

PASTURE RENOVATION

Pasture renovation is a useful management strategy when pastures or hayfields are thinning, getting weedy, or losing the intended balance of plant species. If done successfully, the end result is a thicker, more vigorous stand resulting in weed suppression and improved productivity. Renovation involves soil testing and amending, suppression of the existing stand to make room for the additions, weed control, and no-till drilling/broadcasting and culti-packing. Before diving into a renovation project, consult your local Kings dealer/representative. We are here to help you determine what the most profitable process is for you.

Three methods of pasture renovation below are listed in order of management intensity:

- 1. Full Cycle Rotation with Summer and Winter Annuals**— The full cycle rotation involves eliminating the perennial pasture in exchange for annual production throughout an entire season. A basic rotation may include moving perennial pasture to annual production for 2-3 years to break up the perennial rotation. The perennial pasture could be removed in the spring to make way for a summer annual, followed by a winter annual like Triticale Plus, rye, or straight triticale. The following year, rotate into a summer annual, followed by a new pasture seeding in the late summer.
- 2. Rotation with Summer Annuals**— Summer annuals grow rapidly in a short time, and can provide a needed boost in production. When considering pasture renovation, annuals are a great rotational option to rejuvenate perennial pastures without sacrificing total annual yield. To complete this process, in late spring, eliminate the existing perennial stand with

herbicides or tillage. Seed your choice of short season corn, sudangrass, sorghum-sudangrass, millet or another species. Harvest this crop by late summer to set yourself up for reseeding the perennial pasture.

- 3. Close Grazing/Mowing Followed by Interseeding**— Fill out the pasture with desired perennial species by grazing the existing stand down as short as possible before interseeding. If grazing is not an option, pastures can also be clipped or mowed short. This method works best in late summer, since the existing stand will be slow-growing with summer heat and less likely to outcompete new seedlings. Depending on multiple variables, various perennials or annuals may be optional candidates. Consult your King's dealer before selecting. *For example: Because of alfalfa's autotoxicity, it is inappropriate to seed alfalfa into an existing alfalfa stand unless the stand is less than a year old.*

LIVESTOCK CLASS FORAGE NEEDS

Maintenance— Feed lowest quality on the farm to this class. This class can handle high quality, vegetative forage, but it is better utilized by feeding it to other classes of livestock.

Growth Through Milk Production— In a livestock system, both calves that are nursing and cows that are milking have high energy and protein needs that need to be met by offering the cow the highest quality forage possible.

Stockers—Premium forage is critical to success here. Stockers are growing both frame mass and body weight, and they need ample protein and energy.

Finishing—Premium forage with high protein and energy levels is crucial to adding weight to the frame of these animals.

PERENNIAL STAND MANAGEMENT

New Stand

Overgrazing a new stand could result in a lost stand or decreased life of a stand. Also, keep livestock off of a new stand if conditions are wet or extremely dry/droughty.

Soil Fertility

Soil fertility not only affects yield, but also affects quality which includes palatability of the forage. Soil sampling should be completed at least every two years in hay systems. We recommend labs that look not just at pH, N, P & K, but Calcium as well. Calcium levels should be at least 70% in the soils.

Cutting Times & Frequency a Key to Quality

Forage quality is almost always higher with more frequent harvest. However, for alfalfa and clover to persist, it is good to let them reach at least bud stage and to come to early flower at least once a year. Grasses can be cut just about anytime with the exception of North American bred Timothy and Smooth Bromes. For excellent quality, cut grasses before head emerges as quality rapidly decreases after that.

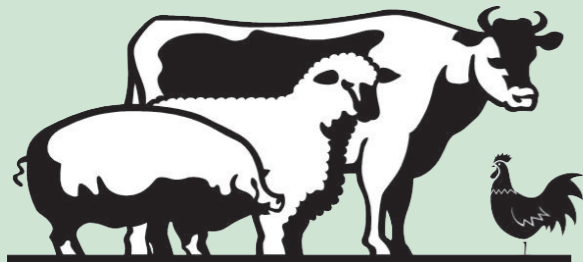
Grazing Height

Even though grasses can be harvested about anytime, most species should not be grazed shorter than 3 to 4" from the soil surface, because the plant's energy reserves are in the base of the stem. In addition, forage quality is almost always the lowest in the base of the plant. For best growth, stock should be moved as new shoots appear. If not, they will favor the new growth.

The biggest mistake producers make is grazing too short. Do not allow livestock to overgraze!

Maximizing Perennial Production for LIVESTOCK





TIPS FOR VARIOUS SPECIES

- Milk Cows:** For consistent milk production with grazing programs, move milk cows twice a day to ensure that the forage is high quality and vegetative.
- Beef Cows:** Maintain rate of gain by continuously rotating to quality, vegetative forages and provide forage a greater chance for regrowth.
- Sheep:** As ruminants, sheep thrive off of vegetative grasses. Frequent rotation is a must.
- Goats:** Goats are browsers instead of grazers. While they will graze vegetative grasses, forbs are very important to their diet.
- Poultry:** Chickens, turkeys, etc., enjoy legume type plants. They consume the leafy portion of alfalfa and clover and peruse the underside for bugs. While grazing is beneficial, a grain source is required for a poultry diet.
- Swine:** As monogastrics, pigs' and humans' responses to forages coincide. High quality, vegetative forages are great for monogastrics, but supplementing with grain is necessary for weight gain.



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PERENNIAL MIXTURES

Mixing multiple forage species creates yield stability, overall higher nutritional value, and allows you to spread the risk of having one individual forage species that may struggle in a particular season.

Good Stock Rate— 1.5-2 acres/1000 lbs

General guideline. Will vary with soil productivity and weather. For best results remove livestock if pasture gets below 3". High pasture can be surplus for stored feed.

BrowseMaster: Grazing mix specifically designed for goats. Contains lots of forbs.

Creekside: Very palatable mix based on meadow fescue and includes ryegrass, Kentucky bluegrass, timothy, and clover. Holds well against wet conditions and hoof traffic.

Greenfast: A fast-starting mix of high quality. The main component, Perseus Festulolium, is very fast starting, high yielding, and of excellent forage quality, but short lived (typically 3 years). Also contains longer lived species. Can be used to thicken alfalfa stands and pastures.

Haymaster: A well-balanced mixture of leafy, late-heading grasses and alfalfa. Also makes a high-quality soft hay that dries easily.

Higher Stock Rate— 1 acre/1000 lbs

These tolerate shorter grazing, but avoid grazing below 3" for best result.

Horse Supreme: Tolerates shorter grazing, is very long lived and palatable. Based around forage type Kentucky Bluegrass as the long lived component. Meadow brome and grazing tolerant orchardgrass add drought productivity, and the ryegrass gives it a quick start. Touch of white clover is added for nitrogen production.

Hillside: Drought tolerant grass/clover mixture based around highly digestible varieties. Includes three excellent orchardgrasses, drought tolerant meadow brome, perennial ryegrass, for quick establishment, as well as red clover and ladino clover.

King's Grazing Mix: Highly palatable mixture of late heading winter hardy perennial ryegrasses, soft orchardgrasses, clovers and forage chicory. Chicory is included for better mineral nutrition and other animal benefits.

Organic Dairy Green: Great winter hardiness with high palatability and quality. Mix of meadow fescue, ryegrass, timothy, and clover, that handles wetter and drier soils.

Organic Hayboss: A well-balanced alfalfa-grass mixture that is also easy to dry for hay. The grass helps reduce potato leaf hopper and weed problems in the stand, and is also very digestible.

Organic Star: Nicely balanced grass/clover mix that handles soil variability very well. Contains orchardgrass, fescue, ryegrass, clover and timothy.

Graze-All: An all grass long lived mixture designed for grazing of multiple species. Mixes ryegrass, fescue, orchardgrass and Kentucky bluegrass. If legumes are desired, choose from our selection. Also available in organic.

BeefMaster: Premium pasture mix consisting of tall fescue, orchardgrass, perennial ryegrass and white clover. Great for grazing systems.

Southern BeefMaster: Great grazing mix for south of the Mason Dixon. Features BarOptima Plus E34 and includes orchardgrass, ryegrass and clover.

EXERCISE LOTS

Great Mixes for heavy traffic areas.

EquineMaster Paddock— Designed specifically for exercise areas as it is rugged and will not get clumpy.

Clean and Green— Mix primarily designed for conservation, but great for a forage. Clean & Green will typically contain endophyte free tall fescue and ryegrass.

GRAZING METHODS

Continuous: This is the least intensive system. Livestock remains in a pasture with no rotation, and the goal is to keep the pasture at roughly 4-5 inches in height. Ideal for low input system.

Rotational: Involves periodically moving livestock to rest pastures. Rotation is defined either by a set time or by the look of the condition of the pasture. Relatively intensive management, but higher production than continuous stocking.

Management Intensive: Rotation is managed based on the height of the grass. Livestock are removed when forages reach a certain height (3-4 inches) and not re-introduced until forages reach a good grazing height (8-12 inches). Extremely high production is possible with this system.



Be Aware of Stocking Rates