



Home & Garden Pest Management Guide For British Columbia

2019 Edition

Chapter 21 Integrated Weed Management



Integrated Weed Management

Weeds are usually considered undesirable in lawns and gardens. They compete with garden plants for water, nutrients, light and space, and reduce yield and quality. Weeds may offer refuge to beneficial insects, but they also harbour destructive insects and diseases of garden plants. Some are poisonous, many are aesthetically unpleasing and can temporarily lower property value, and many threaten the diversity of our natural resources.

Attention must focus on managing gardens, turf and landscaped areas to maintain their competitive ability rather than on eradicating weeds once they invade. Removing undesirable plants without improving management is usually futile. For example, digging a weed out of a lawn without quickly filling in the bare soil with grass just invites re-invasion by more weeds.

Identification

Know your weeds. Knowledge of weed identification and life cycle is essential for management of the home landscape. This knowledge allows early treatment of perennial weeds before extensive root systems can develop and allows for proper selection and timing of control options.

Prevention

Prevention is the first and most important strategy for weed control! DO NOT let weeds go to seed! They are prolific seed producers and this seed can lie dormant, yet still viable, in the soil for many years. In addition, weed seeds with appendages for wind dispersal pollute the neighbourhood, where they can take root wherever they find open soil.

Potential Weed Seed Production per Plant

Weed	Number of seeds produced per plant
lamb's-quarters	72,000
redroot pigweed	129,000
purslane	52,000
curled dock	30,000
stinkweed	7,000
green foxtail (millet)	34,000
tumble mustard	80,000
Barnyardgrass	1,000,000,000

Weed Seed Dormancy

Weed	Years seeds are viable in soil
lamb's-quarters	10-40
redroot pigweed	10-40
purslane	30
curled dock	40
stinkweed	8
green foxtail (millet)	40
parasitic dodder	70

Cultivation and Hand-weeding

Cultivation and hand-weeding are preferred methods of control for weeds in the home garden. Hoeing or raking should take place shortly after each new flush of weed germination. Cultivation should be shallow to prevent injury to the shallow roots of many vegetables and ornamentals. Perennial weeds can be accidentally propagated by cultivation and should be removed by other methods. Pulling or hoeing below the root crown (growing point) of taprooted perennials is effective. For creeping-rooted perennials, long term intensive cultivation is required.

Mulches

Mulches of grass clippings, sawdust, bark mulch, black plastic, newspaper, landscape fabric, fallen leaves, and stones used alone or in combination are often effective means to reduce weeds and the labour of weeding in ornamental plantings. They are particularly effective against annual weeds. Some mulches are also useful in areas where fruit and vegetables are grown, and where herbicides are not recommended.

Coarse-textured organic mulches should be up to 10 cm deep. Fine-textured organic mulches that pack more tightly should be applied to a depth of about 5 to 7 cm. Quackgrass, field bindweed, horsetail and other perennials with creeping roots usually rise into the mulch and then can be pulled out. If mulches are too fine, applied too thickly or if they begin to decompose, they stay wet between rains and allow weeds to germinate and grow directly in the mulch. If using composted mulch, temperatures achieved during the composting process should have destroyed any weeds seeds. If the compost was stored uncovered in the open, weeds seeds may have blown onto the mulch. Make sure the mulch is not contaminated with weed seeds, rhizomes or tubers of perennial weeds.

Around ornamental shrubs such as junipers and rhododendrons, geotextile landscape fabric placed below the mulch smothers weeds and prevents establishment of seedling weeds. Landscape fabric has the advantage of better air and water movement to the roots of ornamentals than black plastic mulch. In the late fall in small garden areas, weeds should be worked in by rotovator or digging, then covered with black plastic which can be held in place by planks. This prevents establishment of winter annual weeds.

Large gardens can be sown to fall rye to suppress weeds, but dig the rye under early in the spring. It is difficult to kill and becomes weedy itself if it is allowed to grow too large.

Chemical Control

Chemical control using herbicides can be useful for the control of weeds in lawns, on driveways, around ornamental plantings or along fence-lines. Used properly, along with good garden management practices such as the use of mulches, herbicides can be very effective. Used improperly, they can injure desirable plants in the area and make the garden unsightly. Always read the label before purchasing and using a herbicide to ensure that you are using the correct product for your particular weed problem.

Integrated Weed Management in Lawns

Homeowners differ greatly in their tolerance to weeds in the home lawn setting. Prior to undertaking weed management on the home lawn, the homeowner should first give consideration to what level of weed control is desired. The wish for a lawn that looks like a golf green requires a great deal of input in resources such as mowing, fertilizer or herbicides. A homeowner with a higher tolerance for weeds, and perhaps an appreciation for a few dandelions, daisies or buttercups in the landscape, will require fewer management inputs. At the least, homeowners are encouraged to maintain a healthy, vigorous lawn to help prevent invasion by weeds. To be a good neighbour, you should also mow frequently enough to prevent the production of wind-dispersed weed seeds. Conditions that favour weed establishment include soil compaction,

uneven soil moisture, low soil fertility, disease invasion, insect attack and mowing too short for the type of grass present. A healthy lawn acts as a good competitor to prevent weeds from establishing,

Prevention

Mow with a sharp blade to a height of 4 to 5 cm (bentgrass to 2 cm) to encourage root health. Mowing will also control seedling weed growth.

Aerate to encourage water and air penetration to the roots and prevent thatch build-up. Top-dressing with coarse, sandy soil following aeration can help to mitigate compaction problems and improve water penetration to the root zone.

Minimize water stress with a balanced watering schedule. Lawns on average soils require deep watering once or twice a week during dry weather; not shallow watering every one or two days. Only lawns on pure sand require daily watering.

Apply a balanced fertilizer to promote good root health as well as top-growth and colour. At least one early spring application is required per year. Alternatively, light applications spaced throughout the growing season may be used.

In colder areas, leave longer growth, maintain nutrition (especially potassium) and provide good drainage in the fall to prevent winter injury. In warmer areas, it is better to keep the grass short going into the winter to avoid fungal diseases.

Chemical Control

Use herbicides only to complement management methods listed above. **DO NOT APPLY HERBICIDES** until newly-seeded

grass has been cut once or twice. Most annual weed seedlings will be eliminated by the first few mowings. Many broad-leaved perennial weeds in established lawns can be controlled with chemicals that will not harm the lawn grass.

Keep lawn herbicide mixtures containing dicamba well away from the root area of trees and shrubs. At the higher rates it may leach into the soil and injure or kill trees and shrubs. When spraying near flower or shrub borders, put up a plastic, cardboard or plywood sheet to prevent harmful drift. Apply to young, actively growing weeds in the spring, early summer or fall. Do not apply herbicides in the heat of the summer when day temperatures are above 25°C and weed growth has slowed down. To avoid damage to turfgrass and nearby vegetation, do not spray in windy or hot weather. Use low pressure and high water volume to prevent fine droplets or mist which may drift in the air to areas where sensitive plants are growing. Lawns under stress because of insufficient moisture may be injured by herbicides.

Reduce use of herbicides by spot treating weeds with an appropriate product rather than broadcast spraying. Applications of proprietary mixtures of 2,4-D, dicamba and mecoprop, available under various trade names, will give good control of many broadleaved perennial weed species when repeated as necessary.

Refer to Appendix I for a list of weed control products (herbicides) that are available and comments on where they can be used and what weeds they are registered to control.

Caution - Sprayer Contamination:

To avoid damage to desirable vegetation, do not use the same sprayer in which herbicides have been used for applying other pesticides

or nutrient sprays. Preferably, use different sprayers and label them clearly. If it is necessary to use the same sprayer for herbicides and other pesticides, refer to page 8-13: 'Pesticide Application Equipment' for cleaning instructions.

Weed Management in the Vegetable Garden

Suggested weed control in mixed vegetable gardens includes cultivation (hoe, rototiller, etc.), hand pulling and use of mulches (straw, newspaper, plastic, etc.)

The only herbicide that is recommended in home vegetable gardens is glyphosate. It can be used to kill actively growing perennial weeds such as Canada thistle and quackgrass before the garden is prepared in the spring. It is inactivated in the soil and will not affect garden plants seeded after the glyphosate has been applied. Take care when applying glyphosate that spray does not drift onto the foliage of any nearby garden plants.

Because of the mixed cropping nature of most home vegetable gardens, other herbicides are not recommended. Herbicides which could be used safely on one vegetable may cause damage to another. Note: Grass clippings from lawns previously treated with lawn herbicides should not be used in the vegetable garden as there may be sufficient residue in the clippings to damage sensitive plants. Beans, tomatoes and cucumbers are most sensitive to injury. Corn is least sensitive.

It is important to prevent seedling weeds from becoming established. Seedbeds can be prepared well before planting and then irrigated to encourage an initial flush of weeds. These weeds can be controlled with a very shallow raking, cultivation or flaming.

Seedlings of perennial weeds should be controlled early (in the first four to six weeks of their growth) to prevent development of extensive root systems.

Weed Management in the Home Landscape

Weed management in landscapes is often difficult due to the complexity of plantings that usually contain more than one species and a mix of annual and perennial ornamentals. Weed control options in the landscape include hand-weeding, cultivation, clipping, mulching, selective burning and chemical control.

Prior to grading and planting, it is important to control existing weeds. Glyphosate is effective in killing both annual and perennial weeds without leaving soil residues but it does nothing to control weed seeds in the soil. If bringing in soil, ensure it is from a reputable, clean source and as free from weed seeds as possible. Select the best management practices to get the ornamental plants established as quickly as possible so they can compete with weeds. DO NOT let weeds go to seed in the landscaped or adjacent area.

Trees and Shrub Beds, Annual and Perennial Flowerbeds

Control perennial weeds before planting. Hand-weed, cultivate and apply organic mulches or geotextiles to prevent weed growth. Geotextile fabrics are generally not useful in annual beds due to the short term of the planting. Pre-emergence herbicides are useful, as are directed spot treatments of non-selective herbicides under trees and in shrub beds. Avoid use of non-selective herbicides on annual beds after planting.

Herbicides

Herbicides containing dichlobenil, glyphosate, glufosinate ammonium, and fatty acids can be used in home landscape situations.

Dichlobenil will control annual weeds around a number of woody ornamentals and fruit trees. It should be applied in the late fall or early spring before the weeds germinate. Do not plant annual plants or seed annual plants into the soil that has been treated with dichlobenil.

Glyphosate, glufosinate ammonium and fatty acids will only control weeds that are present at the time of application and they have no residual control.

READ THE LABEL carefully before purchasing and using a herbicide. Make sure it is safe on the ornamental plants you are growing and that it will control the specific weeds in the landscape. REFER TO THE LABEL FOR COMPLETE USE AND SAFETY INSTRUCTIONS.

Weeds on Driveways, Paths and Fence-Lines

Keeping unwanted vegetation from walkways, gravel driveways, fence-lines and other non-planted areas is often difficult and time consuming with standard hoeing, tilling and hand-weeding efforts. With caution, flaming with a propane torch can effectively remove the existing vegetation but will have little effect on regeneration of deep-rooted perennial plants. A number of herbicides are available to offer both short and long term vegetation control.

Short-term Control:

Use a non-selective foliar herbicide containing glyphosate, glufosinate ammonium, or fatty acid. These products do not have any soil activity and will only kill emerged weeds at time of application. Applications need to be repeated as each new flush of weed germination occurs. Glyphosate is preferred for control of perennial weeds as it moves through the weed to kill the roots.

Longer-term Control:

Products containing ingredients such as dichlobenil kill or suppress annual plant growth for extended periods. Dichlobenil needs to be applied in late fall or early spring. Rainfall or irrigation is needed to move it into the soil. The length of control is dependent on the type of soil, rainfall and rate of application. Great care must be taken when using such products to avoid damage to desirable plants. Refer to the label before making application.

CAUTION:

- Make sure the weed to be controlled is on the label of the herbicide. Do not apply where roots of ornamental plants, shrubs, trees or lawn may extend into treated area, unless listed on the label, or where runoff to desirable plants, ditches or storm drains could occur.
- Do not allow spray to drift to susceptible plants.
- Do not move treated soil.



Information on Some Hard-To-Manage Weeds

Knotweeds (Mexican bamboo)

Knotweeds are invasive perennials, with four species of concern found in British Columbia: Japanese knotweed (*Fallopia japonica*); Bohemian knotweed (*Fallopia x bohemica*); Giant knotweed (*Fallopia sachalinensis*); and Himalayan knotweed (*Polygonum polystachyum*).

These highly aggressive, fast growing, broadleaved plants have stems resembling bamboo but the leaves are much different. They have been planted for their ornamental value but can spread quickly and have escaped from cultivation. Knotweeds spread rapidly through root systems that may extend from a parent plant up to 20 metres laterally and up to a depth of 3 metres. As with the true bamboos, knotweed should only be planted in areas where the root system can be confined, for example in concrete or metal containers. Control measures will need to be repeated to eradicate knotweed once it becomes a problem. If it is not totally eradicated, it will grow back within a few years.



Bohemian knotweed



Bohemian knotweed



Japanese knotweed



Giant knotweed



Giant knotweed leaf



Japanese knotweed

Management:

Mechanical: Dig and remove all underground parts. If new growth occurs, dig it up and remove it immediately. This method works only if prompt and complete removal of all plants continues.

Chemical: Repeat applications of glyphosate at high rates are required to eventually kill the creeping roots of invasive knotweeds. If re-growth occurs, spray again when 40 cm high. Herbicides containing glyphosate will injure or kill all vegetation, so extreme care must be taken to avoid spray drift falling on lawns or other desired plants.

Morning Glory (field bindweed)

This persistent, perennial weed multiplies by seed and creeping roots. Roots of established plants may extend 9 metres across and can penetrate the soil to 10 metres.



Field bindweed



Hedge bindweed

Management:

Mechanical: Continual removal of new shoots and roots is required. Prevent flowering and seeding.

Chemical: Glyphosate applied when actively growing and at or beyond full bloom, will give good short-term control.

Horsetail

Horsetail has two types of hollow stems. Leafless, reproductive stems are light brown with a spore-bearing cone at the top. These emerge in early spring and die back soon after spores are shed. The sterile stems, with whorls of green leaf-like branches form soon after the fertile stems disappear. Plants are maintained by small tubers that store food reserves and an extensive creeping root system that penetrates to great depths in the soil.

Management:

Mechanical: The tenacious root system makes long-term control difficult. Cut or burn fertile stems before spore formation. Horsetail in gardens can be mowed with a string trimmer, but take care not to hit the stems of desirable plants as they are easily girdled. Landscape fabrics and black plastic mulch effectively prevent horsetail growth. Sawdust or bark mulches are ineffective. Shallow cultivation is not advised as even very small pieces will regrow.



Horsetail



Horsetail - fertile stems

Chemical: Short-term control can be achieved in many woody ornamentals plantings with dichlobenil. In turf, MCPA applied as a directed spray will provide seasonal control only. Glyphosate will not control horsetail.

Blackberry

Himalayan and evergreen (deeply incised leaves) blackberries can form dense, impenetrable thickets and become a nuisance in the landscape. Seeds are easily spread by birds. The long, arched canes also root where they touch the ground. Eradication is extremely difficult due to an extensive creeping rooting system. The native trailing blackberry can also be a nuisance but it is not nearly as aggressive or vigorous as the two introduced species.



Himalayan blackberry. Photo courtesy of L. Scott

Management

Mechanical: Persistence in removing as much root as possible is a good start to management.

Chemical: Small patches should be cut down and the re-growth treated with glyphosate when about 0.3 metres tall. Cutting the stems to about 0.3 metres and painting the fresh cuts with undiluted glyphosate usually works well. Foliage should only be treated with glyphosate in late summer or early fall to be effective.

Puncturevine

Puncturevine is a concern in many areas of the south Okanagan Valley. It forms dense mats along road shoulders, vacant lots, beaches and unpaved parking sites. Its stems reach up to 3 metres (10 feet) in length. The stems are covered by hairy leaves that are divided into six to eight leaflets. Tiny, yellow flowers first appear in late spring or early summer, and spiny seedpods emerge a few weeks later. Each seedpod consists of 5 sections that, at maturity, break into tack-like structures with sharp spines. **These sharply pointed seedpods stick painfully in bare feet and flatten bicycle tires.**

Management

Mechanical: The best method of controlling puncturevine is to prevent establishment by destroying the first plants found in an area before seeds begin to form. Young puncturevine plants are easily controlled by hoeing, shallow tillage or by carefully hand-pulling plants.

Chemical: Glyphosate will control puncturevine however due to the persistent germination of this weed throughout the summer it would need to be treated multiple times.

For more information refer to the [Okanagan and Similkameen Invasive Species Society](#)



Puncturevine



Puncturevine – spiny burrs



Puncturevine flower

BC Weed Control Act and Noxious Weed List

Weeds are responsible for reductions in crop yield and quality and they lead to environmental degradation through destruction of native plant and animal habitat. Weeds also harbour insects and diseases of crops, create unsafe conditions, reduce property values and the aesthetics of an enjoyable landscape and many can poison humans, livestock and wildlife.

Noxious weeds are typically non-native plants that have been introduced to British Columbia without the insect predators and plant pathogens that help keep them in check in their native habitats. For this reason and because of their aggressive growth, these alien plants can be highly destructive, competitive and difficult to control.

The B.C. Weed Control Act imposes a duty on all land occupiers to control designated noxious plants. The purpose of the Act is to protect our natural resources and industry from the negative impacts of foreign weeds.

The following lists show the species classified as noxious within either the whole province or within the boundaries of specified regional districts. (Also see weed photographs on pages 21-12 to 21-19).



Canada Thistle

Part I - Provincial Weeds

Weeds classed as noxious within all regions of the province.

- Annual Sow Thistle (*Sonchus oleraceus*)
- Bohemian Knotweed (*Fallopia x bohemica*)
- Bur Chervil (*Anthriscus caucalis*)
- Canada Thistle (*Cirsium arvense*)
- Common Crupina (*Crupina vulgaris*)
- Common Reed (*Phragmites australis subspecies australis*)
- Common Toadflax (*Linaria vulgaris*)
- Dalmatian Toadflax (*Linaria dalmatica*)
- Dense-flowered Cordgrass (*Spartina densiflora*)
- Diffuse Knapweed (*Centaurea diffusa*)
- Dodder (*Cuscuta spp.*)
- English Cordgrass (*Spartina anglica*)
- Flowering Rush (*Butomus umbellatus*)
- Garlic Mustard (*Alliaria petiolata*)
- Giant Hogweed (*Heracleum mantegazzianum*)
- Giant Knotweed (*Fallopia sachalinensis*)
- Giant Mannagrass/Reed Sweetgrass (*Glyceria maxima*)
- Gorse (*Ulex europaeus*)
- Himalayan Knotweed (*Polygonum polystachyum*)
- Hound's-tongue (*Cynoglossum officinale*)
- Japanese Knotweed (*Fallopia japonica*)
- Jointed Goatgrass (*Aegilops cylindrica*)
- Leafy Spurge (*Euphorbia esula*)
- Milk Thistle (*Silybum marianum*)
- North Africa Grass (*Ventenata dubia*)
- Perennial Sow Thistle (*Sonchus arvensis*)
- Purple Loosestrife (*Lythrum salicaria*)
- Purple Nutsedge (*Cyperus rotundus*)
- Rush Skeletonweed (*Chondrilla juncea*)
- Saltmeadow Cordgrass (*Spartina patens*)
- Scentless Chamomile (*Matricaria maritima*)
- Smooth Cordgrass (*Spartina alterniflora*)
- Spotted Knapweed (*Centaurea maculosa*)
- Tansy Ragwort (*Senecio jacobaea*)
- Velvetleaf (*Abutilon theophrasti*)
- Wild Oats (*Avena fatua*)
- Yellow Flag Iris (*Iris pseudacorus*)
- Yellow Nutsedge (*Cyperus esculentus*)
- Yellow Starthistle (*Centaurea solstitialis*)

Part II - Regional Noxious Weeds

The following additional weeds listed are designated as noxious weeds within the boundaries of the corresponding regional districts.

Blueweed (<i>Echium vulgare</i>)	Cariboo, Central Kootenay, Columbia-Shuswap, East Kootenay, Okanagan-Similkameen, Thompson-Nicola
Burdock (<i>Arctium</i> spp.)	Bulkley-Nechako, Cariboo, Columbia-Shuswap, Fraser-Fort George, Kitimat-Stikine, North Okanagan, Okanagan-Similkameen, Peace River, Thompson-Nicola
Cleavers (<i>Galium aparine</i>)	Peace River
Common Bugloss (<i>Anchusa officinalis</i>)	Kootenay-Boundary
Common Tansy (<i>Tanacetum vulgare</i>)	Bulkley-Nechako, Central Kootenay, Columbia-Shuswap, East Kootenay, North Okanagan
Field Scabious (<i>Knautia arvensis</i>)	Bulkley-Nechako, Kootenay-Boundary, Thompson-Nicola
Green Foxtail (<i>Setaria viridis</i>)	Peace River
Hoary Alyssum (<i>Berteroa incana</i>)	Kootenay-Boundary
Hoary Cress (<i>Cardaria</i> spp.)	Columbia-Shuswap, North Okanagan, Thompson-Nicola
Kochia (<i>Kochia scoparia</i>)	Peace River
Marsh Plume Thistle (<i>Cirsium palustre</i>)	Bulkley-Nechako, Fraser-Fort George
Meadow Knapweed (<i>Centaurea pratensis</i>)	Columbia-Shuswap
Night-flowering catchfly (<i>Silene noctiflora</i>)	Peace River
Orange Hawkweed (<i>Hieracium aurantiacum</i>)	Bulkley-Nechako, Cariboo, Central Kootenay, Columbia-Shuswap, East Kootenay, Thompson-Nicola
Oxeye Daisy (<i>Chrysanthemum leucanthemum</i>)	Cariboo, North Okanagan, Peace River, Thompson-Nicola
Perennial Pepperweed (<i>Lepidium latifolium</i>)	East Kootenay, Thompson-Nicola
Plumeless Thistle (<i>Carduus acanthoides</i>)	Central Kootenay
Puncturevine (<i>Tribulus terrestris</i>)	Okanagan-Similkameen
Quackgrass (<i>Agropyron repens</i>)	Peace River
Russian Knapweed (<i>Acroptilon repens</i>)	North Okanagan
Russian Thistle (<i>Salsola kali</i>)	Peace River
Scotch Thistle (<i>Onopordum acanthium</i>)	North Okanagan
Sulphur Cinquefoil (<i>Potentilla recta</i>)	Columbia-Shuswap, North Okanagan, Okanagan-Similkameen, Thompson-Nicola
Tartary Buckwheat (<i>Fagopyrum tataricum</i>)	Peace River
White Cockle (<i>Lychnis alba</i>)	Peace River
Wild Chervil (<i>Anthriscus sylvestris</i>)	Fraser Valley
Wild Mustard (<i>Sinapsis arvensis</i>)	Peace River

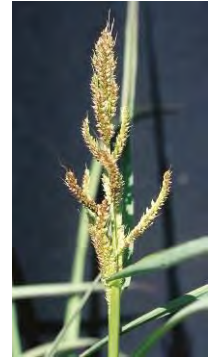
Weed Gallery - Common Garden Weeds



Annual bluegrass



Barnyardgrass



Barnyardgrass seedhead



Creeping buttercup



Common chickweed



Chickweed flower



Dandelion



Dandelion flower



Groundsel



Hairy nightshade



Hairy nightshade flowers and berries



Lady's-thumb seedling



Lady's-thumb



Lamb's-quarters seedling



Lamb's-quarters



Pineapple weed



Broad-leaved plantain



Purslane



Redroot pigweed



Redroot pigweed seedling



Shepherd's purse



Shepherd's purse seedpods



Sheep sorrel



Sheep sorrel



Wild buckwheat

Invasive alien, aggressive ornamental and regulated noxious weeds



Baby's breath



Baby's breath flowers



Blueweed



Bugloss



Bugloss flower



Burdock – dried seed heads



Canada thistle



Canada thistle rosette



Burdock



Carpet burweed



Carpet burweed. *Photo courtesy of Joseph M. DiTomaso, University of California, Bugwood.org*



Common tansy



Crupina



Crupina flower



English ivy



Diffuse knapweed



Diffuse knapweed
seedheads



Dalmatian toadflax
flowerheads



Dalmatian toadflax



Flowering Rush



Garlic mustard



Garlic mustard



Giant hogweed



Giant hogweed stem



Giant mannagrass



Himalayan balsam



Himalayan knotweed



Hoary alyssum



Hoary alyssum



Hoary cress



Hound's-tongue



Hound's tongue flowers



Hound's-tongue seeds



Kochia



Leafy spurge



Milk thistle



Orange hawkweed flowers



Oxeye daisy flowerheads



Perennial pepperweed



Plumeless thistle



Purple loosestrife



Perennial pepperweed



Rush skeletonweed



Rush skeletonweed



Russian knapweed



Russian knapweed flowers



Russian olive, *photo courtesy of Clinton Stock*



Russian olive



Russian thistle



Russian thistle



Scotch broom



Scotch thistle



Scotch thistle flowers



Spotted knapweed



Sulphur cinquefoil



Sulphur cinquefoil flowers



Spotted knapweed seedhead



Tansy ragwort



Teasel



Tree of heaven. *Photo courtesy of James H. Miller, USDA Forest Service, Bugwood.org*



Tree of heaven. *Photo courtesy of Annemarie Smith, ODNR Division of Forestry, Bugwood.org*



Water hyacinth



Water hyacinth



Wild chervil



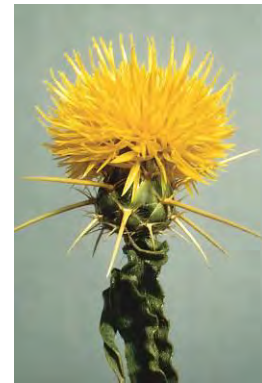
Velvetleaf seedpod



Velvet leaf. *Photo courtesy of L. Scott*



Wild mustard



Yellow starthistle flower



Yellow flag iris



Yellow toadflax



Yellow starthistle