
Missoula County

Integrated Plant Management

Fact Sheet No. 10

Weed Management

Revegetation species that resist invasive plants are an important step in weed integrated plant management (IPM), but don't forget the other steps as outlined in FACT SHEET NO. 9.

Reseed

- After soil disturbance or construction
- After controlling weeds if desirable plants are <30% of plant community
- If non-irrigated, dormant seeding is recommended.

Mix or Monoculture

- Some species dominate a mix and are better planted in monoculture; other species are poor weed competitors alone but suppress weeds when part of a mix that combines different growth types (*bunch grass or rhizomatous*) and different life histories (*quick germination/short lived or slower germination/persistent.*)
- If a natural look is desired, a mix is best as it provides better habitat for insects, birds, and wildlife.
- An aggressive rhizomatous species monoculture may be best for erosion control on a harsh, disturbed site.

Choose the Best Species Mix

- SOILS: Match the soil type to the species soil preference.
 - ASPECT: Hillsides are doughtier than flat areas/swales. South-facing slopes are drier and harsher than north-facing slopes.
 - PRECIPITATION ZONE: Missoula usually receives 13" to 16" annually.
 - GROWTH TYPE: Rhizomatous species cover bare soil areas more quickly and completely. Many types of native wildlife depend on bunch grass species for nesting/cover.
 - NATIVE SPECIES often germinate and establish more slowly than non-native.
 - NON-NATIVE SPECIES may not provide the same above and below ground habitat as native grassland. They may also invade and decrease the diversity of native grasslands.
 - NATIVE ECOTYPES or CULTIVARS - Ecotypes are locally adapted populations that may contain a **agenetic memory** of past extreme climatic/environmental events that make them adaptable to a specific location. Cultivars are manmade selections that may initially out perform ecotypes but not withstand environmental extremes over the long term. Cultivars may be better adapted to disturbed sites.
- § PERCENT WEED COVER: If there is a heavy weed infestation, follow up weed control is needed the first and second years **after** seeding with slow-to-establish

species. Mowing, hand pulling, and herbicides are options.

Fire Danger

In urban interface areas consider fuel sources near buildings.

Getting a Mix up Fast

- Increase seeding rate by double or more.
- SPECIES SELECTION: Some species are slow to establish but provide better long-term weed suppression. Include fast establishers for disturbed sites.
- PLANTING TIME/SEED TREATMENTS - Some species require up to four months of cold, moist conditions for best germination. Seed as soon as possible after soil disturbance.
- SITE PREPARATION: Use methods that enhance seed/soil contact (i.e., mowing taller vegetation, harrowing, or lightly tilling the area to be seeded.) Drill seeding, hydro-seeding, raking in, or rolling over seed bed after broadcasting is best.
- COVER NEW SEEDS with light mulch, such as compost, 3" to 2" deep.
- IRRIGATE lightly for the first 7 to 14 days.
- FERTILIZATION: Some species respond positively to nitrogen fertilizer; other species respond more slowly than weeds. In such cases, nitrogen fertilization may encourage weeds. In general, nitrogen fertilization does not help native species out compete weeds but it can help non-natives like Russian Wild Rye & Crested Wheatgrass.

Adding Shrubs & Forbs To A Mix

- § CONTROL WEEDS FIRST If weed infestation is heavy, wait 2 to 4 years after seeding grasses before transplanting shrubs/forbs.
- If weed infestation is low, add shrubs and forbs to grass seed mix (but not >1% to 5% of mix or >2 lb./acre.
 - Best native shrub choices are Big Basin Sagebrush, Woods Rose, and Rubber Rabbitbrush. Best native weed-competing forbs are Blue Flax, White Yarrow, and Blanket Flower.

First to Germinate & Provide Cover

Native (IN ORDER)

1. Slender Wheatgrass
2. Big Blue Bluegrass
3. Thickspike Wheatgrass
4. Western Wheatgrass
5. Streambank Wheatgrass
6. Bluebunch Wheatgrass

Non-Native (IN ORDER)

1. Perennial Ryegrass
2. Crested Wheatgrass
3. Pubescent Wheatgrass

4. Intermediate Wheatgrass

Canada and Kentucky Bluegrass and Smooth Brome provide quick cover but are invasive in native grasslands and perennial gardens and landscapes.

Best Long-Term Weed Control

Native

Thickspike Wheatgrass
Western Wheatgrass
Basin Wildrye (if not grazed).
Green Needlegrass

Non-Native

Pubescent Wheatgrass
Russian Wildrye
Hard Fescue
Sheep Redcue

REFERENCES

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