

# 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 the dominant grass and legume components are planted in the window which matches their growth habit. For example, a cover crop mix dominated with barley and peas should be planted in a cool-season window. A cover crop dominant with sorghum-Sudan and soybeans should be planted in a warm season window. We have two cool season planting windows in Montana; early April to mid-May and early August to mid-September. Our warm season planting window is mid-May to late June when shallow soil temps are 65 degrees F or warmer. Cool season species (small grains, brassicas, peas, etc.) are more flexible and can be included in a warm season mix in small quantities but warm season species do not do well when planted in a cool season window.



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

<p>a cool-season mix</p>	<p>a warm-season mix</p>
<p>planted in the early spring and terminated at the end of May followed by</p>	<p>planted in early June and terminated with fall frost followed by grazing.</p>

## 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. However, the complete crop rotation should contain all four groups whenever possible.

## 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. Matching the proper plant species with the correct seeding window should help alleviate this. 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.



 **10**  
**Soil moisture conservation is critical for dryland cover crops.**

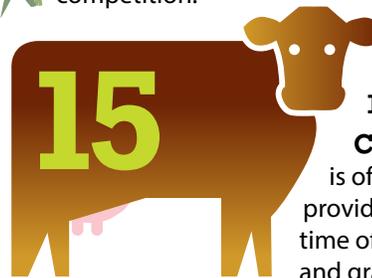
Take care to match cover crop growth with peak precipitation in dryland settings. Typically, we have a spring precipitation window of mid-March to mid-June, and a fall window in September and October. Be particularly mindful of conserving soil moisture in annual precipitation zones of 13 inches or less.

**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.

**12** Farmers should familiarize themselves with the **most recent cover crop termination guidelines** for their county to make sure a cash crop that follows a cover crop will be covered by crop insurance. Refer to the [NRCS Cover Crop Termination Guidelines Version 4](#) for more information.

**13** **When cover crops follow small grains** especially barley, under irrigated or high moisture conditions, spray after small grain harvest to decrease volunteer competition.



**15**

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

Perennial crops, diverse rotations, decreasing disturbance, and incorporating livestock also provide positive soil health benefits

**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 bring forage samples to your local Extension office for a rapid nitrate test. Do not graze sorghum-sudan within 5 days of frost or other injury to avoid prussic acid toxicity. See [Plants Poisonous to Livestock in Montana and Wyoming](#) for more information.



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

It can take several years to build soil organic matter in irrigated crop systems, and even longer in dryland systems. Be patient.

**17**



**Cover crops require good management.**

Growers new to the technique are advised to **start small** on their most productive soils and build on lessons learned.

**18** **Contact your local NRCS office** for help with cover crop planning and management.