

Annual ryegrass- Annual ryegrass is a winter annual, similar to wheat. It is best planted in late August or early September, but can be planted as late as mid-October. It has a reputation for putting down a tremendous root system that breaks up compaction. It also provides excellent spring grazing and makes a solid turf to prevent bogging. It suppresses soybean cyst nematodes. It can tie up nitrogen, however, especially if allowed to grow too late in spring, so is best used prior to soybeans, where the nitrogen tie-up forces the beans to fix more nitrogen, and helps starve weeds. King is the most winterhardy variety of annual ryegrass. Another caution with annual ryegrass: it is hard to kill with glyphosate below 50 degrees F. Another reason to use it ahead of soybeans, where the later planting dates allow for a better kill. Seed 20# in a pure stand, ¼ to ½ inch deep. Broadcast often successful.

Oats are a cheap, effective cover crop for erosion protection and fall grazing. They winterkill, thus saving the cost of a burndown in spring. Good in combination with turnips or forage radishes for fall grazing, as all three winterkill. Good for planting after wheat (August is prime) and prior to corn. Seed 30-60 pounds for a pure stand, roughly ½ to 1 inch deep.

Red clover is an easy to establish, rapid growing legume that can provide good forage and nitrogen fixation. It is usually established by broadcasting into growing wheat in February while the ground is freezing and thawing. It is very shade tolerant and can survive under a wheat canopy. Be cautious about herbicide selection if using this approach (no sulfonylureas). It is a perennial, but usually dies out after 2 years if using common varieties. Improved varieties usually live three or even more years. Cardinal is a variety selected for hay production. Dominion is selected for pasture. Both will typically greatly outyield and persist longer than common seed. Seed 15# per acre for a pure stand.

Hairy vetch is a winter annual legume that can provide substantial amounts of nitrogen if allowed to grow through May. Planted in late August or early September, it produces little growth prior to April, when it seems to explode. Nitrogen fixation parallels growth, with little coming before early April. Due to the lateness of the N fixation, it is better suited prior to sorghum or sunflowers than corn. Seed 30# per acre at ½ to 1 inch deep.

Alfalfa can be used as a cover crop, although not typically done so because of the value of the forage. However, the nitrogen produced from a fall-planting is typically worth more than the cost of seed. One approach to using alfalfa as a short-rotation cover crop is to plant a nondormant alfalfa in spring. Nondormants usually produce an extra ton or two in the fall compared to the fall dormant alfalfas planted in the area; they then winterkill, freeing the ground up for corn planting the next spring. This allows taking a nitrogen credit every year in a rotation.

Cowpeas are a summer annual legume like soybeans, but more drought tolerant and with better regrowth if hayed or grazed. Forage value is good. Seed 30-60 #/acre 1 inch deep.

Forage radish is grown like turnips, planted in August or early September. It has similar pasture value to turnips, but the large, long taproot breaks up compaction and increases the root depth of following crops if they are no-tilled. Also suppresses several species of nematode. Pure stand is 10 # per acre planted ¼" deep. Adios is a topnotch variety.

Lab-lab is a summer annual legume. It has in the past been too expensive for use as pasture (seed could only be produced near the equator due to photoperiod constraints and was all imported from Australia) but has an excellent reputation in deer plots. A new variety, Rio Verde, has smaller seed, excellent seed yields, and can be produced in Texas. It is drought tolerant and regrows after grazing. Jury is still out on this one. Plant 10-30 # per acre at ½ to 1 inch deep.

Mung bean is a summer annual legume similar to cowpeas. It produces less forage and nitrogen than cowpea, but is treated differently under USDA-FSA rules which prohibit cowpea seed production on program acres.

Sunn hemp (*Crotalaria*) has created a lot of buzz in cover crop circles. It is drought tolerant and has produced as much as 150 pounds of N per acre planted double-crop after wheat. That's the good news, now here is the bad: the foliage is toxic, the seed is toxic, if the seed ends up in a grain sample it is a very bad thing, the seed is hard and can come up the following year, and the residue is very ropy and stringy and can cause planting problems the following year. USDA recommends a seeding rate of 50 pounds per acre.

Chicory is a forb that looks a lot like a dandelion on steroids, until it shoots a seedstalk and puts out clusters of blue, daisy-like flowers. It has excellent forage value (until it shoots a seedstalk upon which it may need mowed to encourage regrowth) and is a short-lived perennial with a deep taproot. Widely used in deer plots with clovers. Plant 5-10# per acre at ¼ to ½ inch deep. LS-50 is our variety.

Birdsfoot trefoil is a perennial legume that does not cause bloat, due to its content of condensed tannin. Although it only produces about half the tonnage of alfalfa, it can persist for many years in a pasture situation, and can even suppress bloat when planted in a mixture with alfalfa. It is very slow to establish, and does not tolerate competition in the seedling stage, thus is best used in a new seeded pasture mix. A pure stand is 5 #/A, ¼ inch deep. Bull is a selection from Canada that has been very successful in this area.