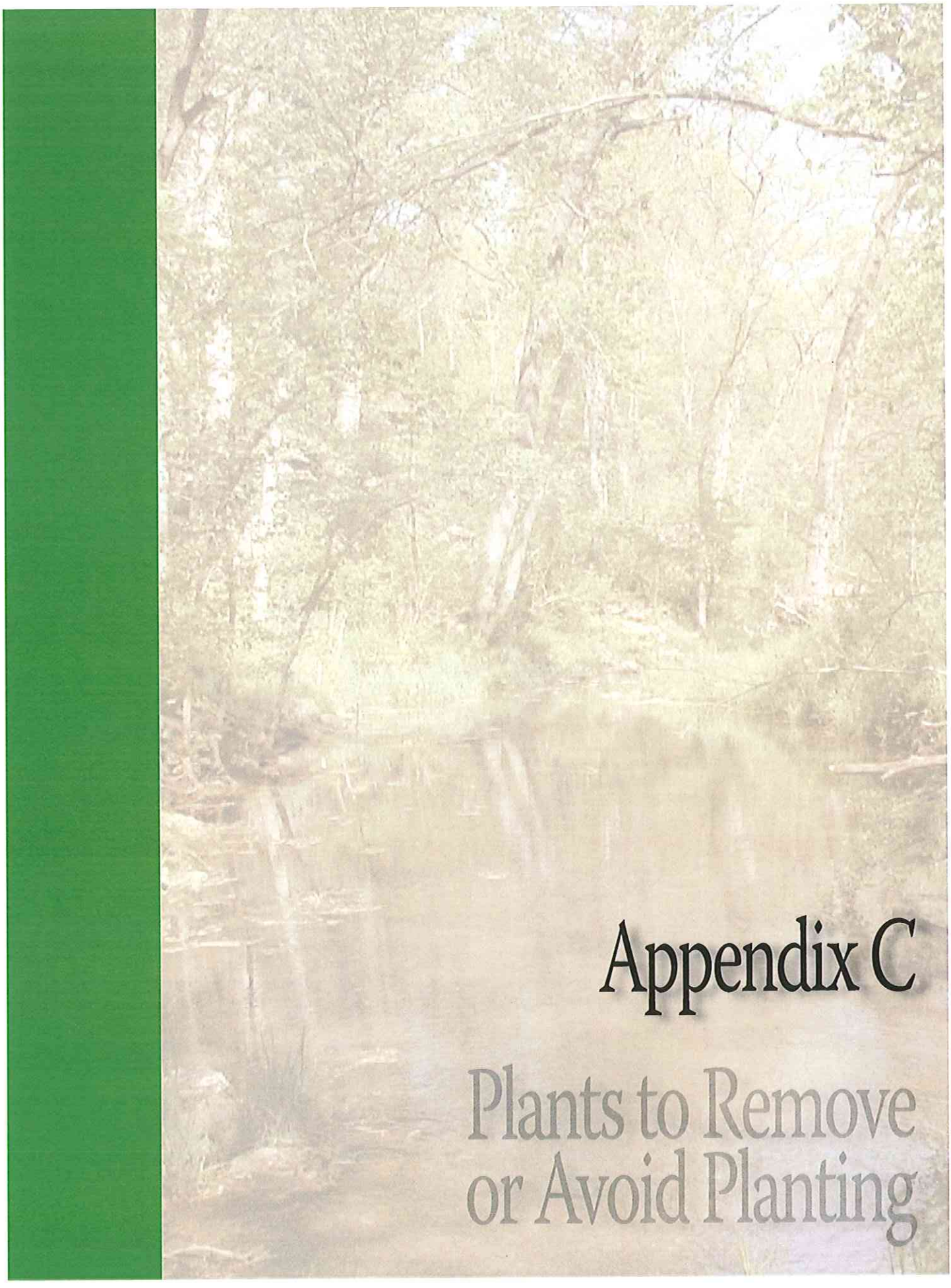


Appendix C

Plants to Remove or Avoid Planting

MISSION HILLS STREAM BUFFER LANDSCAPE GUIDELINES

PLANTS TO REMOVE OR AVOID PLANTING

PLANT TYPE

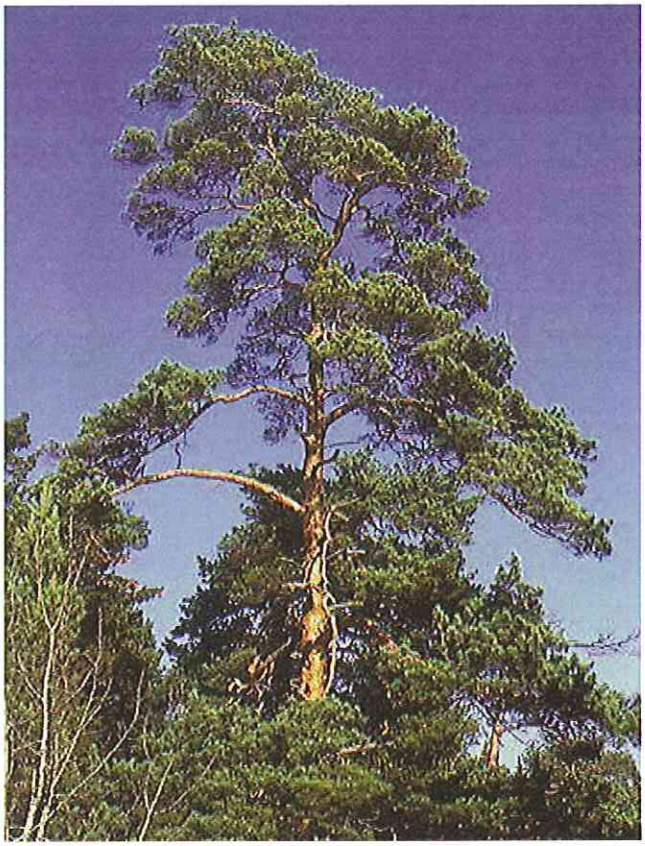
COMMON NAME	BOTANICAL NAME	PROBLEMS
TREES		
Scotch Pine	Pinus sylvestris	disease susceptibility
Siberian Elm	Ulmus pumila	brittle branches, can be invasive
Tree of Heaven	Ailanthus altissima	invasive, aggressive
SHRUBS		
Autumn Olive	Elaeagnus umbellata	seeds invasive, aggressive
Common Buckthorn	Rhamnus cathartica	invasive, aggressive
Multiflora Rose	Rosa multiflora	aggressive, maintenance problem
Russian Olive	Elaeagnus angustifolia	invasive, aggressive
Shrub Honeysuckle	Lonicera maackii	seeds invasive, aggressive
GROUNDCOVER, PERENNIALS, AND VINES		
Asian Bittersweet	Celastrus orbiculatus	seeds invasive, aggressive
Black Swallow-wort	Cynanchum louiseae	invasive vine, aggressive
Buckhorn Plantain	Plantago lanceolata	seeds readily, invades lawns and meadows
Chicory	Chichorium intybus	seeds readily, invades lawns and meadows
Chinese Yam	Dioscorea oppositifolia	invasive vine, aggressive
Common Chickweed	Stellaria media	invades lawns, gardens, and meadows
Common Lambsquarters	Chenopodium album	invades gardens
Common Mullein	Verbascum thapsus	invades roadsides
Common Purslane	Portulaca oleracea	invades lawns, gardens, and moist soils
Common Ragweed	Ambrosia artemisiifolia	invades gardens and disturbed soils
Common Teasel	Dipsacus fullonum	invasive, maintenance problem
Crab Grass	Digitaria sp.	invades lawns, gardens, and roadsides
Crown Vetch	Securigera varia	aggressive
Cut-leaved Teasel	Dipsacus laciniatus	invasive, maintenance problem
Dandelion	Taraxacum officinale	invades lawns, gardens, and all soil types
Field Bindweed	Convolvulus arvensis	invades gardens and roadsides
Garlic Mustard	Alliaria petiolata	persistent roots, seeds invasive
Giant Foxtail	Setaria faberi	invades gardens and disturbed soil
Giant Ragweed	Ambrosia trifida	invades gardens, roadsides, and moist soils
Gray-green Woodsorrel	Oxalis dillenii	invades lawns, gardens, and open woodlands
Japanese Hedge Parsley	Torilis japonica	seeds invasive, aggressive
Japanese Honeysuckle	Lonicera japonica	seeds invasive, aggressive vine
Japanese Hops	Humulus japonicus	invasive vine, aggressive
Japanese Knotweed	Polygonum cuspidatum	invasive, aggressive
Japanese Stilt Grass	Microstegium vimineum	invasive, aggressive
Johnson Grass	Sorghum halepense	invades roadsides and moist soils
Kudzu	Pueraria lobata	invasive vine, aggressive
Leafy Spurge	Euphorbia escula	invades woodlands, roadsides, and disturbed soils
Musk Thistle	Carduus nutans	invades open woodlands
Poison Ivy	Toxicodendron rydbergii	invades woodlands, roadsides, dermatitis in humans
Prickly Lettuce	Lactuca serriola	invades roadsides, gardens, and disturbed soils
Purple Loosestrife	Lythrum salicaria	invades waterways and moist soils
Sericea Lespedeza	Lespedeza cuneata	persistent roots, seeds invasive
Smallseed Falseflax	Camelina microcarpa	invades disturbed soils
Spiny Sowthistle	Sonchus asper	invades gardens, roadsides, and disturbed soils
Spotted Knapweed	Centaurea biebersteinii	invasive, aggressive
Striate Knotweed	Polygonum achoreum	invades roadsides and compacted soils
Sweet Clover	Melilotus alba, Melilotus officinalis	invades roadsides in all soil types
Velvet-leaf	Abutilon theophrasti	invades roadsides
Wild Violet	Viola pratincola	grows in lawns, gardens,
Wintercreeper Euonymous*	Euonymus fortunei*	aggressive growth
Yellow Nutsedge	Cyperus esculentus	persistent roots, seeds invasive

*Can be useful when nothing else will grow, but has a tendency to be overly aggressive

SCOTCH PINE

Pinus sylvestris

LIFE SPAN: Perennial
Reproduction: Seed



SIBERIAN ELM

Ulmus pumila

LIFE SPAN: Perennial
Reproduction: Seed

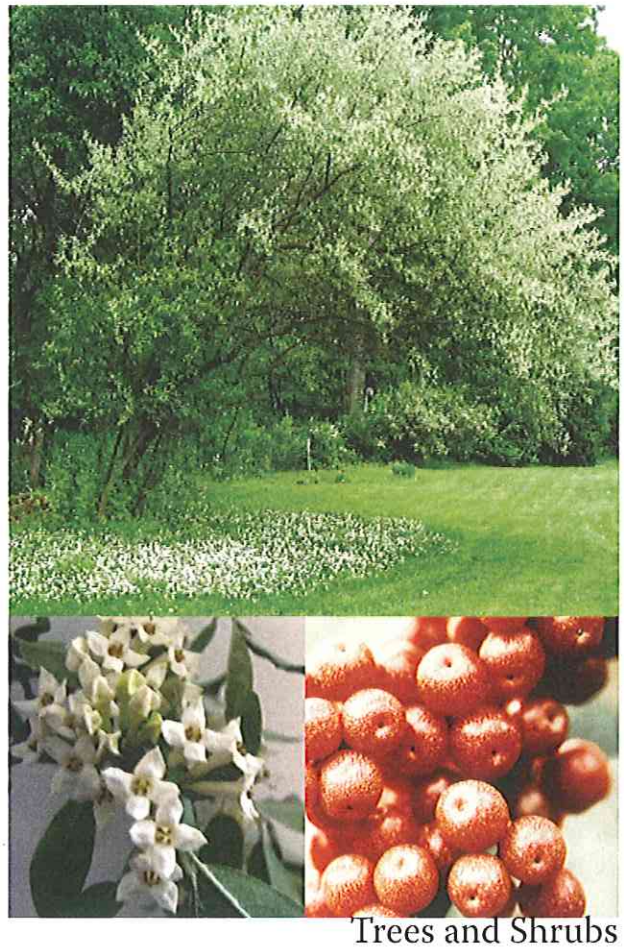
Plants to Remove or Avoid Planting

TREE OF HEAVEN
Ailanthus altissima

LIFE SPAN: Perennial
Reproduction: Seed and vegetative

AUTUMN OLIVE
Elaeagnus umbellata

LIFE SPAN: Perennial
Reproduction: Seed and vegetative

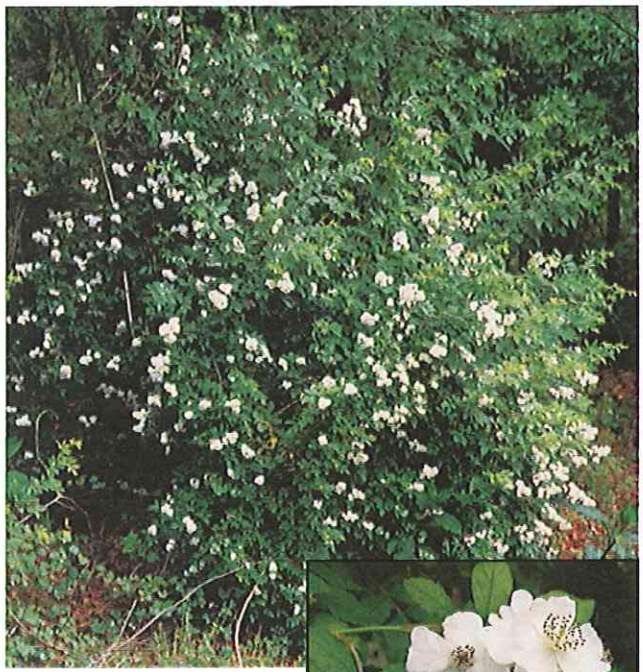


COMMON BUCKTHORN
Rhamnus cathartica

LIFE SPAN: Perennial
Reproduction: Seed

MULTIFLORA ROSE
Rosa multiflora

LIFE SPAN: Perennial
Reproduction: Seed and branches that sprout when in contact with soil



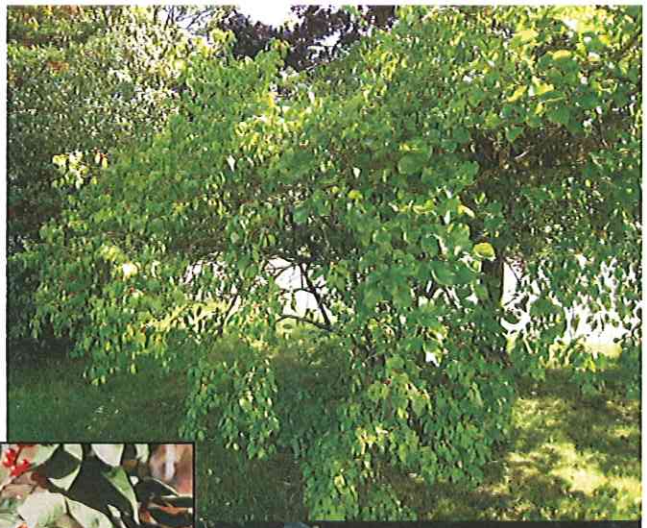
Plants to Remove or Avoid Planting

RUSSIAN OLIVE
Elaeagnus angustifolia

LIFE SPAN: Perennial
Reproduction: Seed and vegetative

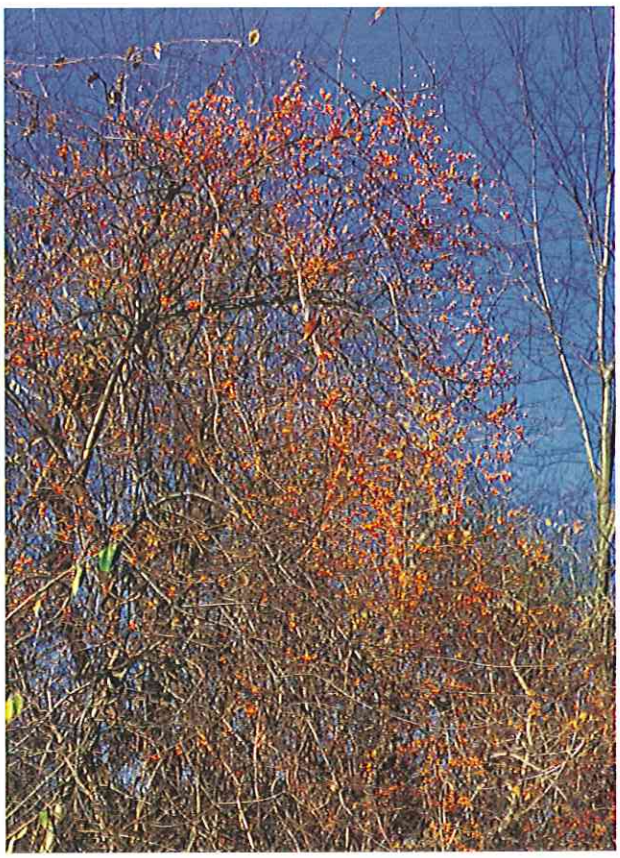
SHRUB HONEYSUCKLE
Lonicera maackii

LIFE SPAN: Perennial
Reproduction: Seed and vegetative



ASIAN BITTERSWEET
Celastrus orbiculatus

LIFE SPAN: Perennial
Reproduction: Seed and vegetative



BLACK SWALLOW-WORT
Cynanchum louiseae

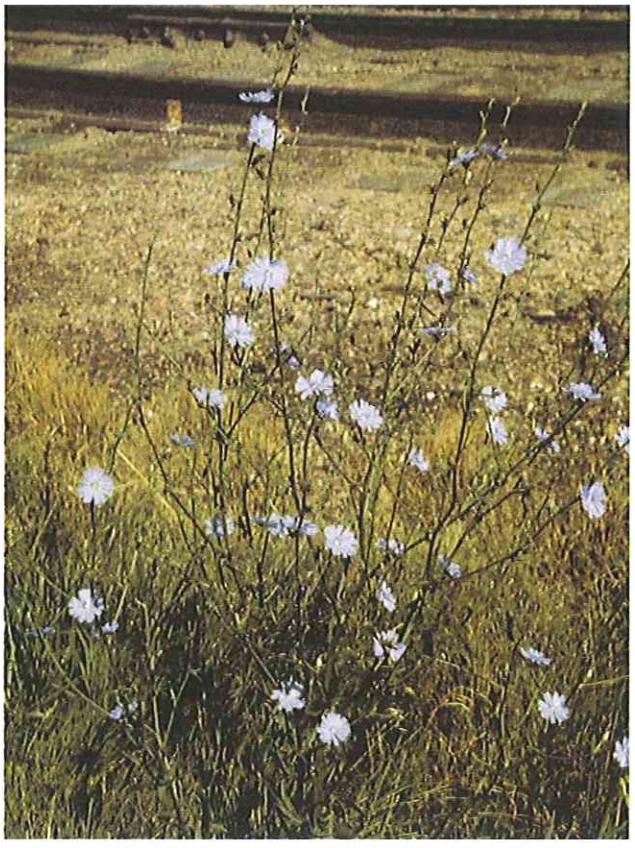
LIFE SPAN: Perennial
Reproduction: Seed and vegetative

BUCKHORN PLANTAIN
Plantago lanceolata

LIFE SPAN: Perennial
Reproduction: Seed

CHICORY
Chichorium intybus

LIFE SPAN: Perennial
Reproduction: Seed

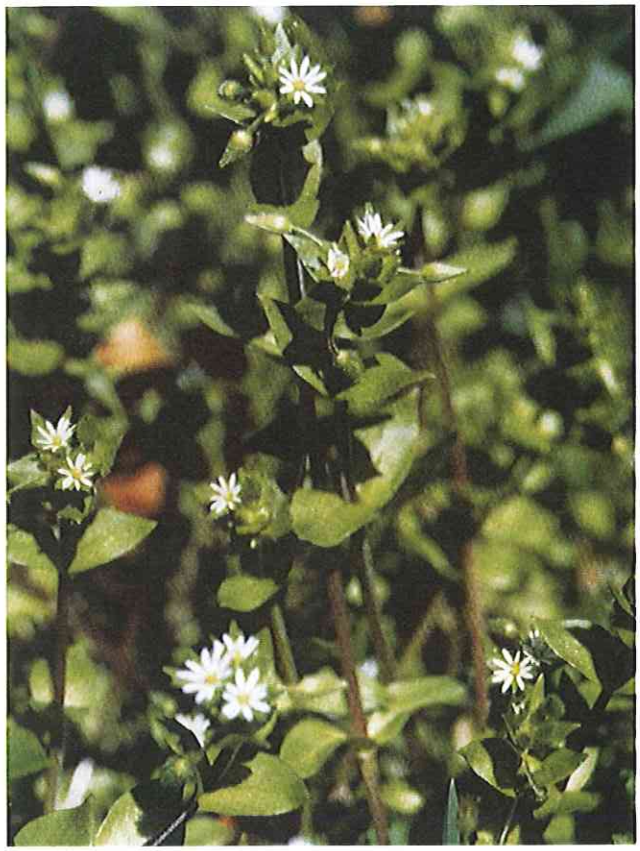


CHINESE YAM
Dioscorea oppositifolia

LIFE SPAN: Perennial
Reproduction: Aerial tubers

COMMON CHICKWEED
Stellaria media

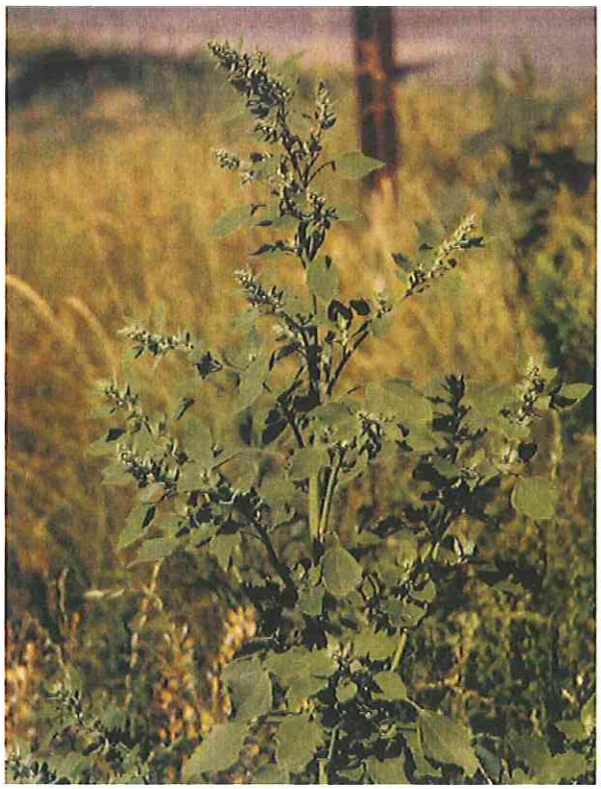
LIFE SPAN: Annual
Reproduction: Seed and creeping stems



Plants to Remove or Avoid Planting

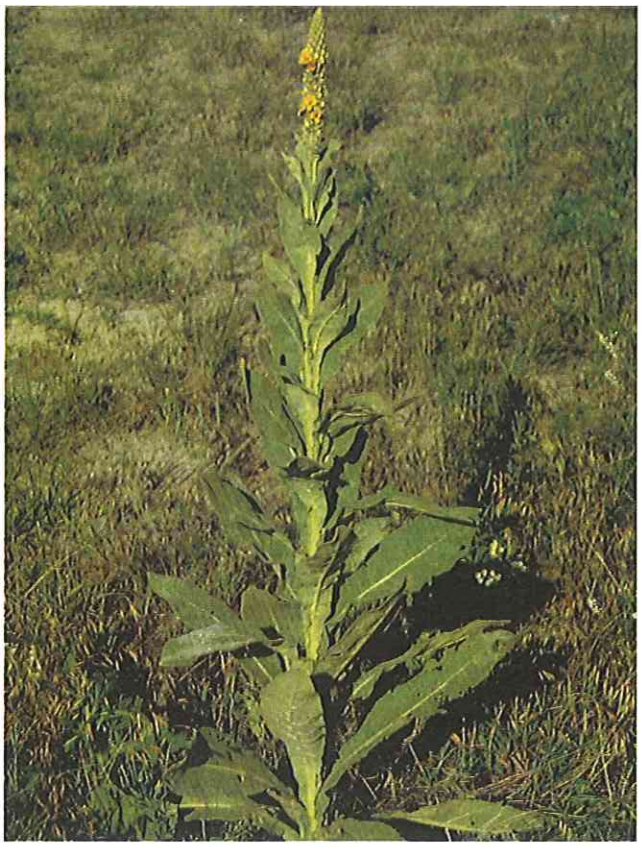
COMMON LAMBSQUARTERS
Chenopodium album

LIFE SPAN: Annual
Reproduction: Seed



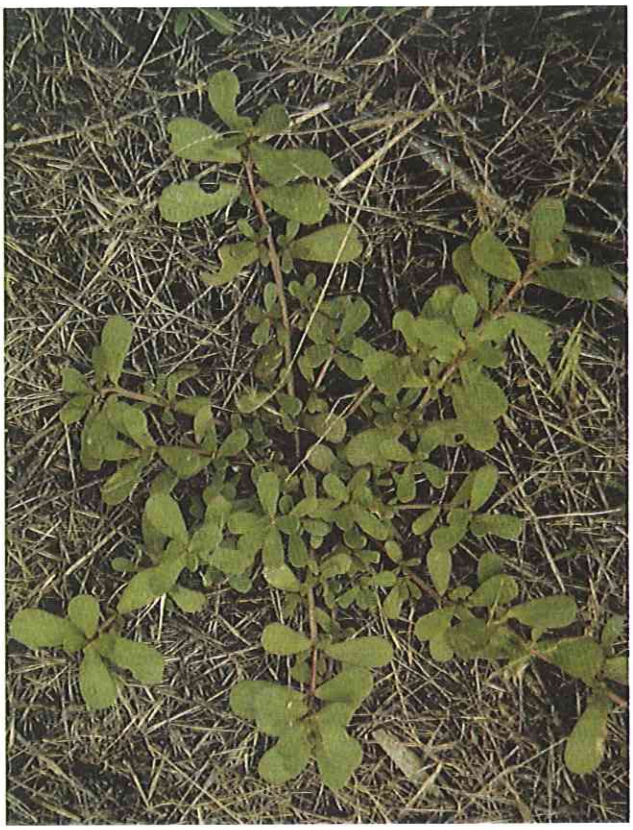
COMMON MULLEIN
Verbascum thapsus

LIFE SPAN: Biennial
Reproduction: Seed



COMMON PURSLANE
Portulaca oleracea

LIFE SPAN: Annual
Reproduction: Seed and stem fragments



COMMON RAGWEED
Ambrosia artemisiifolia

LIFE SPAN: Annual
Reproduction: Seed

Plants to Remove or Avoid Planting

COMMON TEASEL
Dipsacus fullonum

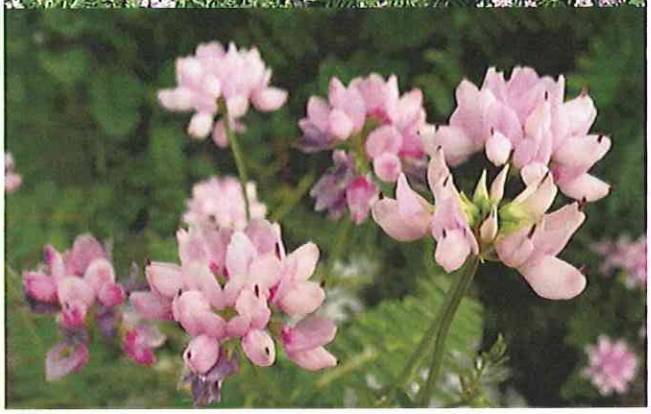
LIFE SPAN: Biennial
Reproduction: Seed

CRAB GRASS
Digitaria sp.

LIFE SPAN: Annual
Reproduction: Seed and vegetative

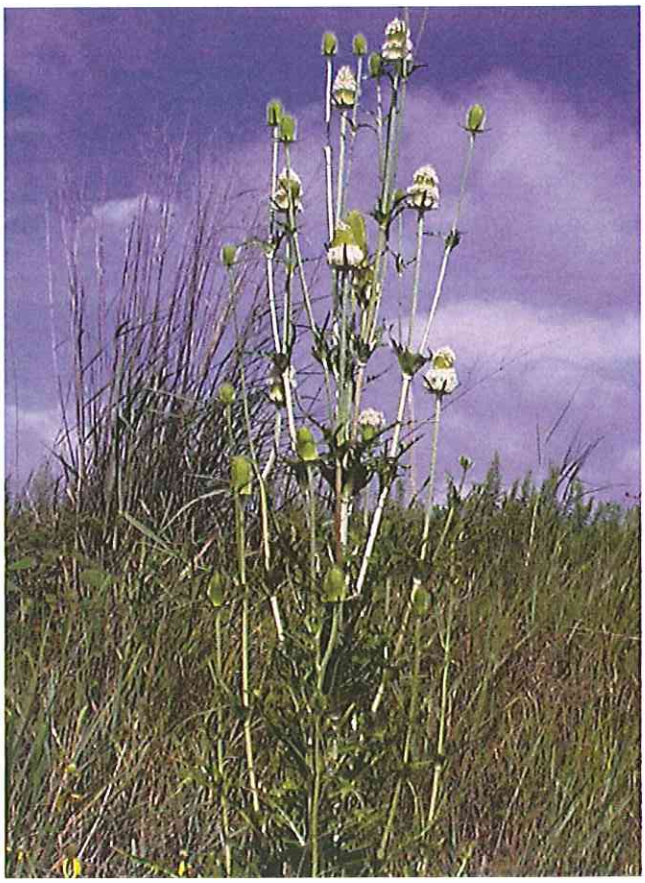
CROWN VETCH
Securigera varia

LIFE SPAN: Perennial
Reproduction: Seed and vegetative



CUT-LEAVED TEASEL
Dipsacus laciniatus

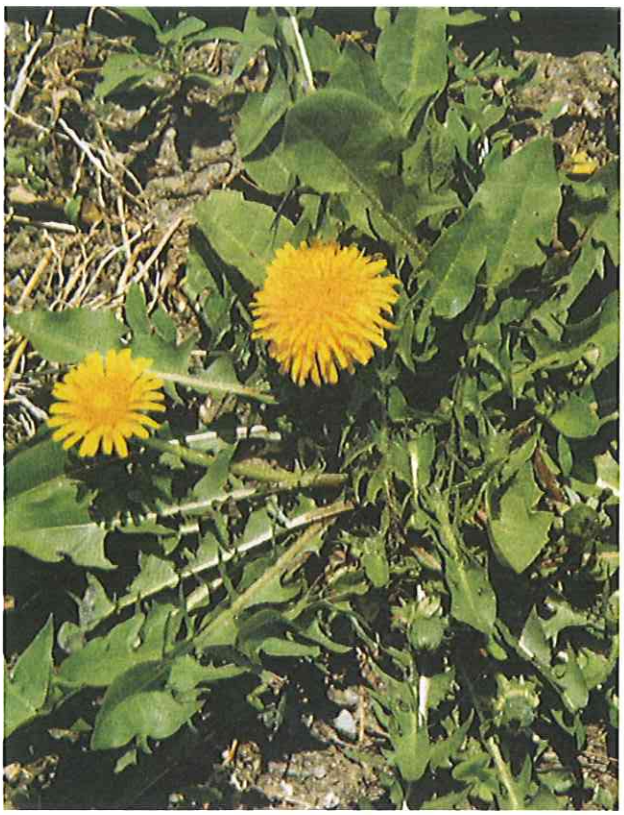
LIFE SPAN: Biennial
Reproduction: Seed



Plants to Remove or Avoid Planting

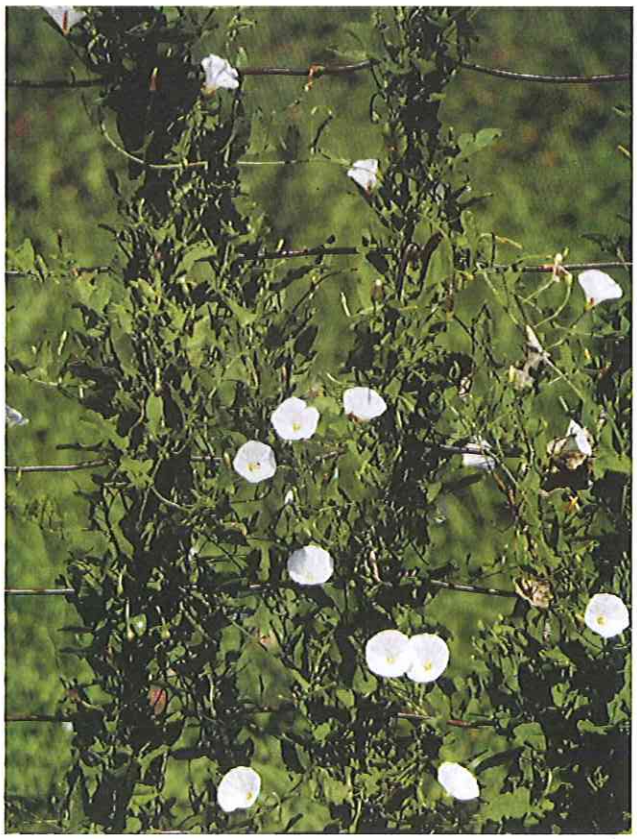
DANDELION
Taraxacum officinale

LIFE SPAN: Perennial
Reproduction: Seed



FIELD BINDWEED
Convolvulus arvensis

LIFE SPAN: Perennial
Reproduction: Seed and vegetative



GARLIC MUSTARD
Alliaria petiolata

LIFE SPAN: Biennial
Reproduction: Seed

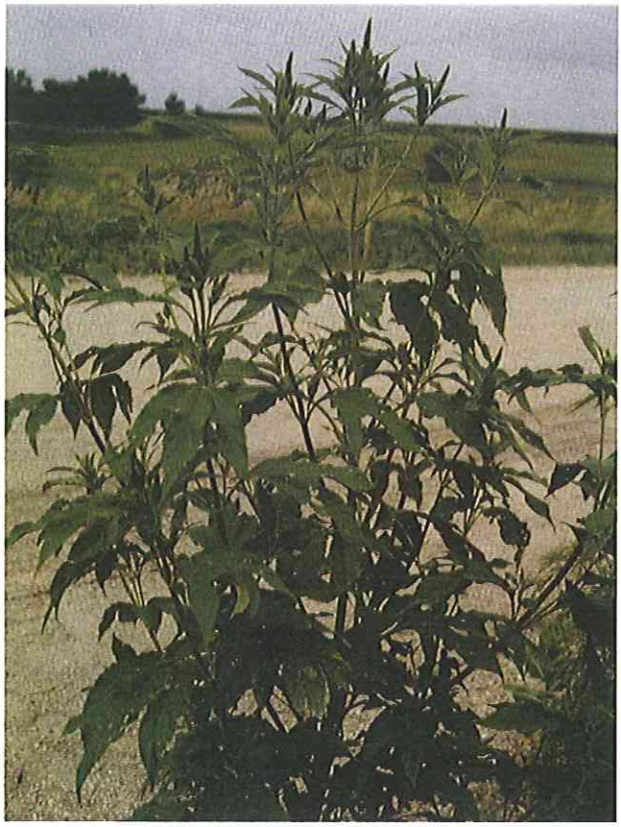
GIANT FOXTAIL
Setaria faberi

LIFE SPAN: Annual
Reproduction: Seed

Plants to Remove or Avoid Planting

GIANT RAGWEED
Ambrosia trifida

LIFE SPAN: Annual
Reproduction: Seed



GRAY-GREEN WOODSORREL
Oxalis dillenii

LIFE SPAN: Perennial
Reproduction: Seed and rarely vegetative

JAPANESE HEDGE PARSLEY

Torilis japonica

LIFE SPAN: Annual
Reproduction: Seed

JAPANESE HONEYSUCKLE

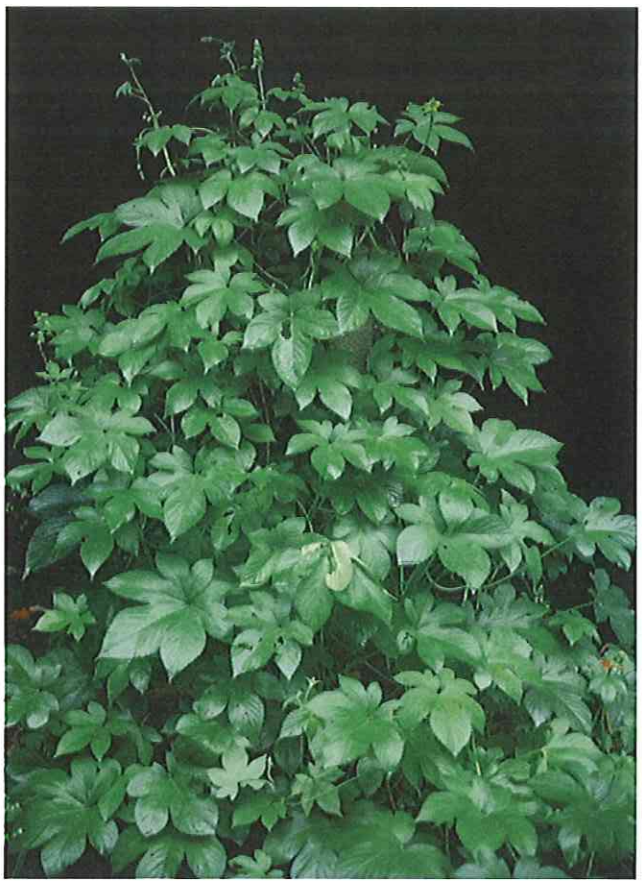
Lonicera japonica

LIFE SPAN: Perennial
Reproduction: Seed and vegetative

Plants to Remove or Avoid Planting

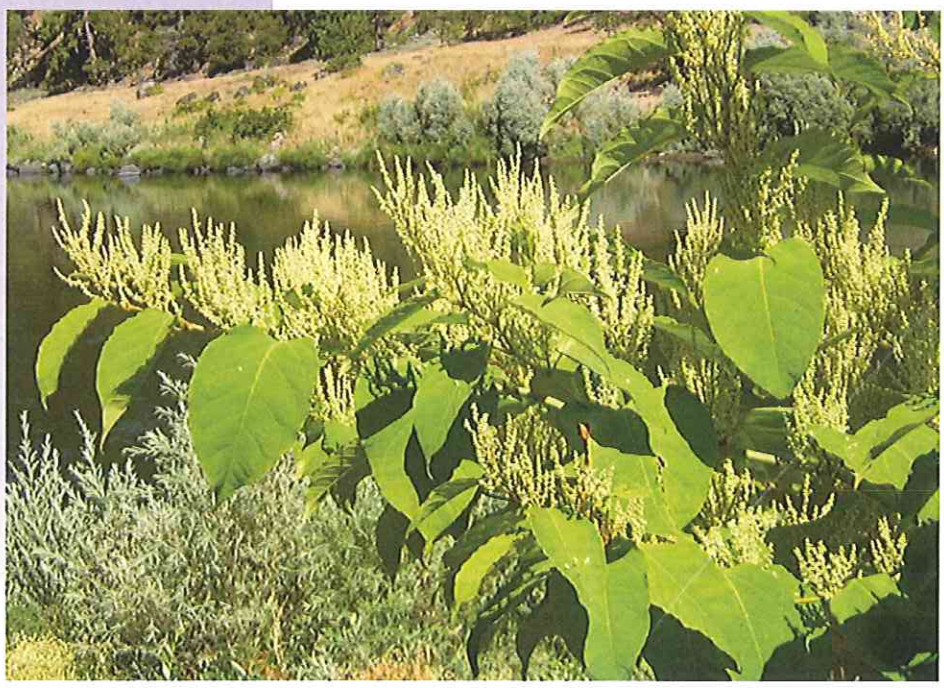
JAPANESE HOPS
Humulus japonicus

LIFE SPAN: Annual
Reproduction: Seed and vegetative



JAPANESE KNOTWEED
Polygonum cuspidatum

LIFE SPAN:
Perennial
Reproduction:
Seed and vegetative

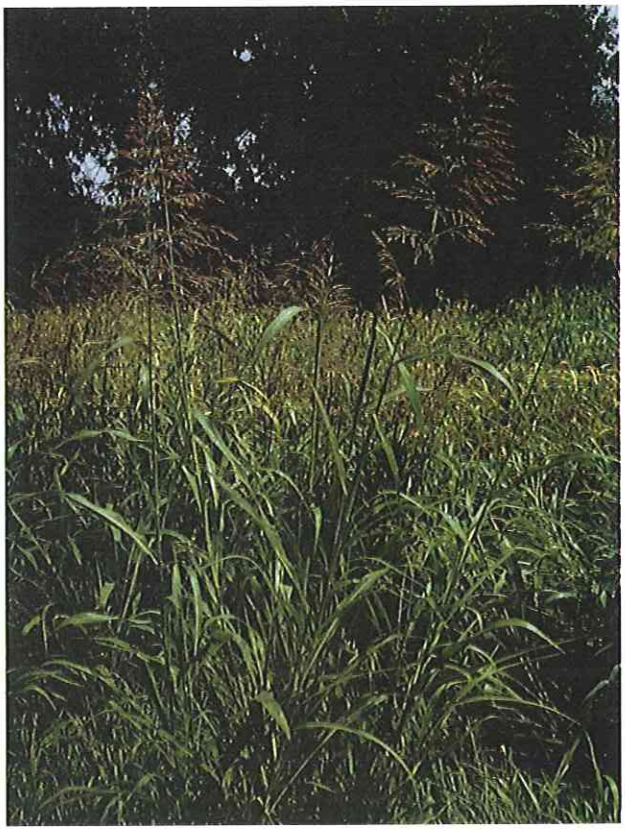


JAPANESE STILT GRASS
Microstegium vimineum

LIFE SPAN: Annual
Reproduction: Seed and vegetative

JOHNSON GRASS
Sorghum halepense

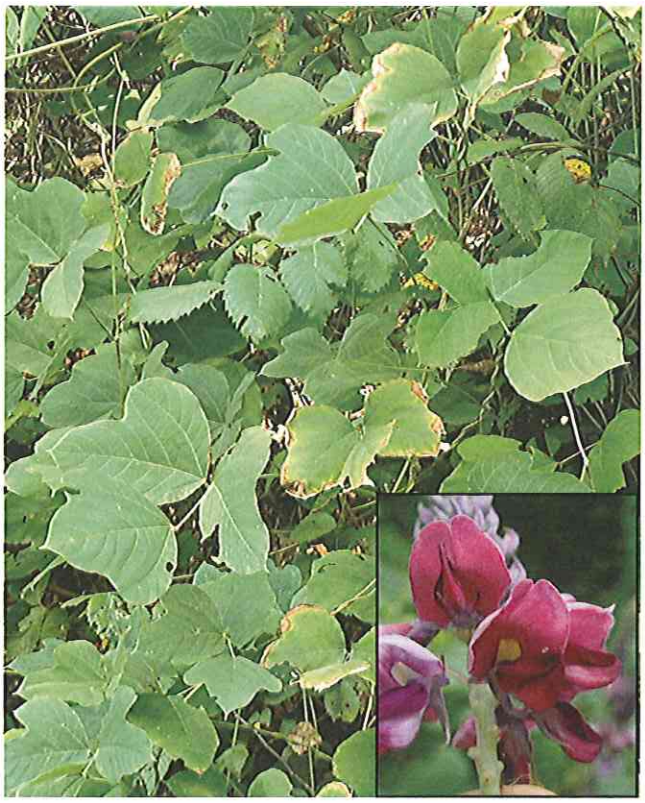
LIFE SPAN: Perennial
Reproduction: Seed and vegetative



Plants to Remove or Avoid Planting

KUDZU
Pueraria lobata

LIFE SPAN: Perennial
Reproduction: Seed and vegetative

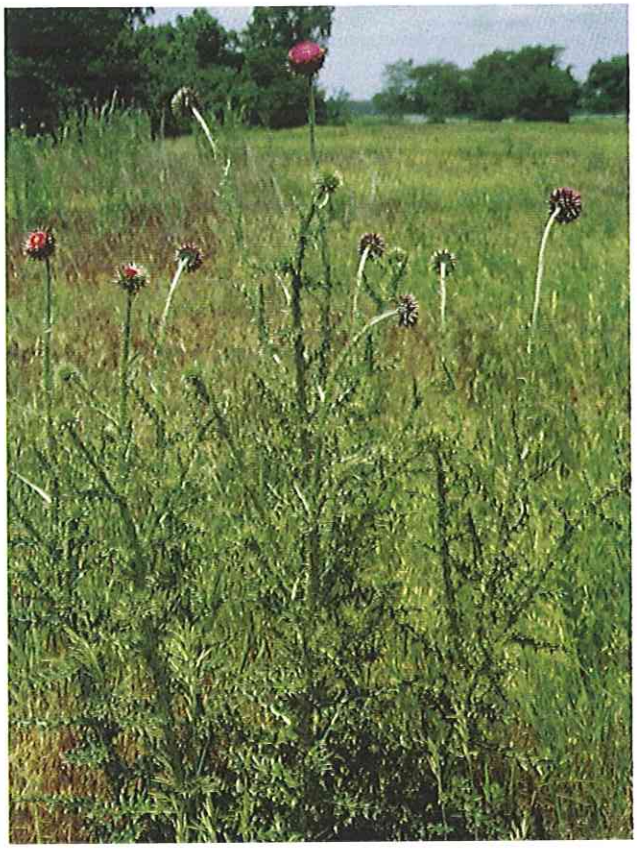


LEAFY SPURGE
Euphorbia esculа

LIFE SPAN: Perennial
Reproduction: Seed and vegetative

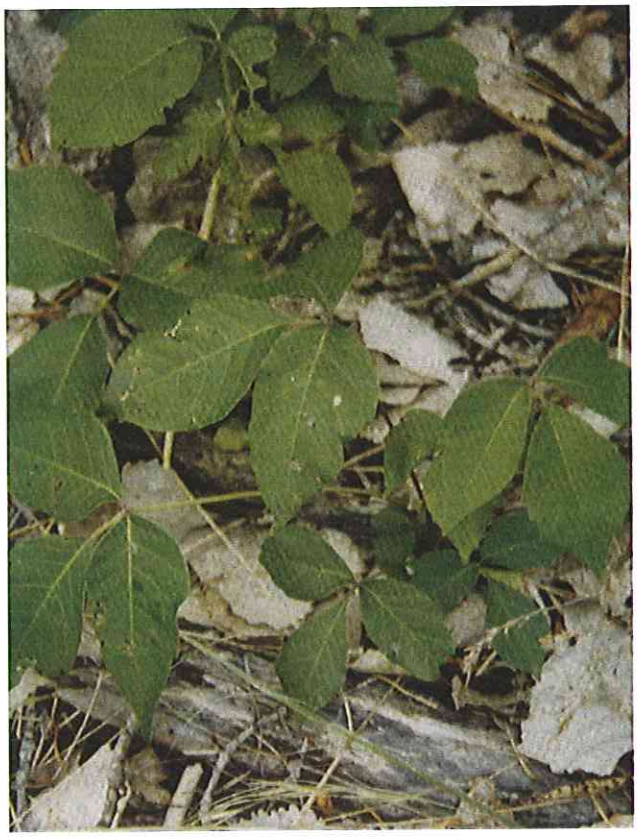
MUSK THISTLE
Carduus nutans

LIFE SPAN: Biennial
Reproduction: Seed



POISON IVY
Toxicodendron rydbergii

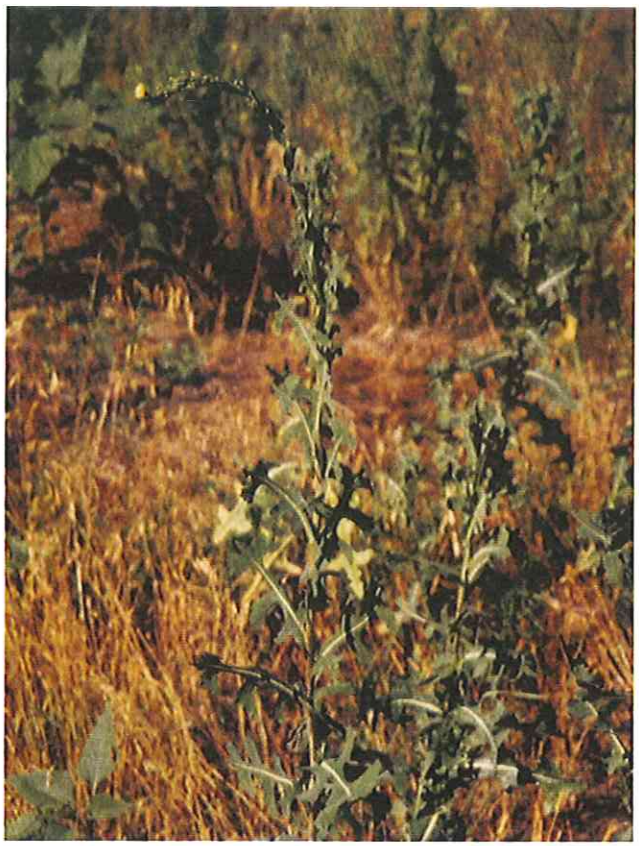
LIFE SPAN: Perennial
Reproduction: Seed and vegetative



Plants to Remove or Avoid Planting

PRICKLY LETTUCE
Lactuca serriola

LIFE SPAN: Annual
Reproduction: Seed

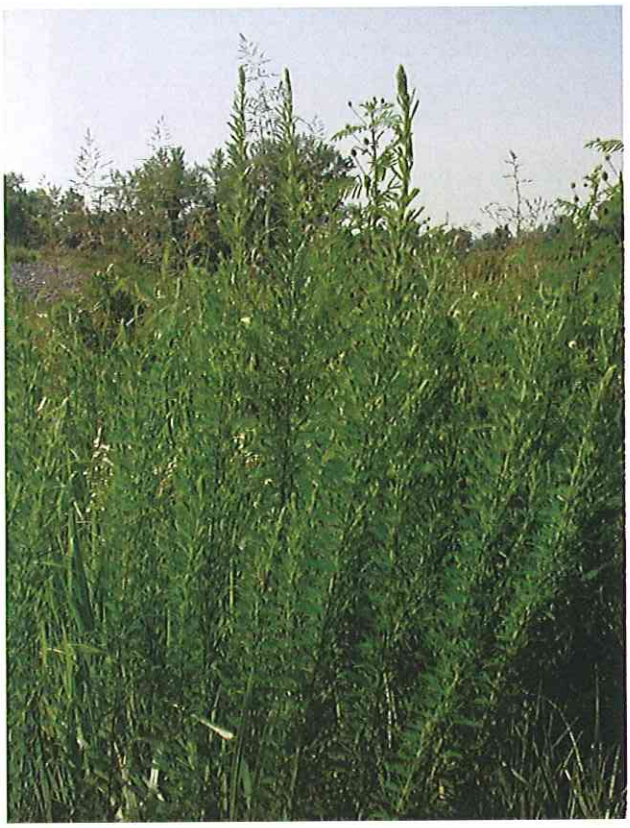


PURPLE LOOSESTRIFE
Lythrum salicaria

LIFE SPAN: Perennial
Reproduction: Seed and vegetative

SERICEA LESPEDEZA
Lespedeza cuneata

LIFE SPAN: Perennial
Reproduction: Seed

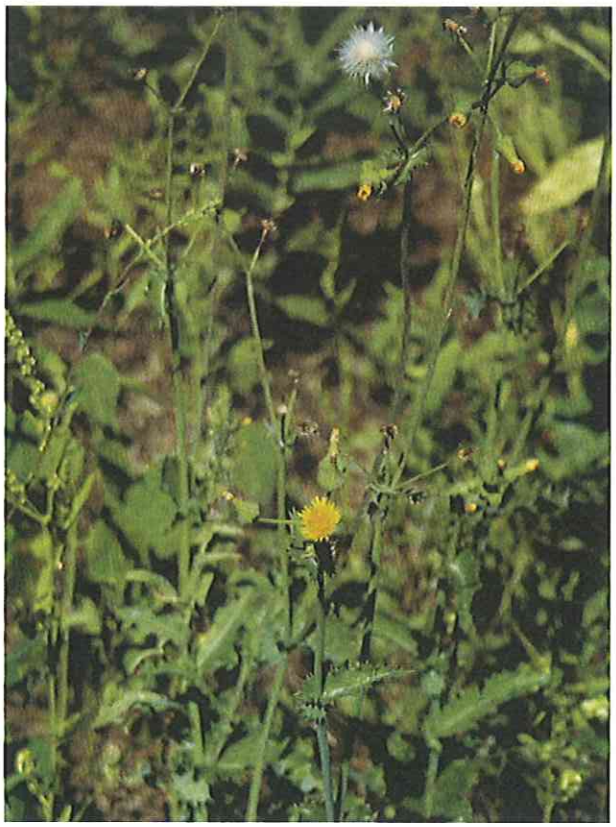


SMALLSEED FALSEFLAX
Camelina microcarpa

LIFE SPAN: Annual
Reproduction: Seed

SPINY SOWTHISTLE
Sonchus asper

LIFE SPAN: Annual
Reproduction: Seed



SPOTTED KNAPWEED
Centaurea biebersteinii

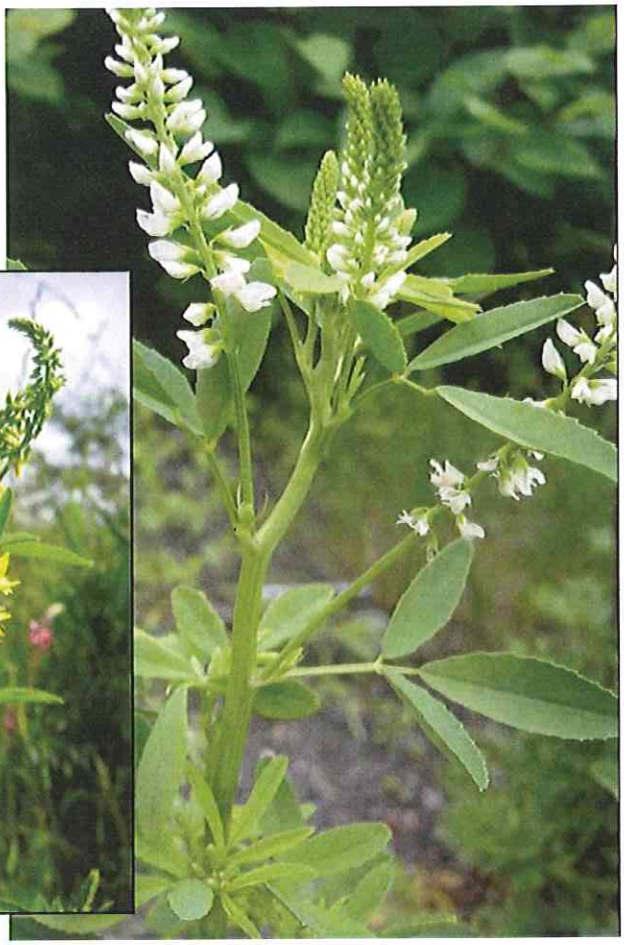
LIFE SPAN: Perennial
Reproduction: Seed

STRIATE KNOTWEED
Polygonum achoreum

LIFE SPAN: Annual
Reproduction: Seed

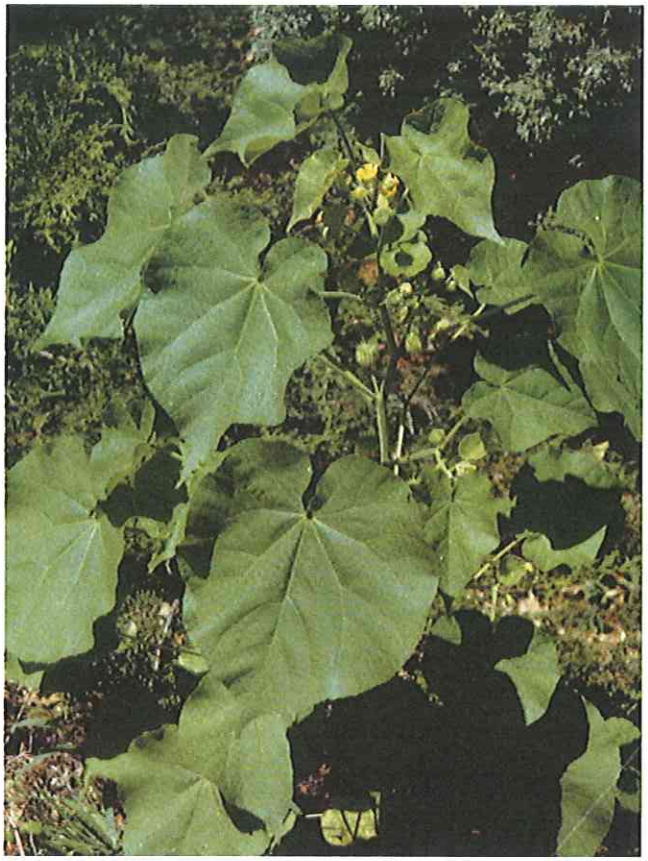
SWEET CLOVER
Melilotus alba,
Melilotus officinalis

LIFE SPAN:
Annual or
Biennial
Reproduction:
Seed



VELVET-LEAF
Abutilon theophrasti

LIFE SPAN: Annual
Reproduction: Seed



WILD VIOLET
Viola pratincola

LIFE SPAN: Perennial
Reproduction: Seed and vegetative

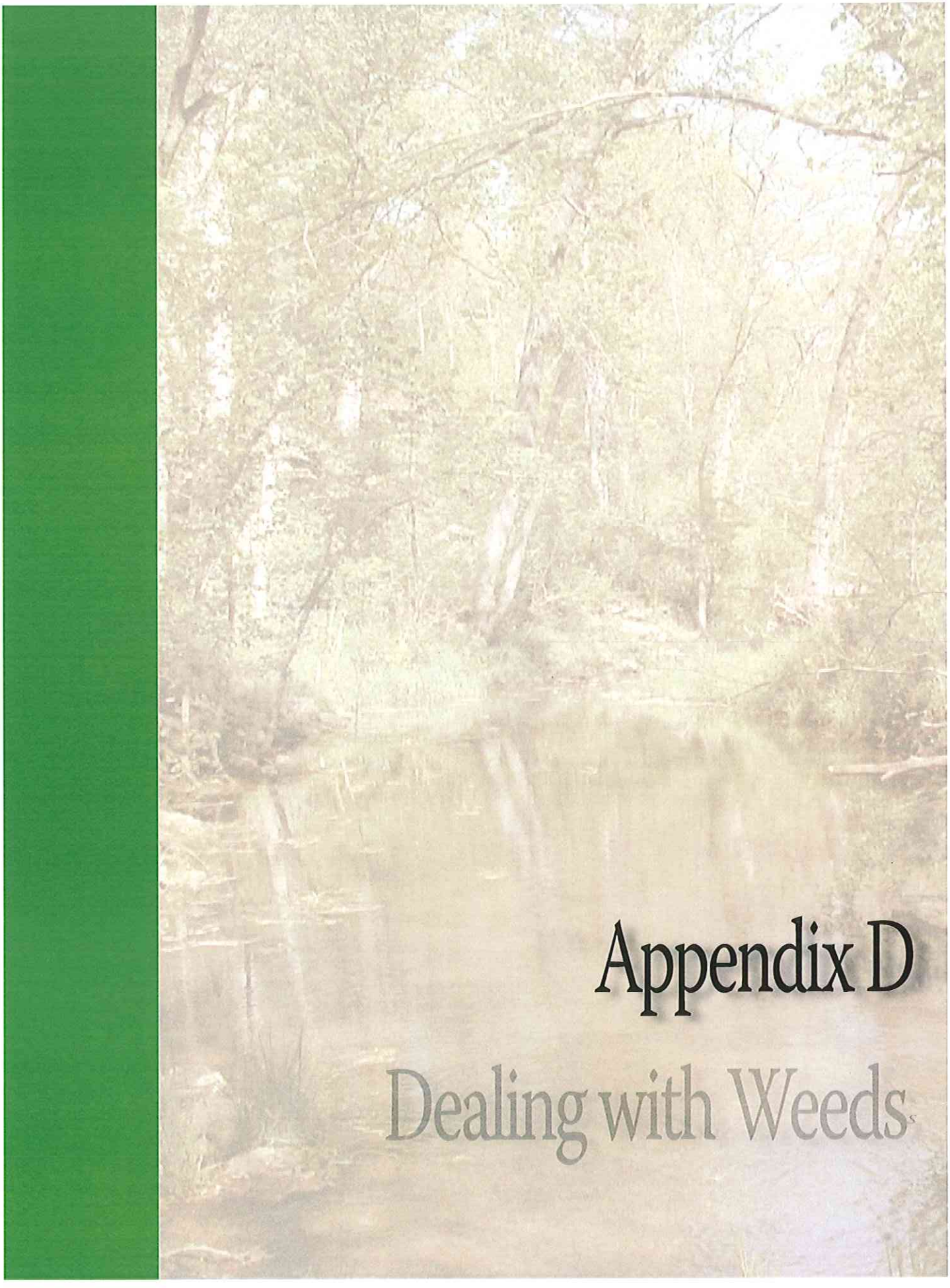
YELLOW NUTSEDGE
Cyperus esculentus

LIFE SPAN: Perennial
Reproduction: Seed and vegetative

WINTERCREEPER EUONYMUS
Euonymus fortunei

LIFE SPAN: Perennial
Reproduction: Seed and vegetative

Most Images provided by
'Weeds of Nebraska and the Great Plains'
James Stubbendieck et al,
Nebraska Dept. of Agriculture, 1994



Appendix D

Dealing with Weeds

Dealing with Weeds

Manual Removal of Weeds

Probably the simplist and safest, but definitely not the easiest way to remove weeds, is to pull them up by hand. This method is probably best to use when you have small weed infestations. One of the best methods of weed pulling is to take a small hand trowel, push it into the soil approximately 1"-2" from the crown of the weed, and as you push up the soil with one hand, use your other hand to grab the weed by the crown and pull it out. This takes practice to make sure you get the entire root, especially those weeds with tap-roots, such as dandilions.

This method can be extremely difficult in soil that is either very dry or heavily compacted. In extremely dry soil, it might be a good idea to water the area well the night before to help loosen the soil. In extremely compacted soil, you might need to use a garden drain spade or a shovel to dig into the earth, just make sure not to hurt any benificial plants.

Chemical Removal of Weeds

Using chemical herbicides is physically the easiest method to remove weeds. However, the trade-off is that you are using toxic chemicals, which, if not used correctly per the manufacturers directions, can cause problems. There are several different types of herbicides, they are first divided into 2 categories:

Post-emergent: This category of herbicides eliminates plants that have already sprouted from seeds, and is the category that we will be dealing with in this document.

Pre-emergent: This category of herbicides kills plants as they germinate from seed. This category is especially effective, when used appropriately, when the plantings are well-established.

The next types of herbicides are:

Systemic (or translocated): This class of herbicides enter the plant either through the roots or is absorbed through the leaf membranes. The chemical is translocated throughout the plant and effectively kills it from the inside out. Because of this, to be effective, the plant needs to be actively growing. Extreme caution must be used around benificial plants, as small amounts can deform or even kill. Systemic herbicides are best used for established perennial weeds that have deep root systems.

Among the translocated herbicides, there are selective and non-selective. Non-selective herbicides kill any plant that they come in contact with. Selective herbicides target a specific type of plant. Examples of specific targets include broadleaf plants, grasses, and sedges. There are many different types of selective herbicides, so please consult a garden store or University Extention for more information.

Contact: This class of herbicides only effectively kill the parts of the plant that are in contact with the herbicide by inhibiting photosynthesis. To kill a plant, the plant must be covered completely, but won't affect underground structures such as rhizomes or roots, so it must be used multiple times to totally kill spreading perennial weeds. This class is very effective on annual weeds, especially if there are many desirable plants around, as accidental contact to desirable plants will only injure them.

Because of the ease of use and cost effectiveness, we will be focusing on using a translocated non-selective herbicide, specifically Round-Up® Brand Herbicide. Round-Up® is widely available and can be readily pruchased at any garden or hardware store. Similar products are also available, just ask at your local garden store or nursery.

How to Apply Chemicals

There are several methods of applying Round-Up® to help eliminate weeds. The method used is typically dependant upon how many weeds and what type are present. Just remember when using any chemical products to control weeds that you ***follow the specific directions provided by the manufacturer***, or please call a professional to help.

Site Preparation

Because Round-Up® is translocated, it is very important to make sure the plant is actively growing (respirating) so the chemical is quickly spread thoughout the plant.

To ensure maximum plant respiration, there are a few things you can do:

1) The first thing to do is make sure that it is the appropriate time of year. For example warm season weeds tend to grow stronger in the summer than in the spring.
2) Pick a day that is warm, sunny, and calm (little to no wind). Plants adjust their respiration rates depending on temperature and sun exposure, this helps them maximize their photosynthisis.
3) Cut the plant down. This is especially useful for weed grasses. By cutting the plant, not only is the internal portion of the plant exposed, but usually the plant will respond to damage with a growth spurt. Cutting down a plant will also encourage the growth of undergrown nodes, which will ensure that the chemical will reach those areas.
4) Water the weedy area two days prior to applying Round-Up®, you can also wait a day after a good rain fall. This will cause the weeds to actively grow and will maximize herbicide effectiveness.
5) Apply when no rain is expected for 12 to 24 hours.

Spraying Method

The spraying method is best used in locations that require a large area of eradication. When spraying, always spray on days that are not windy, as the wind might carry the spray mist onto adjacent desirable plants or lawn and damage or kill them. Depending upon how large of an area, you can use a simple household spray bottle for small applications, or for larger areas, you can use a professional pump sprayer. Always remember to clearly and permanently mark the bottle or sprayer so you do not use it for other purposes. Food color may be added to help identify treated areas

Swabbing Method

This method is best used for light infestations and spot eradication. Swabbing is essentially taking a brush or cloth-wrapped stick, and dipping it into Round-Up®. Take the soaked cloth-wrapped stick and apply it to the leaves of the weeds, making sure that it does not drip onto desirable plants. This method is especially good for larger weeds, such as Velvet-Leaf and Johnson grass and on weeds you want to keep your distance from, such as Poison-Ivy. Food color may be added to help identify treated areas.

Dabbing Method

The Dabbing method is the best method when dealing with spot eradication, as it offers the most control over the herbicide. Simply take an empty Elmer's® glue bottle, and fill it with Round-Up®. Wherever you spot a weed, gently squeeze the bottle onto the leaves of the weed. Adequetely cover the leaves to ensure that the herbicide is fully effective. For grasses, simply cut the grass down to the first node, or joint, and squirt Round-Up® into the open wound. When using this method, use un-diluted Round-Up®.

Other Important Information

Whenever using Round-Up®, there are several important things to know. First, read and understand ALL safety warnings and directions provided by Round-Up®. When handling ANY herbicide, wear protective gear, such as chemical resistant gloves, and surgical masks. If accidental ingestion or skin contact occurs, please refer to the manufacturers safety information and call your local poison-hotline. When applying Round-Up®, take care of where you are walking, it is possible to track Round-Up® onto a lawn or desirable plantings.

How to Spot a Weed

Learning to spot a weed is an essential skill in maintaining a planting bed. Some weeds are very obvious, while others look very much like desirable plants. If you cannot tell if it is a weed, there are a couple things to look for:

1) Did it come out of nowhere? Weeds can sprout up and grow quickly. If a plant has grown significantly larger than the surrounding plantings, it could be a weed!
2) Is it spreading quickly? Weeds are very effective in growing out quickly crowding out competition. If you notice a plant that is sending out several runners and establishing itself over a relatively large area very quickly, it could be a weed!
3) Does it look out of place? If there are individual plants that are within a mass planting and are different, it could be a weed!
4) Has it gone to flower and seed quickly? One technique weeds use to spread is to go to flower and seed quickly. If you see a weed that has gone to seed, get rid of it! But make sure you don't spread the seeds around.

Refer to the following list and photographs of plants to remove or avoid planting.