

Choosing a Pasture Species or Mix for Spring Planting

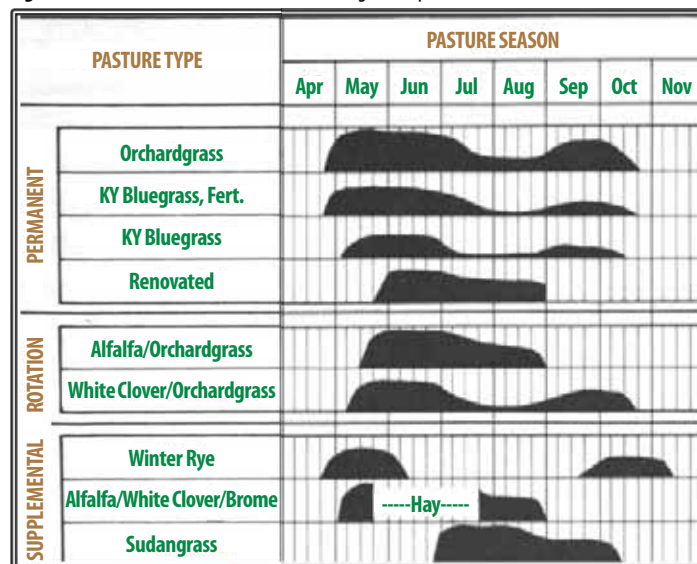
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Whether using forage grasses or legumes in rotation with cultivated crops or keeping erodible land in permanent grass/legume pasture, choosing a species or mix is a long-term investment meriting careful consideration of management and adaptation aspects. Review factors with your seed supplier.

Soil Conditions. It is important to consider soil pH and drainage where the seeding will take place. Species need to be adapted to particular soil conditions to persist over time. Soil pH determines what legumes can be seeded, with most requiring a soil pH >6.5. Some legumes are adapted to slightly acidic conditions, making it important to review fact sheets from marketers prior to seeding.

Seasonal Distribution of Yield. Forage production availability will vary with species. Perennial grass/legume mixes provide a more uniform distribution of high quality yield during the season compared to grass-only pastures. Additionally, legumes will fix nitrogen (N), providing it to grass in the mixture. In Wisconsin, cool-season grasses (e.g., Kentucky bluegrass, brome grass, reed canarygrass, meadow fescue, orchardgrass) produce 65-70% of the yield before July 1. A grass mixture pasture with perennial legumes (e.g., birdsfoot trefoil or alfalfa) produces 50% of its yield after July 1 (Figure 1). In contrast, warm-season annuals (e.g., sudangrass) produce nearly all of their production in July and August. Depending on need, you can have a pasture mix for grazing rotation and reserve other areas to be planted with summer annuals later if needed.

Figure 1. Seasonal distribution of Wisconsin forages (adapted from Rohweder; UW Madison-Ext.).



Maturity. Maturity of cool-season grasses needs to be considered when choosing varieties, especially if options differ in maturity. Initial heading date of early varieties can be two weeks earlier than late-maturing types. Once you know the species, variety selection comes next. Maturity is the biggest determinant of forage quality. As the plant matures, there is greater accumulation of fiber and lignin, decreasing forage digestibility. In Wisconsin, late-maturing varieties are recommended for most forage grasses since this will provide a longer vegetative stage, extending the nutritive value of the grasses.

Legume Percentage. Legumes in the mix affect quality. Since they fix N, they have higher N concentration and more rapidly digestible leaves. Depending on pasture use and grazing herd nutritional needs, legume amount can be varied. There are an assortment of grass-only mixes or grass-legume mixes to accommodate particular needs. Adapted legumes for the Upper Midwest include red clover (cold tolerant), Alsike clover (cold tolerant, tolerance to poorly drained soils), large white clover (tolerance to poorly drained soils, fast establishment), and birdsfoot trefoil (unlike most clovers and alfalfa, is non-bloating, slow to establish, close grazing tolerance).

Grazing Tolerance. Kentucky bluegrass and Perennial ryegrass have growing points held underground, allowing for close grazing tolerance. The next most tolerant are tall fescue and orchardgrass. Due to reserve storage in stem bases, they cannot be grazed as close. A pasture mix similar in grazing tolerance provides a balanced blend.

Winter Hardiness. Perennial pastures adapted and well-managed can be productive for a long time. In northern areas, it is important to choose for winter hardiness. Grasses with good winter hardiness include brome grass, timothy, reed canarygrass, and Kentucky bluegrass. Moderate winterhardy grasses include orchardgrass and tall fescue. Perennial ryegrass has poor winter hardiness. For legumes, Kura clover and red clover are very winterhardy. If you plan to add alfalfa, choose branching, winterhardy varieties.

Pest Resistance. Choose species or mixes with an improved disease or pest resistance package.