

# Cover Crop Tips

Natural Resources Conservation Service  
Montana



## 1 Let your goals and resource concerns guide your cover crop design.

For example, a cover crop designed for grazing should be different than a cover crop designed for maximum nitrogen fixation. Plan accordingly.

## 2 Tailor the cover crop species mix to the planting window.

Mixes are most successful when they are mostly cool-season species or mostly warm-season species. **One exception to this may be the brassica species.** Turnips, radishes, forage kale, and collards seem to do well regardless of planting window. Our cool-season planting window is usually April to mid-May and mid-August to early September. Our warm-season window is mid-May to mid-June (shallow soil temps 70 degrees F or warmer and adequate soil moisture). Planting cool and warm season species in mixes together is generally not recommended unless a mid-season planting date is used when chance of frost is over. Some areas may not have a warm season due to high elevation and/or short growing season.



## 3 If you want cover over an entire growing season, you may need to plant two cover crops:

a cool-season mix

planted in the fall or early spring and terminated at the end of May followed by

a warm-season mix

planted in early June and terminated with fall frost followed by grazing.

## 4 The overall crop rotation is more important than a single cover crop for adding diversity.

Use the cover crop to fill gaps in the rotation. A cover crop mix does not need to have all four plant functional groups (cool-season broadleaf, cool-season grass, warm-season broadleaf, warm-season grass) to be successful.



## 5 Plan for adequate weed control,

especially prior to seeding a mixed cover crop. Allow time for a flush of weeds and adequate weed kill prior to seeding. Once the cover crop is planted, few weed control strategies are available if something gets out of control.

## 6 Likewise, certain cover crop species can become weeds

the following year if allowed to go to seed. Consider crops in the entire rotation and ensure cover crop species will not become a weed or carry diseases that could jeopardize cash crops. For example, buckwheat should not be planted within two calendar years of planting a commercial wheat crop due to severe allergy problems in the Japanese population, where much of Montana's wheat is exported. Termination before seed-set is also important.



## 7 More cover crop species are not always better than fewer

species for biomass production. There seems to be a biomass threshold for each site, and the addition of more species may only dilute the effects of the strongest competitors.



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**8**  **Even in small amounts,** certain cover crop species can provide flowers that are **beneficial to pollinators and beneficial insects.**

**A small amount of additional fertilizer may be beneficial to encourage nutrient cycling.**

A soil test can provide information that can be used to determine species and nutrient applications.

**9**



**13** **When cover crops follow small grains**

especially barley, under irrigated or high moisture conditions spray after small grain harvest to decrease volunteer competition.

**14** **Annual cover crops are only one tool to build soil health.**

Perennial crops and diverse rotations also provide positive soil health benefits.

 **10**

**Soil moisture conservation is critical for dryland cover crops.**

Be mindful that our peak precipitation window is April through early June, with a very dry period from June 15th onward. In dryland situations where soil moisture is critical, plan a cool-season cover crop to be planted in late fall or early spring and terminated by June 15th. Be particularly mindful of this in annual precipitation zones of 13 inches or less.

**11** **Using cover crops in dryland prior to winter wheat seeding may be one of our**

**most challenging cover crop scenarios,**

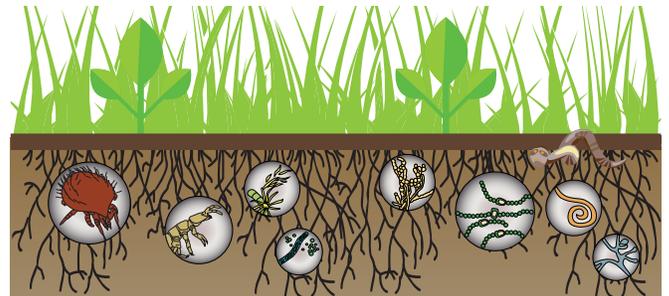
as there is no time for soil moisture recharge prior to wheat seeding. In addition, the threats of diseases such as rhizoctonia or wheat streak mosaic virus

needs to be addressed by breaking the "green bridge." Breaking the "green bridge" means having a period of several weeks prior to seeding with no growing plants. For a partial fallow replacement in a winter-wheat rotation, plant a spring-seeded, cool-season cover crop and terminate based on soil moisture, weeds and cover crop maturity. When considering a warm-season cover crop for fallow replacement, it may be best to follow the cover crop with a spring-seeded cash crop.



**15**  **Grazing can be an excellent way to re-coup the money in a cover crop investment.**

Fall is often the best time for grazing, as it provides supplemental forage at a necessary time of the year, and the combination of frost and grazing makes it easy to terminate the crop. Ensure species planted are not poisonous to livestock and send forage samples to a certified lab for nitrate and other toxicity tests as needed, and a forage quality analysis prior to grazing.



**16** **Improving soil health is a long-term commitment.**

It can take 10 to 15 years to noticeably build soil organic matter in dryland crop systems. Be patient.

**17**



**Cover crops require good management.**

Growers new to the technique are advised to **start small** (5 –10 acres) and build on lessons learned.