

Proper plant selection and management is a critical component of successful pasture and hay plantings. Species and varieties that were specifically selected for forage should be used. These should have desirable traits such as greater leafiness, high forage quality, aggressive growth and good regrowth. The following species and varieties are commonly used for pastures and hayland in Maryland. Consult your local Soil Conservation District or Extension Office for more information.

WARM-SEASON GRASSES – most productive growth is during the hot summer months



Switchgrass (*Panicum virgatum*) – a native stiff-stemmed, smooth seeded, and widely adapted grass that reaches a mature height of 3 to 8 feet. Although bunch-like in appearance, switchgrass produces short rhizomes, especially under grazing. Specific cultivars of this perennial grass can tolerate poorly drained soils and can withstand occasional flooding and perched water tables, while others have good drought tolerance. Forage quality is good when immature but both palatability and nutrient content decline after seed head formation. Good forage quality and quantity is maintained in Management Intensive Grazing Systems ‘Cave-in-Rock’ is a leafy, robust selection from the Missouri Plant Materials Center for improved forage production.

Eastern gamagrass (*Tripsacum dactyloides*) – a native grass with wide leaves and thick stems that grows 4 to 6 feet tall. It is among the earliest of warm season grasses to begin growth each spring and has excellent forage quality. Although tolerant to drought, ideal growing sites include fertile bottomlands and alongside streambeds. Eastern gamagrass can be established in several ways with technical help and produces the highest quality native forage for pasture or hay. This warm season grass species does require a late summer rest period and must be managed correctly to maintain its high productivity. ‘Pete’ is a selection from the Kansas Plant Materials Center and was selected for winter hardiness, forage yield and seed production.



Big bluestem (*Andropogon gerardii*) – a native bunchgrass which grows to 5 to 8 feet with short rhizomes to expand the basal cover. It often takes on an attractive reddish purple color at maturity. Big bluestem can be used on sites with excessively well drained soils and has moderate drought tolerance. It is most abundant on moist, well drained, fertile loamy soils. Highly preferred forage, second only to gamagrass, it also retains its palatability after reaching maturity better than switchgrass or Indiangrass. ‘Niagara’ is a selection from the New York Plant Materials Center and was selected for superior forage production, persistence and disease resistance.

Indiangrass (*Sorghastrum nutans*) – a native, tall upright grass that matures at 3 to 6 feet and produces short, knobby rhizomes. It begins growth later than switchgrass or big bluestem but produces good quality forage throughout most of the summer. Moderately well-drained soils are preferred but Indiangrass can withstand occasional flooding. Palatability is moderate after seed head formation. ‘Rumsey’ was selected by the Missouri Plant Materials Center for seedling vigor, forage quality and resistance to lodging.



Little bluestem (*Schizachyrium scoparium*) – a 1½ to 4 feet tall native bunchgrass with coarse stems and basal leaves. It does well on very dry sites with thin or coarse soils. Little bluestem develops full stands where moisture is sufficient but gets clumpy on drier sites. It has value as a persistent low maintenance cover plant and as a summer forage plant.



Bermudagrass (*Cynodon dactylon*) – an introduced highly spreading grass that grows to a height of 15-18”. Bermudagrass spreads by rhizomes, stolons and seed which make it useful on heavy-use areas since it heals disturbed areas. There are many varieties of bermudagrass available for forage and turf applications. In a managed area when regularly grazed, forage quality and quantity is good. NRCS is currently conducting evaluations of several varieties for use in Maryland.

COOL-SEASON GRASSES AND LEGUMES – most productive growth is during the spring and less so in the fall



Tall fescue (*Lolium arundinaceum*) – a robust, comparatively deep-rooted introduced bunchgrass that reaches 3 to 4 feet in height. Tall fescue is easy to establish, is the most drought tolerant of the cool season grasses and is long-lived. Tall fescue is excellent for pastures and hay but is best used in non-dairy applications. The most significant problem is the occurrence of an endophyte associated with some varieties of tall fescue which can cause problems in animals. Use friendly endophyte or low endophyte varieties in plantings established for grazing. ‘MaxQ’ is a relatively new friendly endophyte variety.

Orchardgrass (*Dactylis glomerata*) – a persistent introduced bunchgrass reaching 2 to 3 feet, or more on ideal sites. Orchardgrass is not as drought tolerant as tall fescue and requires careful cutting and grazing management and is troubled with disease and insect problems. Orchardgrass is one of the best forage grasses for use in intensive rotational grazing systems and is highly palatable to all classes of livestock. ‘Potomac’ is a productive, persistent, rust-resistant cultivar that produces good yields.



Perennial ryegrass (*Lolium perenne* ssp. *perenne*) – an introduced bunchgrass growing 2 to 3 feet in height. Perennial ryegrass is easy to establish, produces high quality forage, is high yielding, and is flexible as hay, pasture or silage. It is best adapted to mild-temperate climates, so is relatively short-lived in Maryland due to climate and soils. The primary use of perennial ryegrass is for pasturing cattle and sheep cows.

Kentucky bluegrass (*Poa pratensis*) – a perennial, cool-season, sod-forming grass native to Europe. It can get 18-24” tall. It is best adapted to well-drained, fertile, medium-textured soils of limestone origin. The species is highly palatable to horses, cattle, and sheep. It produces relatively low yields compared to other pasture grasses, but can be very productive in closely grazed intensive rotational grazing systems.



Timothy (*Phleum pratense*) – a relatively short-lived, cool-season perennial that grows in stools or clumps and has a shallow, compact, and fibrous root system. It grows in erect culms 20-40” tall. Timothy is palatable and nutritious but is short lived and less productive in pastures in Maryland since it does not tolerate grazing pressure. Diseases and insects add to its lack of persistence and yield problems. It is a good companion with legumes since it tends to be less aggressive.

Red clover (*Trifolium pratense*) – an introduced biennial or short-lived perennial that grows as one of two types: medium (double-cut) or mammoth (single-cut). Stem lengths of medium and mammoth types average 18 inches and 24 to 30 inches, respectively. Red clover is primarily used for hay, pasture, silage, and soil improvement. It is a quick growing crop, easily established, and produces high quality forage.



White clover (*Trifolium repens*) – a perennial legume that originated in Europe and has become one of the most widely distributed legumes in the world. It has a prostrate, stoloniferous growth habit. White clover is an important pasture legume. It is highly palatable, nutritious forage for all classes of livestock. White clover is commonly planted with orchardgrass, ryegrass, or tall fescue. Common white clover seldom grows tall enough to be harvested for hay or silage. ‘Ladino’ grows tall enough to be harvested for hay, silage, and green chop.

Alfalfa (*Medicago sativa*) – a long-lived perennial legume with erect stems growing to 2 to 3 feet tall. Alfalfa is often grown in combination with grasses to improve pastures or is harvested as hay when grown in solid stands. It has good summer yield and high forage quality. It requires good fertility and pH management but works well on the right soils. Alfalfa is utilized by all types of domestic livestock.

For more information online:

USDA-Natural Resources Conservation Service, Maryland: <http://www.md.nrcs.usda.gov>

USDA-NRCS Plant Materials Program: <http://plant-materials.nrcs.usda.gov/>

PLANTS database: <http://plants.usda.gov/>

Maryland Cooperative Extension: <http://extension.umd.edu/>