
Missoula County

Integrated Plant Management

Fact Sheet No. 9

Weed Management

(For Naturalized, Interface & Open Space Areas)

Integrated Weed Management Steps

- \$ Characterize the weedy area
Is it dry, wet, sunny, shady?
- \$ Decide what the desired vegetation is for the area based on management goals.
(i.e., Pasture? Grassland? Native?)
- \$ Identify the weeds.
- \$ Learn the weed=s biology
What is its growth habit?
(Annual, biennial, perennial)
What is its lifecycle?
How does it reproduce?
(Seed, vegetatively)
What growing conditions does it need?
When is it most vulnerable to management?
- \$ Limit the optimal conditions for the weed=s growth by:
Minimizing soil disturbances
Avoiding bare soil (cover soil with non-weedy, vigorous vegetation)
Stopping weeds that reproduce from
Underground stems, or root pieces, from spreading during cultivation or tillage
- \$ Choose and combine several management tools that target vulnerable stages in the weed=s life cycle.

Management Tools

For best results, **combine** and **repeat** tools.

1. **HAND PULLING** is more effective for tap-rooted (*i.e., knapweed*) than rhizomatous (*i.e., leafy spurge*) weeds.
2. **CULTIVATION** is best for annuals and tap-rooted perennials (*repetition necessary.*)
3. **GRAZING** can suppress certain weeds, based on timing and on type of livestock.

4. **MOWING** reduces seed production and may increase herbicide efficacy by providing uniform growth.
5. **MULCHING** inhibits seed germination of some weeds if applied at least 4" deep. It's not effective for many established perennials, especially rhizomatous grasses such as quack grass, unless applied greater than 12" deep and 15 feet beyond the side of the weed patch.
6. **BIOLOGICAL CONTROLS** - Insects and pathogens have been used alone and in combination with other tools.
7. **HERBICIDES** are most useful in the early stages of weed invasion *before* populations are heavy and rhizomatous weeds spread.
8. **REVEGETATION** - Reseeding prevents weed re-invasion after the above tools are used. Revegetation is necessary when desirable plants constitute <30% of the plant community. Vegetation choice should match site conditions and goals.

Missoula County Weed Management Tools

Weeds	Hand pulling (Wear gloves)	Cultivation	Mulching	Grazing	Mowing	Biologic control	Revegetation	Herbicidal Soap	Vinegar	Non-selective Herbicide*	Selective Herbicide*
Creeping Perennials:	<i>Spread by rhizomes (underground stems) and seeds</i>										
Toadflax	"	"	!	!	"	((!	!	"	"
Leafy Spurge	!	"	!	("	((!	!	"	(
Canada Thistle	!	!	!	!	!	"	"	!	!	"	(
Simple Perennials	<i>: Deep taproots; spread by seeds</i>										
Knapweed	(("	"	"	(("	"	"	(
Sulfur Cinquefoil	(("	!	!	(("	"	(!
Biennials	<i>: Flower and seed the second year, then die</i>										
Houndstongue	!	"	"	!	"	!	(!	!	("
Annuals	<i>: Flower and seed the first year, then die</i>										
Downy Brome	(("	"	(!	("	"	(!

- (**Effective if done in combination with other tools**
- " **Somewhat effective** (*many years of repetition required - timing is vital*)
- ! Usually not effective

***Read Labels Carefully!**