

COVER CROP OPTIONS AND ADVANTAGES

No-till corn and soybean growers have been rapidly increasing their use of cover crops to significantly boost production. However, the benefits of particular cover crops also extend to conventional tillage. The key is determining the proper cover crop for each situation, because common cover crop mixes can be much less effective than a stand of one species. To assist with cover crop selection, Heritage Seed Company has created this simple cover-crop guide.

There are four main categories of winter cover crop products – annual ryegrass, tillage radishes, cereal grains, and various legumes.

What Not To Plant

Cereal grains – wheat, rye and oats – provide very few advantages as a cover crop compared to other options. Legumes, such as clovers or winter peas, also provide few advantages. When fall planted and burned down or disked under in early spring, legumes deposit a relatively small amount of nitrogen while using surprisingly high amounts of potassium.

Cover crop mixes are usually ineffective. Refer to the adjacent article on the numerous disadvantages of using mixes for a cover crop.

The Two Best Cover Crop Options

1 Annual Ryegrass (proven cold-tolerant varieties): Annual ryegrass provides numerous cover crop benefits that is unequaled by any other species. Heritage Seed introduces CoverRye Annual Ryegrass, a cold-tolerant ryegrass blend designed for cover crop purposes.

- + Inexpensive to establish.
- + Fast establishment for erosion control and weed control.
- + Generates an exceptionally deep root system that can often break up compaction down to 48 inches, as proven by the University of Illinois at Carbondale. This allows for the subsequent crop to mine the soil for more nutrients and allow for a more drought-tolerant crop.
- + Annual ryegrass provides a hostile environment for soybean cyst nematode, eliminating nearly 100 percent of nematodes in one year, as proven by Ohio State University.
- + Quickly absorbs nitrogen but also stores significant amounts, releasing it when burned down or disked under, making annual ryegrass a great option for fields that are spread with manure.
- + It has a wide planting window, all the way through late September after later harvests.

Annual ryegrass, for cover-crop purposes, should be planted at 20 to 25 lbs/acre and can grow in most soil types. The adaption zone is typically defined in the Midwest as the Illinois/Wisconsin line (I-80 in Iowa) and south, but stands can over-winter north of that line. Annual ryegrass should be burned down early in the spring, as soon as temperatures are warm enough for effective spraying.

Annual ryegrass has been proven by the University of Illinois at Carbondale to significantly increase corn and soybean production in the following crop – commonly increasing corn yields by 25 bushels/acre and soybean production by 10 bushels/acre. Heritage Seed's forage agronomist, Chris Eubanks, has worked with annual ryegrass as a cover crop for five years, and has personally seen its benefits.

2 Tillage Radishes: Radishes, such as Nitro Tillage Radishes offered by Heritage Seed, are much different than annual ryegrass but provide many of the same benefits.

- + Provide excellent natural weed control.
- + Excellent at breaking shallow soil compaction (down to 20 inches deep).
- + Hold a significant amount of nutrients and organic matter that is released when burned down or disked under – excellent where manure is spread on fields.
- + University of Maryland has shown radishes can warm soil temps 6 to 8 degrees F over bare fields, allowing for faster germination of the subsequent crop.

Consider broadleaf herbicide residual when planting radishes. Radishes cost a little more to establish than annual ryegrass. Seeding rate is 8 to 10 lbs/acre. Radishes must also be planted 8 to 10 weeks prior to a killing frost, which can limit their use on late harvested fields. However, radishes have also been proven to significantly increase corn and soybean yields, and are usually the best option in fields where annual ryegrass is not desired.



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REASONS TO AVOID COVER CROP MIXES OF VARIOUS SPECIES

1 Cover crop mixes are often just a mix of products that seed companies want to move out of their warehouse. There is no science to these mixes.

2 Mixes often do not contain a high enough percentage of any particular species for each species to provide the benefit it is known for. Each component of the mix is simply spread too thin in the field to do much good.

3 Broadleaf herbicide residual in some fields can prevent many components of a mix from establishing.

4 Components of a mix may work best when planted at different times or in different soil types. Components of a mix may not benefit the subsequent crop.

5 Mixes often contain seeds of different sizes, creating planting challenges in a drill or seeder. Many cover crop mixes contain species that are simply used to lower the price of the mix.

COVER CROP GUIDE



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