WASHINGTON STATE UNIVERSITY
LEWIS COUNTY EXTENSION

Gardening For Everyone

MASTER GARDENER FOUNDATION of Lewis County

Weed Management

Michael Lundahl
Lewis County
Master Gardener Volunteer

WSU Master Gardener Program

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Master Gardener Program

WASHINGTON STATE UNIVERSITY EXTENSION

Outline

Home gardens, landscape

- Identification, lifecycle
- Noxious weeds, invasive plants
- Annuals, biennials, perennials
- Management
- Alternative methods
- Resources
- Questions

Weed Life Cycles

Annual: complete growth cycle in 1 yr.

- summer types -winter types

Examples (winter):

- Bittercress, Groundsel, Red dead nettle, Chickweed

Biennials: complete growth cycle in 2 yrs.

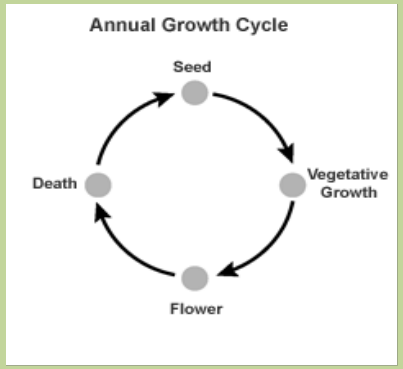
Examples:

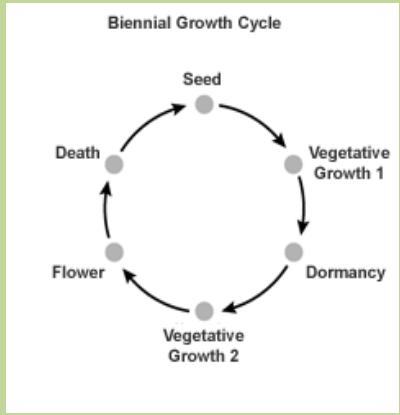
- Wild carrot, Tansy ragwort

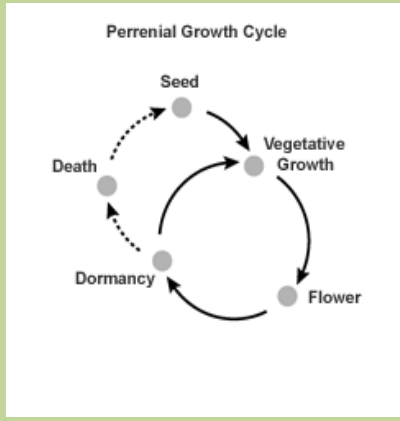
Perennial: multi-year growth cycle

Examples:

- Creeping root (Field Bindweed)
- Tap root (Dandelion)
- Woody (Scotch broom)







Weed Characteristics

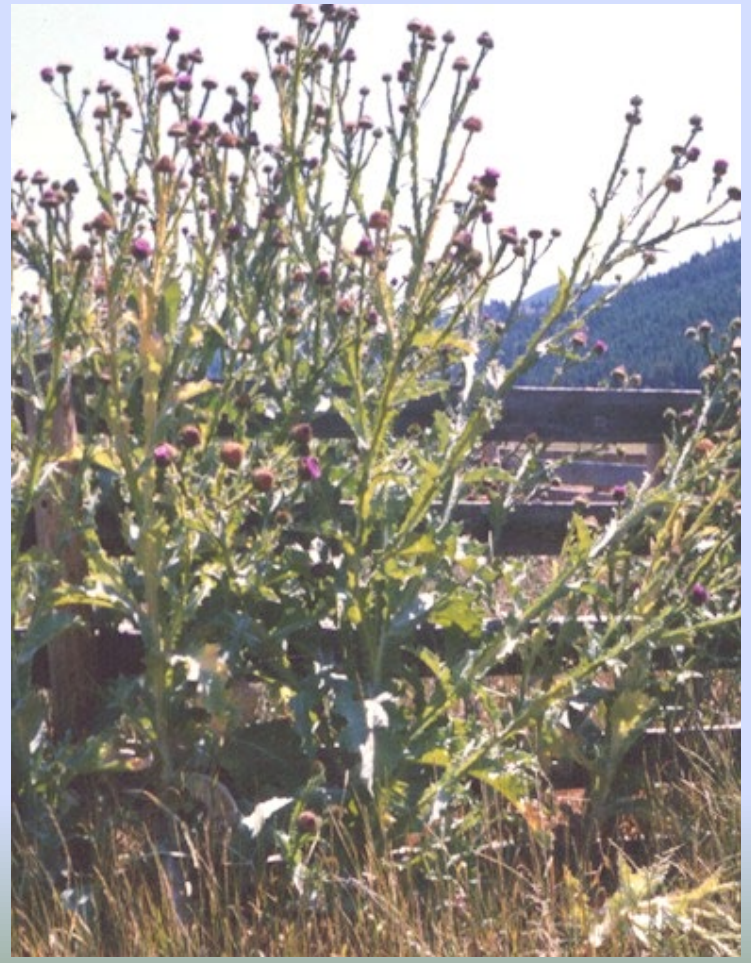
- **Competitive**
  - Usually the first to grow is disturbed soil
  - Grows taller to access more sunlight
  - Often produce chemicals that inhibit other plants' growth
- **Persistent**
  - Difficult to kill or pull up
  - Produce more seeds than most crop plants
  - Seeds remain dormant until ideal conditions
- **Invasive**
  - Root systems "travel" far from parent plant
  - Greater and farther seed dispersal
  - Aggressive vegetative growth

Noxious Weeds

- What are they?
- How are they defined by law?
  - Highly destructive
  - Competitive
  - Difficult to control
  - Non-native plants

Noxious Weeds

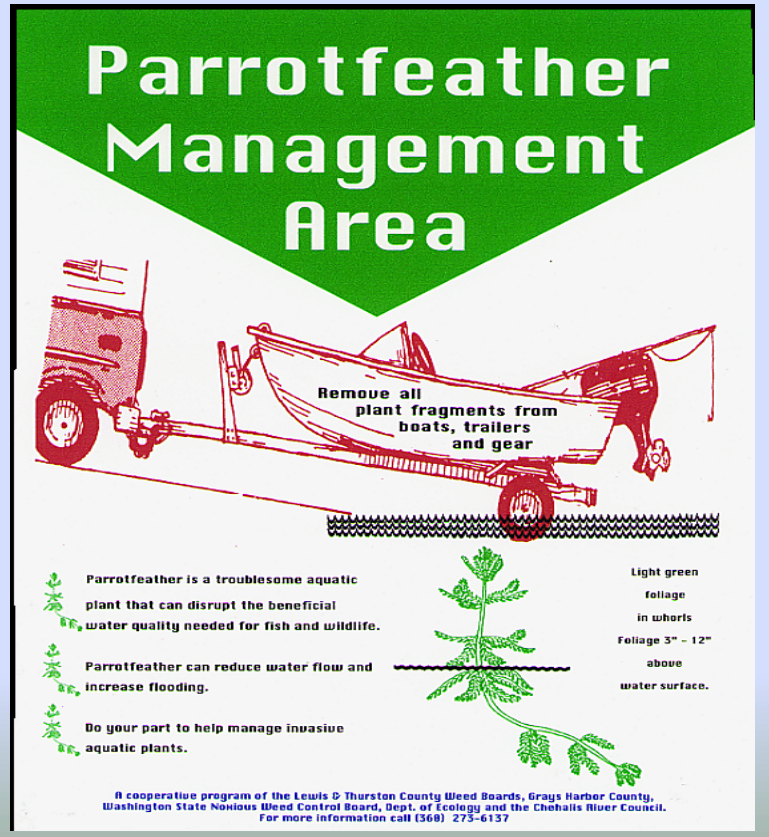
- Why is noxious weed control important?
- What are the impacts?
    - Human health
    - Livestock health
    - Ag. & Forest production
    - Natural Resource protection
        - Water, soils, wildlife, flora



Noxious Weeds

What role do gardeners play in the management of noxious weeds?

- Prevention \ Awareness
  - Forest Fire model
  - Only You Can Prevent Forest Fires



Noxious Weeds

“Making folks aware of the dangers, how they spread and what they can do is essential to noxious weed control”.

Steven Dewey, Weed Scientist, Utah State University.

- Learn to identify & become familiar with these problem plants.
- When you locate these problem plants, share that information with others.

Noxious Weeds

How are noxious weeds introduced into our area & WA State?

“Many, if not most, invasive plant species are intentionally introduced rather than arriving as contaminants or hitchhikers".

- Rich Old, XID Services

- ✓ **Kudzu**, the plant beast of the Southeastern US, discovered in Clark Co., WA
- ✓ A sample was brought into MG Clinic
- ✓ Tentatively identified by MG staff
- ✓ Information & samples were passed on to WSU specialists & Weed Board

Noxious Weeds

- How do the Weed Laws work today?
  - Most recent changes to the Weed law was in 1997
  - The Weed Laws are administered at three levels: WSDA, WSNWCB, and at the local level by County Boards and Weed Districts
- WSDA – quarantines, inter-county disputes
- WSNWCB – weed list, education, federal & tribal cooperation.
- Counties – weed list w/ local priorities, education, technical help, compliance

Noxious Weeds

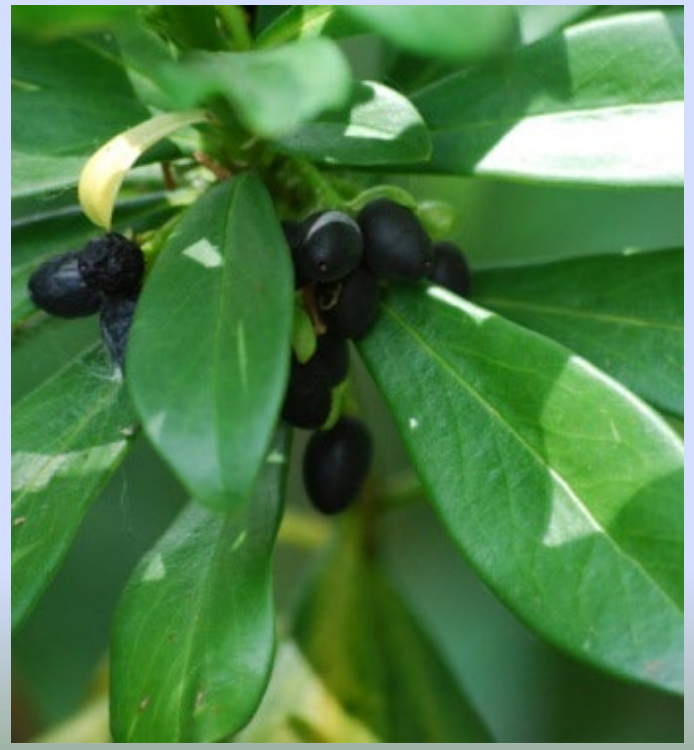
- How are noxious weeds ranked in importance?
  - **Class A**
  - **Class B**
  - **Class C classifications**
- Monitor & education list
- What is the process for listing a noxious weed?

Garlic Mustard

- Biennial
- Class A List
- Prefers shady locations

Spurge laurel

- Perennial
- Movement by birds eating fruit

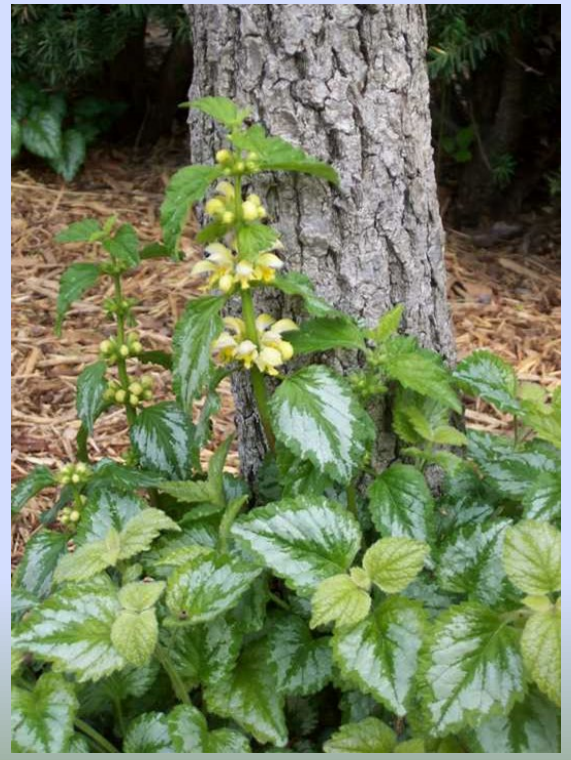


Butterfly bush

- Perennial
- More frequent roadsides & riparian areas

Yellow archangel

- Perennial
- Escapes from gardens
- Discarded in containers & baskets



Invasive Knotweed

- Perennial
- Multiple species
- Difficult to manage

Chickweed

- Common
- Annual
- Other: Mouseear, Perennial

Mouseear Chickweed

Chickweed

- Annual & Perennial types

Little Bitter cress
“Shot-weed”

- Annual, winter
- Native to the Pacific Northwest

Common Purslane

- Annual, summer
- Prolific seed producer

Red deadnettle

- Annual

Common Groundsel

- Annual, winter
- Waxy leaf surface
- Others: Woodland, Tansy ragwort

Woodland Groundsel

Catchweed bedstraw

- Annual

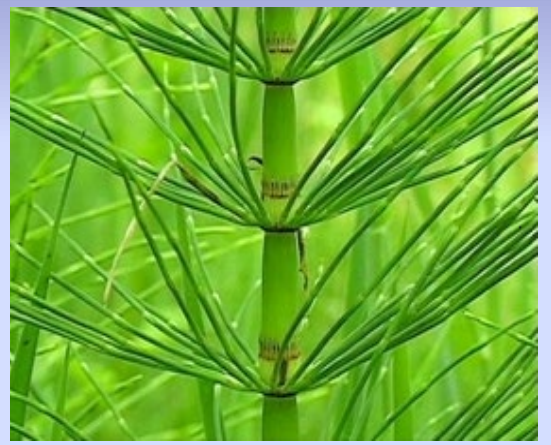
- Annual bluegrass
- Nightshade
- Pigweed
- Lambsquarter
- Wild Buckwheat

Creeping Buttercup

- Perennial
- Prefers moist soil
- Creeping roots & stems

Horsetail

- Perennial
- Creeping roots & shoots



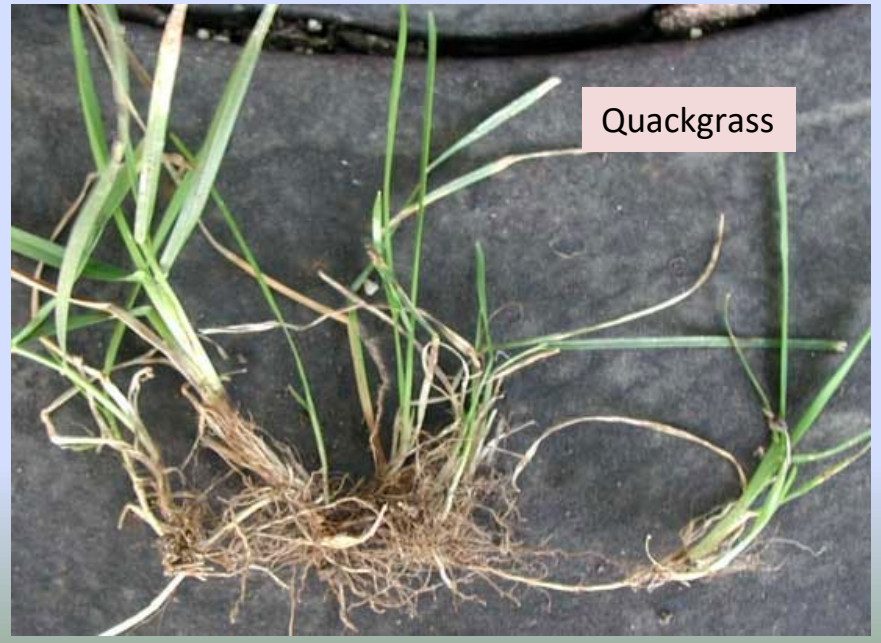
Field Bindweed

- Perennial
- Prefers moist soil
- Creeping roots & stems

Grasses

- Barnyard grass (P)
- Quackgrass (P)
- Annual ryegrass (a)

Quackgrass



Quackgrass

Spotted Catsear, False-dandelion

- Perennial
- Other: Common Dandelion

Scotch broom

- Perennial, Legume
- Long seed life

Blackberry

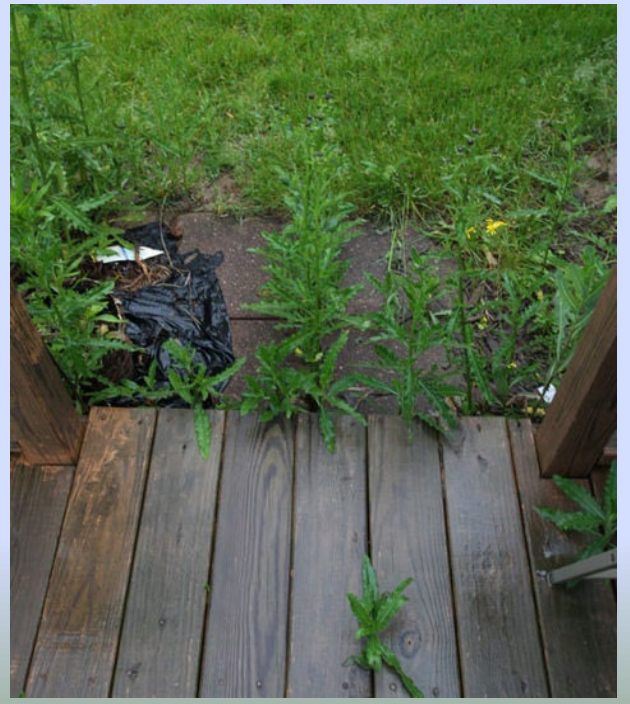
- Perennial
- Types: Himalayan, Evergreen

Rubus laciniatus – Cutleaf blackberry

Rubus discolor — Himalayan blackberry

Canada thistle

- Perennial
- Aggressive
- Creeping root system



Bull thistle

- Biennial
- Small hairs on leaf surface
- Spines on flower bracts
- Other: Milk thistle

Bull thistle

Milk thistle

Other Weeds….

Perennials

- Yellow woodsorrel

Annuals

- Redroot pigweed
- Wild mustard

Perennial Weed Management

Characteristics of difficult to control Perennial Weeds

- Reproduction
  - Seed: large quantities, long lived
  - Vegetative
    - stem & root fragments,
    - tubers, expansion via creeping roots
- Carbohydrate (energy) storage
- Stems, roots & rhizomes, tubers
- Growth over multiple seasons
- Tolerant to a range of soil types & moisture regimes.

Perennial Weed Management

Integrated Pest Management (IPM)

Basic Strategies:

- Prevention
- Cultural –Plant Health
- Biological
- Mechanical
- Chemical

Weed Management

- Established landscaped areas
- Establishing new plant beds, landscapes
- Lawns
- Vegetable Garden

Weed Management Strategies: Prevention

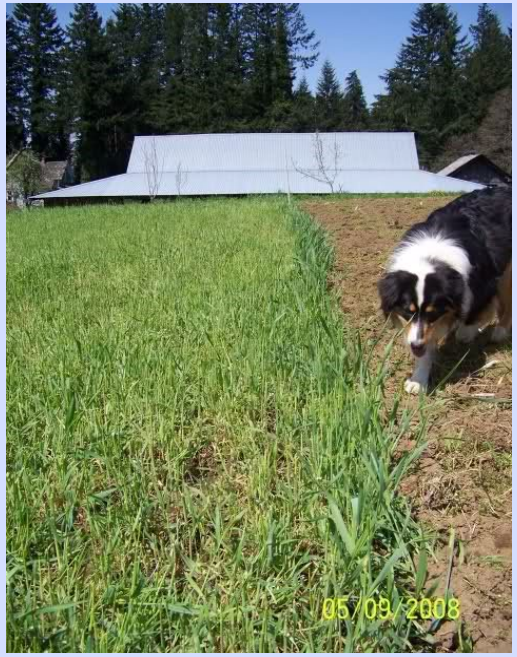
- ***Actions we can take to prevent introduction of weeds to the home landscape.***
- ***"Good housekeeping"***
  - Clean sources of soil, mulch
  - Clean equipment
  - Clean nursery stock, seed
  - Maintenance of landscape edges
  - Proper disposal of vegetation

Weed Management Strategies: Cultural

- **Good plant & soil health management that benefits the garden, landscape**
- Maintaining competitive plantings, … “good plant health”. Competitive advantage favors garden plants.
- *Practices combined with other weed control strategies.*
  - Adequate nutrients, soil ph
  - Planting of cover crops, vigorous plants
  - Landscape design
  - Selecting the right plant, right place!
  - Timing of planting
  - Successive planting and or inter-planting
  - Use of drip irrigation
  - Use of mulches (OM & barriers), examples…..

Mulching examples

Living mulch examples



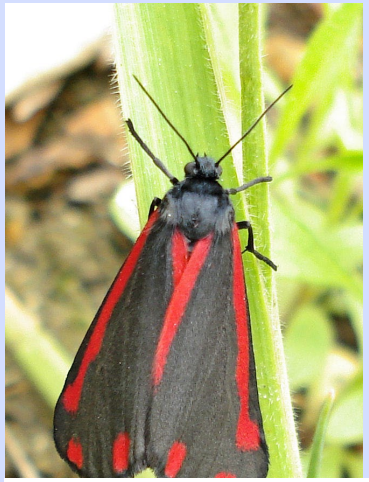
Weed Management Strategies: Cultural

Lawn Health

- Fertility
- Watering
- Mowing
- Thatch
- Pests
- Weed Control
- Moss
- Grass weeds

Table 2. Planted grasses, naturalized grasses, and common weeds for western Oregon		
Commonly planted grasses of western Oregon		
Common name	*Scientific name*	*Environmental conditions*
Perennial ryegrass	*Lolium perenne*	High fertility, water, and sunlight
Kentucky bluegrass	*Poa pratensis*	High fertility, water, and sunlight
Red fescue	*Festuca rubra ssp. rubra*	Low fertility, drought and shade tolerant
Chewings fescue	*Festuca rubra ssp. Commutata*	Low fertility, drought and shade tolerant
Hard fescue	*Festuca trachyphylla*	Low fertility, drought and shade tolerant
Tall fescue	*Lolium arundinaceum*	Low fertility, drought tolerant, full sun
Annual ryegrass	*Lolium multiflorum*	Junk grass included in cheap seed mixes. Does not persist
Common naturalized grasses of western Oregon		
Annual bluegrass	*Poa annua*	High fertility and frequent irrigation
Roughstalk bluegrass	*Poa trivialis*	High or low fertility, shade tolerant, strong winter grower
Dryland bentgrass	*Agrostis castellana*	Low fertility, drought tolerant
Creeping bentgrass	*Agrostis stolonifera*	Tolerates wet and dry soils and low fertility
Orchardgrass	*Dactylis glomerata*	Fairly rare
Velvetgrass	*Holcus lanatus*	Low fertility, wet and dry soils
Rattail fescue	*Vulpia myuros*	Low fertility, winter annual
Common broadleaf species found in western Oregon lawns		
False dandelion	*Hypochaeris radicata*	Low fertility, drought tolerant
Common dandelion	*Taraxacum officinale*	Low fertility, drought tolerant
White clover	*Trifolium repens*	Low fertility, drought tolerant, clay and silt
Subterranean clover	*Trifolium subterraneum*	Winter annual
English daisy	*Bellis perennis*	Low fertility, wet or dry sites
Black medic	*Medicago lupulina*	Drought tolerant, short lived in dry sites
Mousear chickweed	*Cerastium vulgaris*	Wet or dry soils ?
Heal-all	*Prunella vulgaris*	Wet or dry soils ?
Common yarrow	*Achillea millefolium*	Drought tolerant
Ladies bedstraw	*Gallium verum*	Drought tolerant

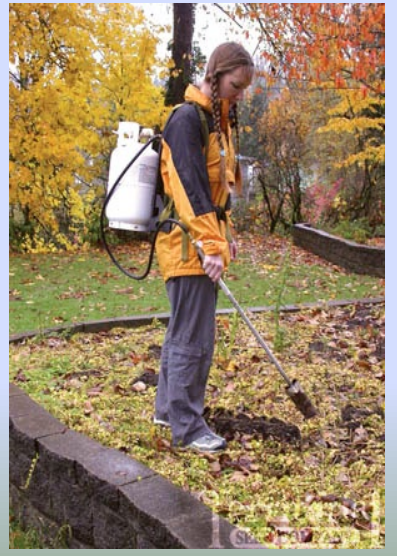
Weed Management Strategies: Biological



Cinnabar moth larvae eating tansy

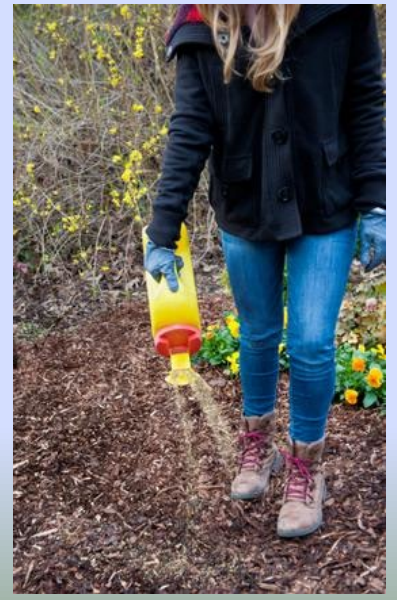
Weed Management Strategies: Mechanical

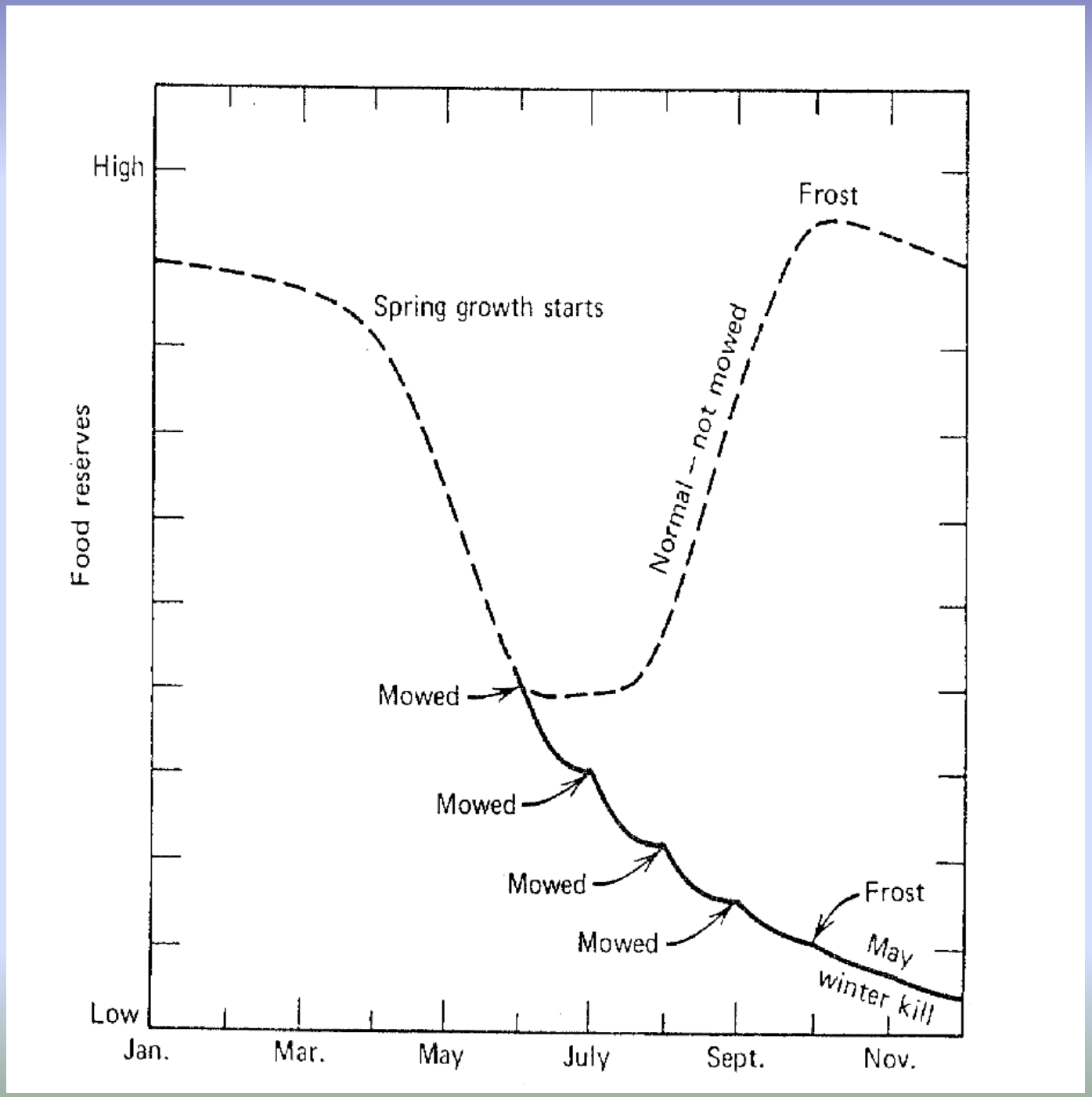
- **Causing physical injury to plants**
- **Create a soil mulch (loose soil)**
  - Hand pulling, removal
  - Plowing, cultivation & hoeing
  - Deep or shallow cultivation-rototilling
  - Mowing or cutting
  - Flaming
  - Clean fallow



Weed Management Strategies: Chemical

- **Use of chemicals that will selectively control unwanted plants**
- **Products with specific labels for sites and use around desirable plants**
  - Spot or broadcast applications
  - Directed treatment to stems, or cut surfaces.
  - Granular products for broadcast
  - Granular or sprays for pre-emergence weed control use
- **Use: Follow label directions!**
- **Know your weeds for best timing and susceptible growth stage**
- **Rule of thumb**




High
Low
Food reserves
Spring growth starts
Normal – not mowed
Frost
Mowed
Mowed
Mowed
Mowed
Frost
May
winter kill
Jan.
Mar.
May
July
Sept.
Nov.


For Best Results Apply to a Wet Lawn
KILLS WEEDS DOWN TO THE ROOTS
Scotts
Turf Builder
WEED & FEED 1
Fertilizante para césped con control de malezas
KILLS DANDELIONS AND FEEDS GRASS
TO CROWD OUT FUTURE WEEDS
Builds Strong, Deep Grass Roots
COVERS 5,000 SQ FT
NET WT./PESO NETO
14.29 lb (6.48 kg)
KEEP OUT OF REACH OF CHILDREN
CAUTION
MANTENER FUERA DEL ALCANCE DE LOS NIÑOS
PRECAUCION
FPO
24990
1
Scotts
Turf Builder
WEED & FEED 1
28-0-3


Guaranteed!
KILLS DANDELIONS AND FEEDS GRASS
TO CROWD OUT FUTURE WEEDS
FPO
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INSTRUCCIONES DE USO
Scotts® QUICK START GUIDE: You're Just Three Simple Steps Away From A Beautiful Scotts® Lawn
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APPLY
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RESTRICCIONES
WEED CONTROL
TIPS FOR LAWNCARE SUCCESS
SCOTTS® RECOMMENDED FEEDING ROUTINE
Feed Regularly
Mow and Leave the Grass Clippings on Your Lawn
Conserve Water
EARLY SPRING
LATE SPRING
EARLY FALL
LATE FALL
Scotts & Your Environment
PRECAUTIONARY STATEMENTS
AVISOS DE PRECAUCION
FIRST AID
PRIMEROS AUXILIOS
STORAGE AND DISPOSAL
ALMACENAMIENTO Y ELIMINACION
GUARANTEED ANALYSIS
QUESTIONS / INFORMATION
SCOTTS NO-QUIBBLE GUARANTEE
FPO

Weed Management Strategies: Chemical

- Pre-mergence
- Post-emergence, selective
- Post-emergence non-selective
- Systemic
- Persistent

Weed Management Strategies: Chemical

Other products:

- **Soaps** (breaks down surface layer of plant)
- **Corn gluten** (inhibits root development w/ moisture stress)
- **Acids,** citric & acetic acid (breaks down cell)
- **Oils**, plant derived (Clove & Citrus oils), breaks down surface layer of plant

- **Follow label directions.**
- **Confirm labeling for site use.**

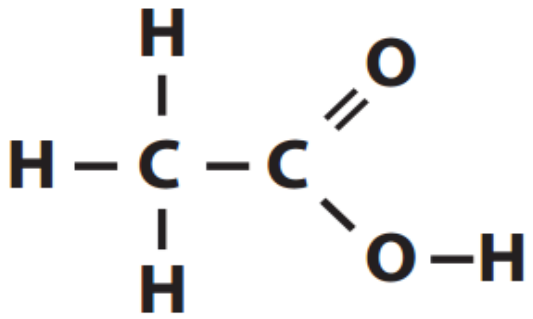
Items shown may not be registered in Washington State.

Weed Treatments and Available Products for Home Landscapes

Jessica Green and Ed Peachey

Revised March 2015

Herbicide ingredient	Examples of brand Names	Timing[2] and application notes	lawn/turf	ornamental shrubs/trees	annual flower beds	perennial flower beds	home vegetable gardens	home tree fruit or nut orchards	home small fruit /berry
2,4-D	Clear Choice, Enforcer	Selective, PRE or POST	x						
acetic acid	WeedPharm, Nature's Glory	Nonselective, POST, suitable for organic	x	X	x	x	x	x	x
clove or citrus oils	Perfectly Natural, Weed-A-Tak	Nonselective, POST, suitable for organic	x	X	x	x	x	x	x
corn gluten meal	Concern, WOW!	Selective, PRE		X					
dicamba	Weed Beater, Brush Killer,	Selective, POST	X						
dichlobenil	Image, Noxall, Casoron	Nonselective, PRE		X				X	x
glyphosate	RoundUp, Pronto, Zap-It	Nonselective, POST		X				X	x



Pesticide Ingredient: Acetic Acid/Vinegar

WASHINGTON STATE UNIVERSITY EXTENSION FACT SHEET • FS161E

WSU Extension *Pesticide Ingredient* fact sheets describe basic traits of active ingredients found in WSDA-registered pesticides.

Introduction

Acetic acid is one of the simplest organic acids. Here, "organic" means a compound having carbon molecules. It is a naturally occurring substance found in all plants, animals, and humans in tiny amounts.

Acetic acid is one of the few chemicals with two common names. Both depend upon its concentration. "Vinegar" means concentrations up to 8%. "Acetic acid" means concentrations higher than 8%. When the concentration is low enough to be called vinegar, it is a food product. Most household (food) vinegar is sold at a 5% concentration. The U.S. Food and Drug Agency (FDA) regulates food products.

When the concentration is high enough to be called acetic acid, and it is used to kill weeds, it is a pesticide. The U.S. Environmental Protection Agency (EPA) regulates pesticides. When the concentration is low enough to be called vinegar, but is sold as an herbicide, the Washington State Dept. of Agriculture regulates it as a pesticide.

This chemical is made through bacterial fermentation (for example, turning apple cider into vinegar) or industrial duced apple cider for example. If it is made into vinegar using natural processes, then it is acceptable under organic standards. If it is made into vinegar using synthetic processes, it is not acceptable. If methanol is used to make acetic acid, which is then diluted to 8%, that vinegar is not acceptable under organic standards.

How it works as a pesticide

Acetic acid is applied as a liquid spray or drench to weeds after they emerge from the soil. It is a contact herbicide, meaning it only affects plant tissue it touches. The acid breaks up cell membranes and makes them leak, causing the plant to dry out and die. Depending on plant age, air temperature, humidity, and direct sunlight levels, this may take from a few hours to several days. The drying effect is not limited to just certain plants; any new plant tissue can be affected. Avoid getting drops of spray onto plants you do not want damaged.

Young seedlings and new growth have a thinner leaf cuticle than older plants or woody parts, making it easier for acetic acid to break down cell membranes. For example, in one study acetic acid sprayed at 5%–20% concentration killed 80%–100% of weed seedlings that were from 3 inches–9 inches tall. However, when 10% acetic acid was sprayed on mature blackberry plants, only 5% of leaves were burned back. Thick, waxy cuticles and woody plant tissue are more resistant to liquid entering, thus harder to kill. To overcome this, trim perennial weeds so they regrow tender new growth. Follow this with a spray appli-

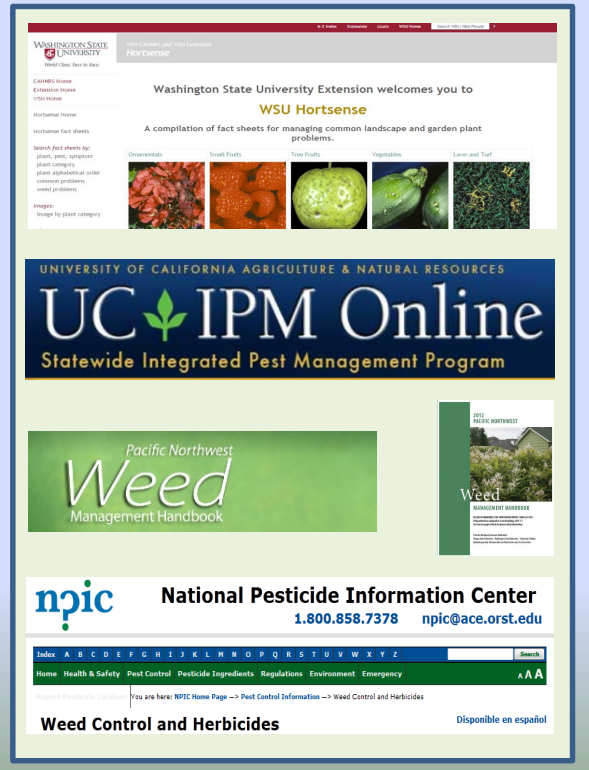
Online Resources

- Hortsense - WSU Extension
  - www.pep.wsu.edu/hortsense

- UC IPM Online
  - http://www.ipm.ucdavis.edu/PMG/WEEDS/broad_preview.html

- NPIC National Pesticide Information Network
  - http://npic.orst.edu/pest/weeds.html

- Pacific Northwest Weed Control Handbook
  - http://pnwhandbooks.org/weed/



Weeds

Caption: Common dandelion with flowers
Photo by: J.A. Kropf

Weeds : Common dandelion : *Taraxacum officinale*

(revision date: 6/9/2014)

Family: Asteraceae (Compositae)
cycle: Perennial
Plant Type: Broadleaf

Use Integrated Pest Management (IPM) for successful weed management.

Biology

The common dandelion is a persistent taprooted plant reproducing by seeds and by short shoots from the crown. It also grows back from roots broken during hand removal. Plants consist of a rosette of deeply lobed or toothed basal leaves and upright, leafless flower stalks. The leaves are variable in size, ranging from two to twelve inches long. The teeth or lobes are typically opposite each other and point back toward the base of the leaf. The unbranched flower stalks are hollow and the juice of the entire plant is milky. Flower heads are broad and yellow, maturing into a distinctive white "puffball" of windblown seeds. The root is deep and rather fleshy, often reaching several feet into the soil. Plant size is variable. Common dandelion can reach up to two feet if uncut, or can remain low-growing in mowed lawns. SPECIAL INFORMATION: Dandelion is edible and can serve as good forage for livestock.

Habitat

Common dandelion is found in waste places, moist areas, and meadows and pastures, as well as being a lawn weed.

Management Options

HOME

SEARCH

ON THIS SITE

- What is IPM?
- Home & landscape pests
- Agricultural pests
- Natural environment pests
- Exotic & invasive pests
- Weed gallery
- Natural enemies gallery
- Weather, models & degree-days
- Pesticide information
- Research
- Publications
- Events & training
- Links
- Glossary
- About us
- Contact us

UC IPM Home > Homes, Gardens, Landscapes, and Turf > Weed Management in Lawns

How to Manage Pests

Pests in Gardens and Landscapes

Weed Management in Lawns

Download PDF | Quick Tip | Nota Breve

Revised 3/16

In this Guideline:

Related videos

How to remove dandelions (2:30)

Weeds occur in every lawn, but they seldom become problems in well-managed, vigorously growing turfgrass. Proper site preparation and turfgrass selection before planting are essential to give a new lawn a healthy start. Once a lawn is established, poor maintenance practices that weaken it—such as improper irrigation, fertilization, or mowing—are the primary factors likely to predispose it to weed invasion. Activities that lead to compaction also contribute significantly to turfgrass stress, making it easier for weeds to invade.

Annual bluegrass, *Poa annua*.

An integrated weed management program can reduce most weed populations to tolerable levels and prevent large, unsightly weed patches. Total eradication of weeds is not a realistic or necessary goal for most lawns and park turfgrass; however, with proper maintenance a lawn can be practically free of weeds without the extensive use of chemicals. Refer to the *UC Guide to Healthy Lawns* (See REFERENCES) for detailed information about turfgrass management practices.

WEED IDENTIFICATION Key to identifying weeds

Identifying weeds and knowing their life cycles are essential to management. Three general categories of weeds may be found in lawns: broadleaves, grasses, and sedges. Take care to distinguish weedy grasses from similar-looking lawn grass species.

The life cycle of weeds may be annual, biennial, or perennial. Annual weeds are commonly identified as either winter (cool-season) or summer (warm-season)

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SEARCH

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How to Manage Pests

Identification: Weed Photo Gallery

| Weed Photo Gallery | Key to weeds in turf |

Common purslane

Scientific name: *Portulaca oleracea* (Purslane Family: Portulacaceae)

Click on image to enlarge

Common purslane, a summer annual broadleaf plant grows r
weed. It is found throughout California to about 4600 feet (
disturbed places. Although it thrives under dry conditions, c
Plants prefer loose, nutrient-rich, sandy soil. Many regional
purslane's distinctive succulent foliage is unlikely to be cont
Schizocerella pilicornis, and a leafminer weevil, *Hypurus ber*
agents that have become widespread in California. Where t
Department of Food and Agriculture has rated it as providin

Habitat
Orchards, vineyards, crop fields, landscaped areas, gardens

Seedling
Cotyledons (seed leaves) are egg shaped to oblong, hairles
sometimes tinged red. Leaves are stalkless, or nearly so, ar

Mature plant
The mature plant grows prostrate to spreading, up to 3-1/3
starting from the base. Leaves are egg to spatula shaped, s
inches to 1-1/5 inches (5–30 mm) long, and sometimes thei
one another or alternate along the stem.

Flower
Flowering takes place from May through September. Single flowers or clusters of two to five, are found at stem
and typically open only on hot, sunny days from midmorning to early afternoon.

Fruit
Fruit consist of almost round to egg-shaped capsules, usually about 1/6 to 1/3 of an inch (4–8 mm) long that c

Seeds
Seeds are tiny, less than 1/25 of an inch (1 mm) in diameter, circular to egg shaped, flattened, and brown to b
produced.

Reproduction
Reproduces by seed and sometimes by stem fragments.

Related species/Similar looking plants
Unlikely to be confused with other weed species.

On-line Plant identification:

- University of California, Weed Photo Gallery
- http://www.ipm.ucdavis.edu/PMG/weeds_intro.html

UNIVERSITY OF CALIFORNIA AGRICULTURE & NATURAL RESOURCES
UC IPM Online
Statewide Integrated Pest Management Program

HOME

SEARCH

ON THIS SITE

- What is IPM?
- Home & landscape pests
- Agricultural pests
- Natural environment pests
- Exotic & invasive pests
- Weed gallery
- Natural enemies gallery
- Weather, models & degree-days
- Pesticide information
- Research
- Publications
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UC IPM Home > Weed Gallery > Broadleaf Categories

How to Manage Pests

Weed Gallery—Broadleaf Gallery

Choose the leaf characteristic or plant form that best

View by weed name

Plant forms


Spreading plants


Plants that form rosettes


Whorled leaves

Mature leaf characteristics


Roundish (orbicular)


Egg to football (ovate to elliptic)


Heart shaped (chordate)


Narrow or oblong (linear)


Lobed edges


Leaflets (compound)


Deeply divided


Featherlike


Clover or shamrock shaped


Hairy

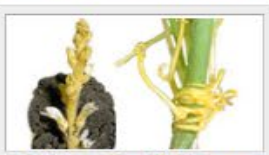

Prickly, spiny, or bristly


Toothed edges


Succulent (fleshy)


Milky sap


Needlelike


Leafless or nubby leaves

Key to broadleaf weeds in turf


Key to broadleaf weeds in turf

National Pesticide Information Center

1.800.858.7378 npic@ace.orst.edu

Index | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | U | V | W | X | Y | Z | Search

About | Health & Safety | Pest Control | Pesticide Ingredients | Regulations | Environment | Emergency | Report Pesticide Incident | A A A

State Pesticide Regulatory Agencies

Bed bugs are great hitchhikers!

PALS

Holiday visitors can bring unwanted guests like bed bugs. There are non-chemical things you can do to protect your home.

Report a Pesticide Incident

My Local Resources

Find local pesticide & pest control information

Enter your zip code her | Zip Search...

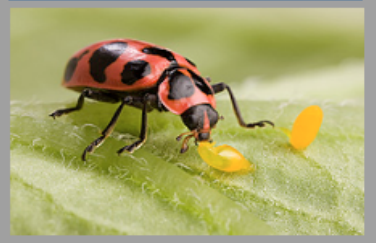
People and Pets

- Human Health
- Animal Health
- Safe Use Practices
- Pest Control
- Pets and Pesticides
- Report a Pesticide Incident

Science and Regulation

- Toxicology Resources
- Pesticide Ingredients
- Medical Case Profiles
- Veterinary Resources
- Pesticide Regulations
- Occupational Safety

Pests and Environment



- Identify Your Pest
- Learn About Your Pest
- Control Your Pest
- Integrated Pest Management
- Environment
- Report a Pesticide Incident

NPIC Publications

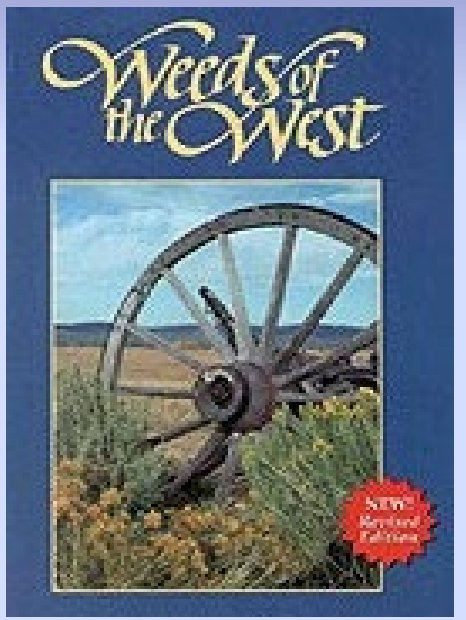
- Active Ingredient Fact Sheets
- Topic Fact Sheets
- PestiByte Podcasts
- Frequently Asked Questions
- Outreach Materials
- Web Apps by NPIC

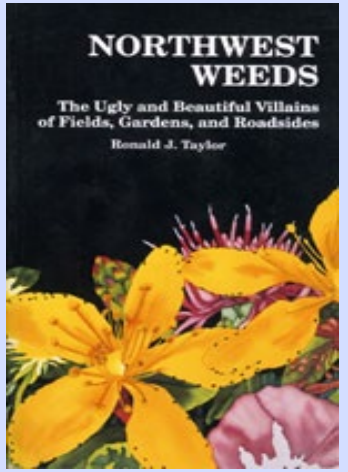
We are open from 7:30am to 3:30pm Pacific time Mon. — Fri.
Please read our disclaimer | Contact us

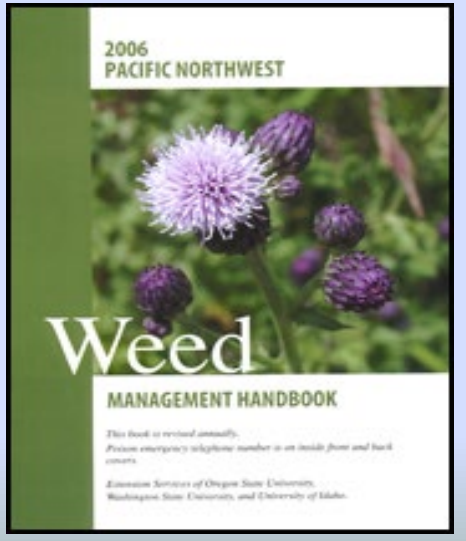
粵語 Français 普通话 Русски 日本語 tiếng Việt فارسی Español

Publications

- **Understanding Backyard Herbicides**
  - Timothy W. Miller, WSU-Mt. Vernon
- **Chemical Weed Control For Home Grounds (EB 1214)**
- **Weeds of the West**
- **Plants of the Pacific Northwest**
- **Northwest Weeds**
- **PNW Weed Control Handbook**







http://cru.cahe.wsu.edu/CEPublications/eb1214/eb1214.html

Local Weed ID & Management Resources

- **WSU Master Gardener Plant & Insect Clinic**
  - WSU Lewis County Extension office
  - Gardening For Everyone (in-person)
  - Annual Spring Plant Sale
  - Other remote locations

- **Lewis County Noxious Weed Control Board**
  - 157 NW Chehalis Ave, Chehalis, WA 98532

Weeds as Indicators

Weed	Soil Properties
Bindweed	Hardpan
Buttercup	Heavy, wet, poorly drained
Docks	Wet, poorly drained
Daisy	Heavy, acidic
Lambsquarters	Cultivated, dry
Mullein	Acidic, low fertility
Horsetail	Poor drainage, acidic

Weeds as Indicators

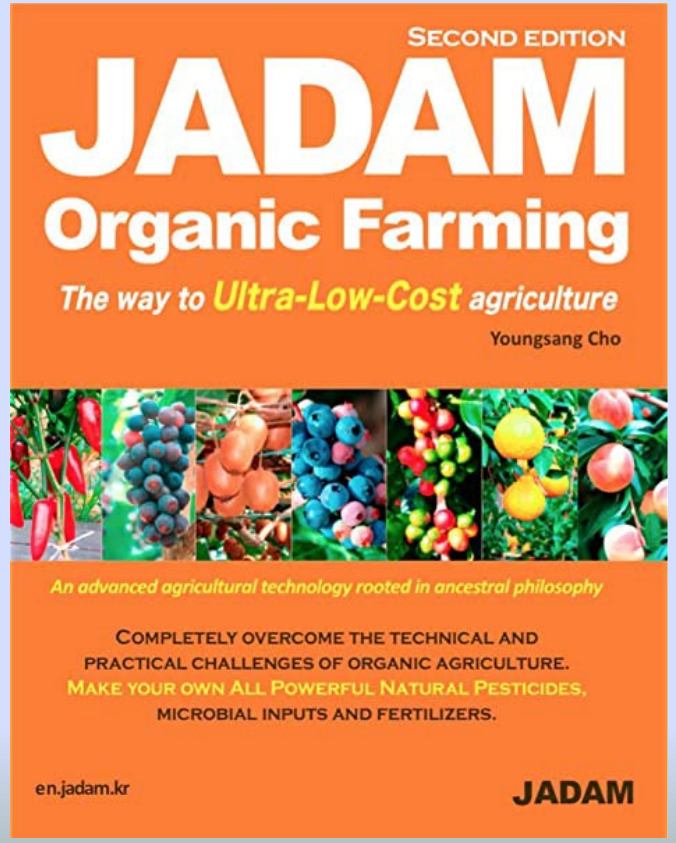
Weed	Soil Properties
Mosses	Acidic, wet, poorly drained
Pigweed	Cultivated, fertile
Plantain	Heavy, wet, acidic
Purslane	Cultivated, fertile
Quack Grass	Hardpan
Thistle (Canada)	Heavy
Yarrow	Low potassium

Weeds as Allies

- Deep roots bring up trace elements and minerals from the subsoil to the surface
- Tap roots break up hardpan and aerate soils
- Promote the relationship with soil organisms
- Trap nutrients and soils, reducing erosion in the garden or landscape
- Sometimes, you can eat them, or use them for medicine!

Weeds as a Resource!

- Chop & Drop or Mow & Blow - MULCH
- Give them their own place - INSECTARY
- Backyard Chickens - ANIMAL FEED
- Weed Soup (JLF) - FERTILIZER
- JADAM - Ultra-Low Cost Farming
- Super easy, but also tailorable



JLF (JADAM Liquid Fertilizer)

- As simple as fill a container with vegetation, a handful of leaf mold (or finished good compost), add water, and wait.
  - Usable as soon as the liquid is dark (as little as 7 days), but gets better over time
  - Dilute 30X - 100X and apply to plant base
- Adaptable and Tailorable
  - Tomatos and tomato plant residue for tomato fertilizer, etc.
  - Oyster/egg shell powder for calcium fertilizer
  - Shrimp/crab shell fertilizer
  - Food waste fertilizer
- Downside, it has a smell…

Started late summer 2021, first used spring 2022, will last for years, and in perpetuity as long as it refilled.

Questions?

- Identification, lifecycle
- Noxious weeds, invasive plants
- Annuals, biennials, perennials
- Management
- Alternative methods

Consider Becoming A WSU Lewis County Master Gardener!

- Community & Youth Outreach!
- Continuing Education!
- Horticultural Training!
- Social Activities and more!






Contact the Master Gardener Program Coordinator at (360) 740-1216 or jason.adams@lewiscountywa.gov or visit www.lewis-mg-mrc.org

Thank you for attending Gardening For Everyone!

WSU Lewis County Master Gardeners

17 SW Cascade Ave., Chehalis, WA 98532

https://lewis-mg-mrc.org/

https://extension.wsu.edu/lewis/

(360) 740-1216