattle
Biological control, cinnabar moth
*(See Tansy factsheet)*
Thistle, Bull
*Cirsium vulgare* (Savi) Ten.

**Biennial**
Reproducing by seed

**Cotyledons**
Spoon-shaped, fleshy

**Roots**
Taproot

**Stem**
Erect, tall, branched, hairy
Prickly wings along stem with long prickles at tip

**True Leaves**
Rosette first year, deeply lobed with sharp spines at each tip of lobe
Above surface spiny
Under surface white and hairy
Small spines along margin

**Flowers**
Purple, tubular
Surrounded by spine-tipped bracts

**Habitat**
Pastures, roadsides, waste areas

**Note**
Only thistle to have spiny upper leaf surface
Thistle, Canada
*Cirsium arvense (L.) Scop.*

**Perennial**
Reproducing by seed and horizontal underground roots

**Cotyledons**
Oval, fleshy, smooth edges

**Roots**
Rhizome

**Stems**
Erect, smooth
Usually branched

**True Leaves**
Alternate, oblong, to lanceolate irregularly lobed, spiny toothed
Margins with triangular indents and spines
Upper leaves, stalkless clasping the stem
Lower leaves, sometimes stalked

**Flowers**
Purplish or pinkish disk flowers surrounded by spineless bracts
Ray florets absent
Small, numerous clusters

**Habitat**
Cultivated fields, pastures, roadsides

**Note**
Spreading reproductive rootstalks make control in cultivated fields difficult
Most common thistle
Thistle, Perennial Sow

*Sonchus arvensis* L.

**Perennial**
Reproducing by seed and rootstalks

**Cotyledons**
Oval, fleshy

**Roots**
Rhizomes

**Stem**
Erect, branching near top
Hairless, hollow
Milky sap in stem

**True Leaves**
Alternate bright, shiny green
Upper leaves clasp stem
Irregularly lobed
Weak, prickly margins

**Flowers**
Yellow, resemble dandelion flowers

**Habitat**
Grain fields, cultivated fields, pastures, roadsides

**Note**
Annual sow thistle very similar but does not have underground rhizomes
Toadflax, Yellow
Linaria vulgaris Mill.

**Perennial**
Reproducing by seed and creeping rootstalks
Cotyledons
Oval, widest at base tapering to a distinct bump at tip

**Roots**
Creeping rootstock with fibrous roots

**Stem**
Erect, smooth
Singular or branching

**True Leaves**
Numerous, stalkless, alternate but may appear whorled
Pale green, hairless, entire

**Flowers**
Clustered at end of stem branches
Bright yellow with orange center and long spur at base, short stalked

**Habitat**
Grain fields, pastures, roadsides, waste areas
Note
Usually found in clumps
Popular flower for honeybees
Vetch, Tufted

*Vicia cracca* L.

**Perennial**
Reproducing by seed and underground rootstocks

**Cotyledons**
Linear shaped

**Roots**
Rhizome Stem
Weak, wiry, creeping, climbing

**True Leaves**
Alternate
Leaves with 8 to 12 pairs of small, narrow leaflets along the stalk
Tendrils at end of stalks

**Flowers**
Numerous, pea-like bluish purple on one side of stalk
Later form pods

**Habitat**
Cultivated fields, pastures, waste areas

**Note**
Frequently twines on other plants
Wild Buckwheat
*Polygonum convolvulus* L.

**Summer Annual**
Reproducing by seed

**Cotyledons**
Narrow, long
Positioned 120° angle from each other

**Roots**
Fibrous

**Stem**
Swollen joints with papery sheath at each joint
Viny growth, often red

**True Leaves**
Alternate
First leaves triangular shape
Later leaves have arrow-shaped pointed tips

**Flowers**
Small, no petals, greenish white
From leaf axils or stem tips

**Habitat**
Grain and cultivated fields

**Note**
Some resistance to 2,4-D and MCPA
Seeds quite large and may be found in grain
Wild Carrot

*Daucus carota* L.

**Biennial**
Reproducing by seed

**Cotyledons**
Long, narrow
Tapering at base and tip

**Roots**
Taproot

**Stem**
Erect in second year
branched, hollow, bristly

**True Leaves**
Rosette in first year
First leaves have three main divisions
Finely divided, lacy, hairy

**Stem Leaves**
Alternate
Leaf sheath is broad and encircles stem at base, similar to rosette leaves, except smaller and shorter-stalked

**Flowers**
White with central flowers occasionally pinkish
Large compound umbel made up of many smaller umbels
Whorl of three to five bracts at base of each compound umbel, after flowering umbel closes forming a "bird's nest"
Seeds are prickly

**Habitat**
Old fields, fencerows, uncultivated fields

**Note**
Stems, leaves and roots have a carrot odour
Cultivated carrot derived from wild carrot
Wild Oats

*Avena fatua* L.

**Summer Annual**
Reproducing by seed

**Roots**
Fibrous

**Stem**
Erect, hollow, smooth
Dark-coloured nodes

**True Leaves**
Flat, no auricles
Tapered to a long, thin point with light-coloured mid-vein
Leaf sheath slightly hairy
Margins of collar hairy
Counter-clockwise twist of leaves
Membraneous ligule
Leaves rolled in the bud

**Flowers**
Large panicle with slender branches
Base of seed has a tuft of hairs and a horseshoe-shaped scar
Twisted, bent awn

**Habitat**
Grain and cultivated fields

**Note**
Distinguished from tame oats
by its greater height and hairy, dark-coloured seed with a twisted black awn
Very competitive with cereals
Wild Radish
*Raphanus raphanistrum* L.

**Summer Annual**
Reproducing by seed

**Cotyledons**
Kidney-shaped

**Roots**
Taproot

**Stem**
Erect, with short stiff hairs
Branched

**True Leaves**
Alternate
Stiff hairs present, toothed margins
Rough texture, lower leaves deeply lobed at basal end, stalked
Upper leaves stalkless, more coarsely toothed

**Flowers**
Four yellow petals clustered at end of long stalks
Often has purplish veins
Long pods have constrictions between each seed

**Habitat**
Cultivated fields, grain fields, forages, waste areas

**Note**
Wild mustard similar except pods split lengthwise and do not have constrictions between the seeds
Roots have smell of radish
Witchgrass
*Panicum capillare* L.

**Summer Annual**
Reproducing by seed

**Roots**
Fibrous

**Stem**
Erect or horizontally spreading

**True Leaves**
Leaf blade and sheath very hairy
Bristle-like hairs, no auricle
Ligule has a dense fringe of hair

**Flowers**
Large, loose panicle with numerous branches

**Habitat**
Cultivated fields, waste areas

**Note**
Distinguished from fall panicum by its densely hairy leaves
When mature, panicle breaks off and blows about in the wind, dropping seeds
**Yarrow**  
*Achillea millefolium L.*

**Perennial**  
Reproducing by seed and creeping rhizomes

**Cotyledons**  
Narrow, egg-shaped to oblong

**Roots**  
Rhizome and fibrous

**Stem**  
Erect, covered with fine wooly hairs

**True Leaves**  
Feather-like with grayish-green fine woolly hairs  
Lower leaves form dense patches  
Long-stalked, upper leaves alternate and are stalkless

**Flowers**  
Five white petals, numerous in dense flat-topped or rounded clusters  
Flowers from July to October

**Habitat**  
Pastures, waste areas

**Note**  
Has a sage-like odour  
Does not persit in cultivated fields  
Prefers acidic soils
Yellow Rocket

*Barbarea vulgaris* R. Br.

**Biennial or Perennial**
Reproducing by seed

**Cotyledons**
Round to oval
Long-stalked

**Roots**
Taproot and fibrous

**Stem**
Branched from base, erect

**True Leaves**
Rosette, dark green
Lower leaves: stalked
Upper leaves: coarsely toothed, clasp stem, smaller than lower leaves
Alternate

**Flowers**
Clustered at end of branches
Golden yellow

**Habitat**
Hayfields, pastures, roadsides, increasing in grainfields

**Note**
Distinguished from other mustards by its glossy dark green leaves and very early flowering in the spring