

Weed Control After Fire

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What is Considered a Weed

- Any species of plant which is, or is likely to be, detrimental or destructive and difficult to control or eradicate
- Invasive and Noxious weeds are the most troublesome.
 - Rapidly dominate the site
 - Very difficult to control

Life Cycles

- Annual: Complete life cycle in less than one year
 - Winter and summer annuals
 - Cheatgrass
- Biennial: Broadleaf plants with a 2-year life cycle
 - Mature, seed and die in second year
 - Vegetative growth first year (Rosette)
 - Houndstongue, mullein, bull thistle
- Perennial: Live 3 or more years.
 - Most persistent and difficult to control
 - Simple, bulbous, and creeping perennials

Resources Increase after Disturbance

- Increase in resource availability occurs because:
 - 1) Pulse in resource supply
 - 2) Decline in resource uptake



Weed Impacts

- Out compete other plants for water, nutrients, and sun
- Loss of valuable wildlife habitat
- Some are toxic to people and animals
- Decrease property value
- Increase erosion
- Minimize land uses
- Spread rapidly and difficult to control
- Costly and time consuming

Ecological Condition

- Site conditions (what was there before fire)
- Location (elevation, aspect, topography)
- Soil type
- Intensity and burn severity
- Vegetation response to past fires

Weed Cover before Fire	Burn Severity		
	Low	Medium	High
Absent to low: up to 20% weed cover (rare to scattered weeds) <i>High cover of desired vegetation</i>	Revegetation not necessary; ecological effects generally beneficial; regularly monitor for new weeds until plant community recovers, then monitor occasionally.	Revegetation not necessary; ecological effects generally beneficial; regularly monitor for new weeds until plant community recovers, then monitor occasionally.	Revegetation and regular weed management recommended.
Moderate: 20-80% weed cover (frequent to fairly dense weeds) <i>Moderate cover of desired vegetation</i>	Revegetation may be necessary if desired vegetation cover is below 30%; frequent weed management recommended; high survival of most weed species.	Revegetation may be necessary if desired vegetation cover is below 30%; frequent weed management recommended; high survival of most weed species.	Revegetation and frequent weed management recommended; weed survival varies among species.*
High: 80-90% weed cover (dense weeds) <i>Low or no cover of desired vegetation</i>	Revegetation and intense weed management recommended; high survival of most weed species.*	Revegetation and intense weed management recommended; weed survival varies among species.*	Revegetation and intense weed management recommended; weed survival varies among species.*

Control Methods

- **Mechanical**

- Mowing, hand pulling, weed whacking, burning

- **Cultural**

- Shading, site preparation
- Appropriate competitive vegetation

- **Biological**

- Parasites, predators, and pathogens;
- Typically a slow process – not for urban

- **Chemical**

- Repeated application
- Timing of application
- USE ACCORDING TO LABEL



Herbicide Characteristics

Application in relation to plant development

- Pre-plant
 - Before crop is planted
- Pre-emergent
 - Before weeds emerge
- Post emergent
 - After weeds emerge

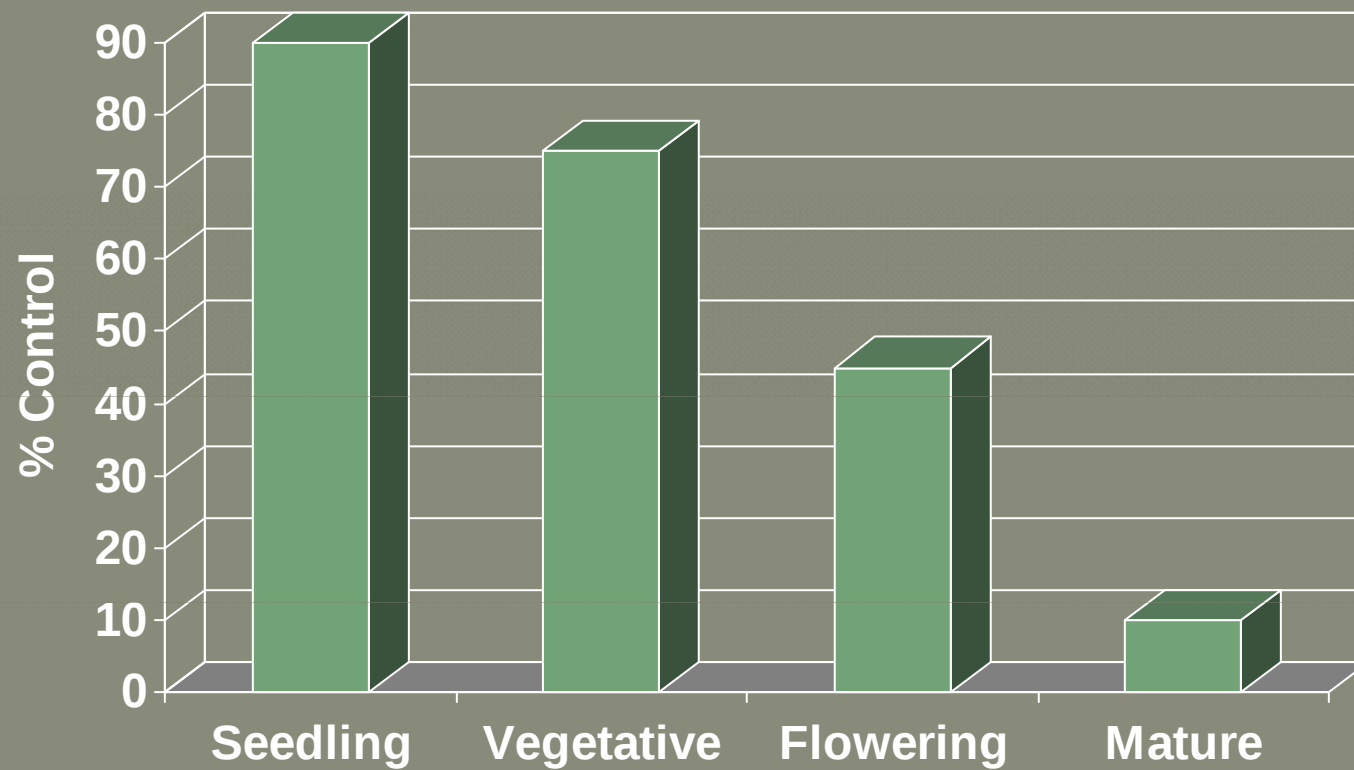


Chemical Control Cont.

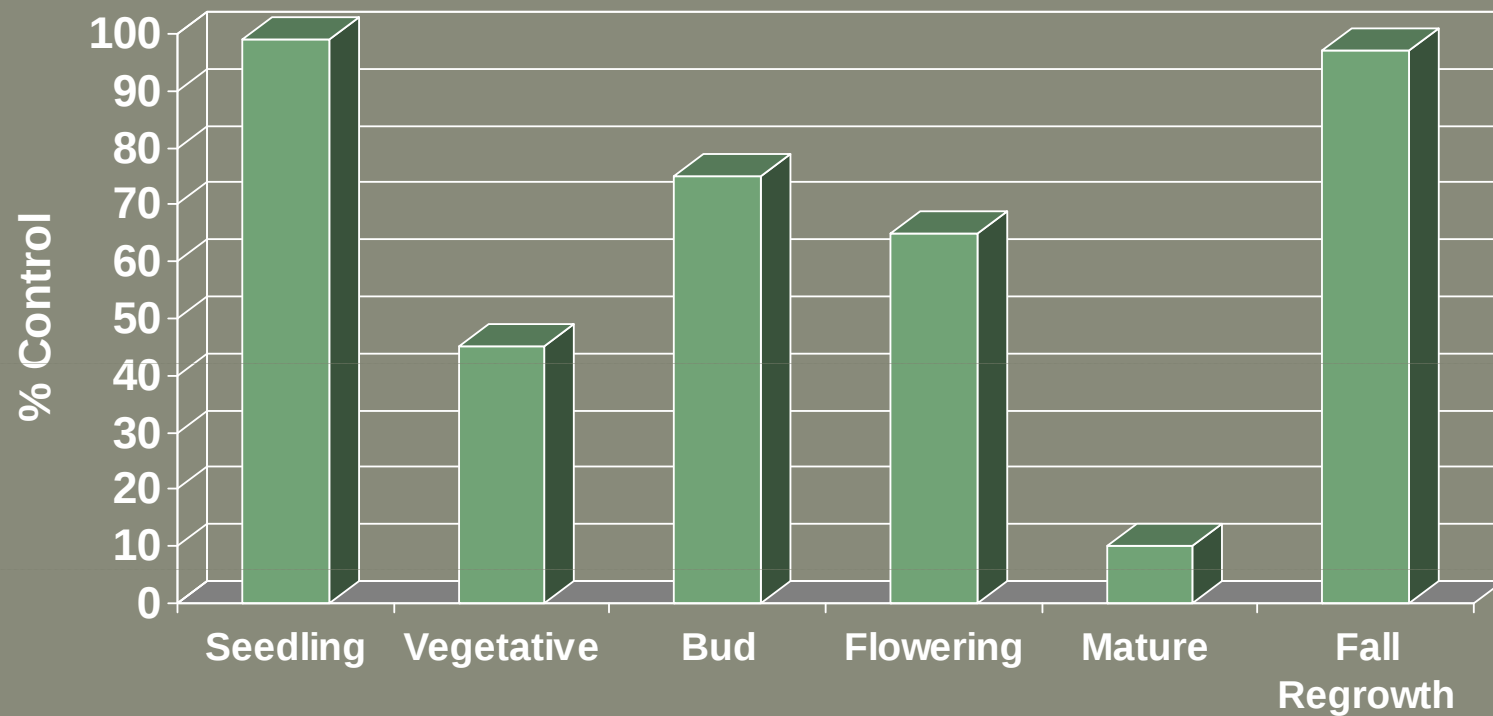
- Selectivity
- Timing of application
- Area covered
- Mode of action
- Chemical structure



Herbicide Effectiveness Annual



Herbicide Effectiveness Perennial



Discouraging weeds

- Eradication is most effective on newly established weed populations or those smaller than 100 square feet.
- Prioritizing management efforts. Begin by locating and determining the size and density of weed patches. Low-density patches respond more quickly than high-density patches to eradication.
- Flagging patches, or identifying them using GPS, to make them easy to find in the spring during the vulnerable seedling/rosette stage.
- Managing with frequent follow-up

Encouraging Desirable Plants

- Using plants adapted to the site
- Preparing a seedbed before and after broadcast seeding
- Adding nitrogen-fixing legumes such as lupine to improve the soil structure and contribute to a healthy nitrogen cycle
- Increasing seeding rates to improve competition with weeds
- Providing a protective mulch cover to protect soil and seeds from erosion, conserve moisture, and moderate soil temps
- Removing as many weeds as possible

What To Look For

- Thistles (Musk, Canada)
- White Top
- Dyer's Woad
- Dalmatian Toadflax
- Houndstongue
- Knapweed
- Tumble Mustard
- Sun Flowers
- Cheat Grass



Cheatgrass



- Native to Europe and Asia
- Competes well because of its winter and early spring growth habit (Annual)
- Spreads Rapidly, can be difficult to control
- Can produce more than 10,000 plants per square yard
- Highly flammable, alter fire frequency
- Cheatgrass can be controlled mechanically, biologically, chemically

Cheatgrass Cont.



• Mechanical Treatments

- **Hand pulling** – during spring and fall; repeat when new plants appear; effective in small areas only.
- **Disking/tilling (live plants)** – spring and fall before the seed heads turn purple; repeat when new plants appear; use disk, rototiller, spike-tooth harrow, etc.
- **Disking/tilling (seeds)** – once in late spring before seeding with desirable species in the fall; bury seeds at least three inches deep to prevent germination.
- **Mowing** – not recommended as a long-term control technique as seed may be produced by mown plants.

• Biological Treatments

- **Livestock grazing** – graze, very heavily, twice in early in spring (approximately three weeks apart) when the grass is green but prior to seed formation; repeat for at least two years.

• Chemical Treatments

- Plateau, Roundup, Others..(Follow Label)

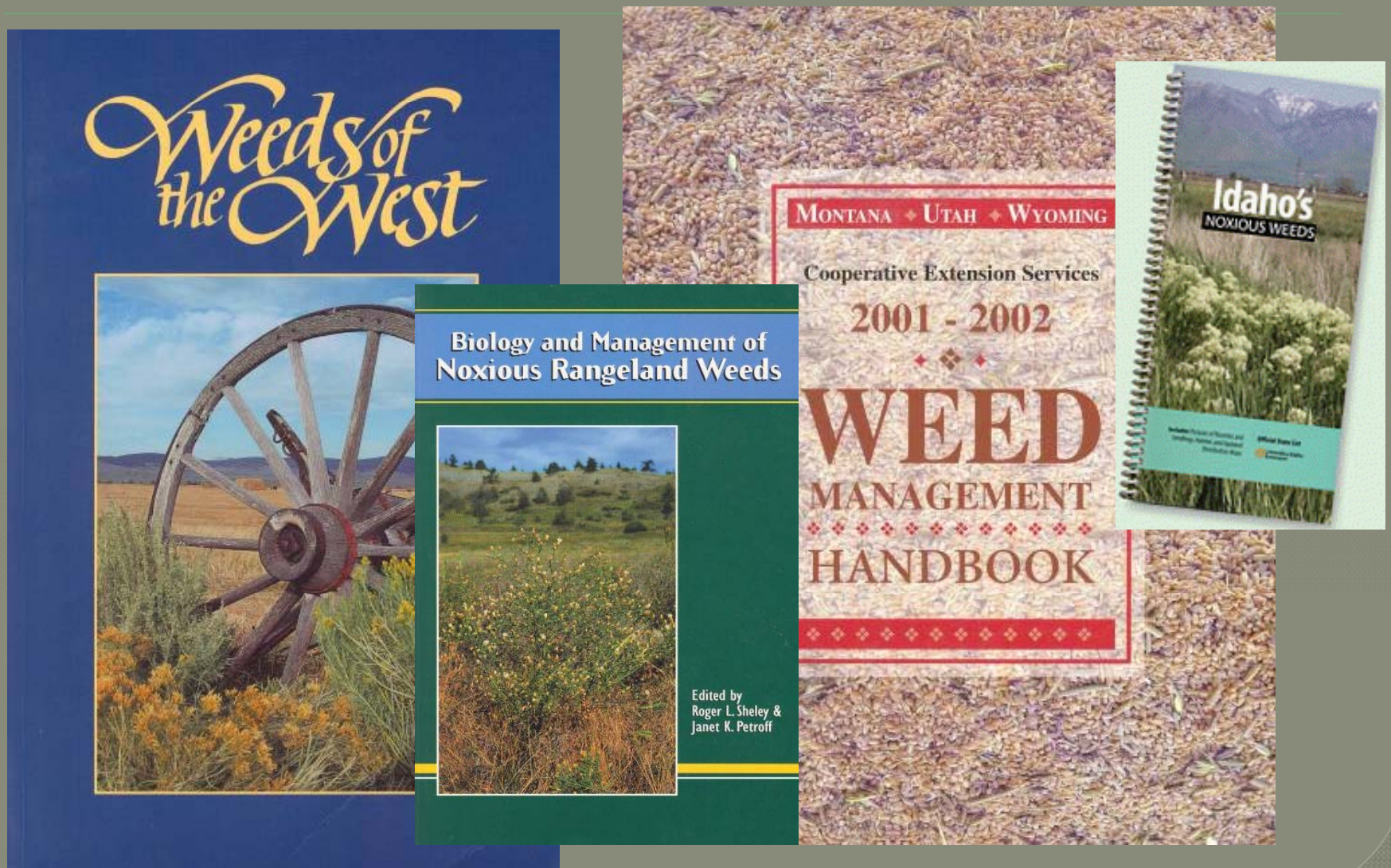
How Can Homeowners Eradicate Cheatgrass?

- Cheatgrass can be removed by using a combination of mechanical, biological, and chemical techniques
- Remove cheatgrass before it has time to mature, produce seed, and cure out
- Rototill the soil to a three inch depth
- Plant the area with desirable species, water properly, and maintain
- The key to eradicating cheatgrass is diligence—once you begin the process you must be persistent and continue follow up treatments for up to four or five years

Summary

- Inventory/Identify weeds on your property
- Determine most effective controls methods
- Make plans for the site and implement appropriate methods
- Plant competitive plants to control future outbreaks
- Continue to monitor and treat invasive weeds
- Use FIREWISE information and resources

Weed Identification



Links

- <http://plant-materials.nrcs.usda.gov/>
- <http://www.livingwithfire.info>
- <http://plants.usda.gov/>
- <http://websoilsurvey.nrcs.usda.gov/>
- <http://www.fs.fed.us/database/feis/plants/index.html>
- <http://www.wy.nrcs.usda.gov/technical/wildfire.html>
- <http://www.nrcs.usda.gov/wps/portal/nrcs/site/national/home/>
- <http://www.idahofirewise.org/>