

Balance Perennials & Annuals

Perennial pastures are most productive in spring, mostly dormant during summer heat and drought, and resume productivity again in cooler fall weather. The “summer slump” can be filled in with summer annuals that produce a large quantity of forage in a short time. Gene 6 BMR Forage Sorghum, Sorghum Sudan, and Sudangrass, Master-Graze BMR tillering corn, corn for silage, millet, teff, cowpeas (a warm-season legume) and brassicas all make wonderful options for high-energy, high-tonnage warm season feeding. Cocktails of two or three of these are often the most beneficial supplement to the high-forage diet.

Clip both annual and perennial pastures after grazing to help keep weeds back and allow new growth. Fertilize pastures several times a year in small amounts. Grasses use a lot of nitrogen over the course of the year.

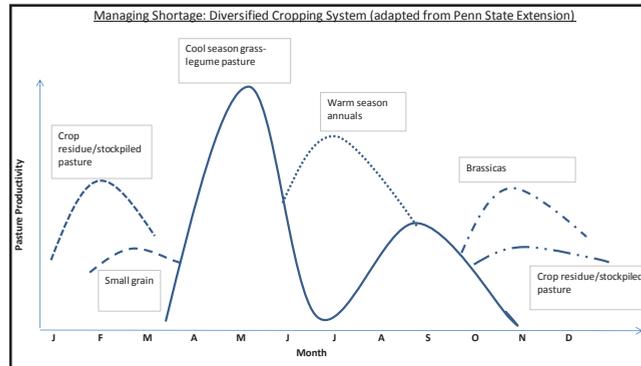
Pasture Seeding/Renovation

When pastures and hayfields start thinning, getting weedy, or losing the intended species composition, consider renovating them to improve productivity. It's best to renovate pastures in late spring after spring growth is utilized. Use herbicides or tillage to kill the existing stand for a thorough renovation.

Tillage can be effective for preparing the seedbed, aerating soil, and eliminating weeds. Seeds will establish better in a clean seedbed.

When using no-till, kill or heavily suppress existing stands to eliminate/reduce competition from existing sward, be sure to clip or graze the stand down hard before spraying and/or planting. The more exposed bare ground (with less residue) the better the chance of seed-to-soil contact. Reminder; seed at the recommended depth and seeding rate. Make sure seed to soil contact is good. Soil should be firmed around the seed.

Before seeding a pasture, test soil and fertilize and apply lime accordingly. The better your soil, the



Summer perennials are also very effective. Consult your King's AgriSeeds representative for more on summer perennials.

better your potential for growing a high quantity and quality of forage. Choose species that thrive in your environment and soil type, preferably a grass and legume combination. If you plant more than a handful of species in a mix, your soil will naturally favor two or three, which will eventually dominate the stand. High quality grass species include: endophyte free or non toxic endophyte, soft-leaf tall fescue, orchardgrass, timothy, festulolium, brome, and perennial ryegrass. Legumes for pasture are alfalfa and clovers.

Full cycle rotation with summer and winter annuals:

Eliminate the perennial pasture in favor of annual production for at least an entire season and as many as 2-3 years.

Rotation with summer annuals:

Rejuvenate a pasture while boosting annual yield. After spring termination, drill in a summer annual, and then re-seed perennial in the late summer.



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High Energy Forages
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Forage Production for BEEF



The Beef Operation: Forage Needs

Raising grass-fed beef requires careful pasture management, but can be a very rewarding production system with lower input costs than a grain-fed operation. Though the beef cattle diet can be forgiving on a day-to-day basis, they require a diverse diet of high-energy, high-quality forage in the finishing stage; especially for optimal marbling. Beef cattle will respond to high quality forage production throughout their growth by maturing quicker, weaning larger calves and increasing ADG. Grass finishing requires intensive management for high quality forage, especially during the critical finishing period just after the animal has reached maturity. Look out for detrimental quality factors like harmful endophytes. Grazing K-31 fescue will not produce a well-marbled grass finished beef. The cattle will be slower to finish (up to 25 months) and will still not have the same carcass merits as a beef that is finished on high quality forage at 18-20 months. The difference in beef quality between a quality-forage finished animal and a poor-forage finished animal can be as much as the difference in quality between a grain-finished animal and a poor-forage finished animal.

Managing for Quality

To maximize ADG graze the upper layer of pasture that has not become too mature. Cattle that graze closer are eating more stem, leading to lower ADG. Grass stems contain more lignin, a structural, non-digestible carbohydrate. Leaves contain more digestible fiber. Newer grass genetics are bred to maximize leafiness in grasses, as well as digestible fiber throughout the plant. Make sure to match the nutritional needs of the animal with the stage of pasture growth.

Selecting body type may be more important than breed type, and animals with slightly smaller frames often yield higher quality meat. Earlier maturing animals (with mature weights under 1100 lbs) are more likely to finish at the proper time, and can put on external fat and marble quickly and easily. Despite

the quality and quantity of feed they're given, cattle will not start to marble until they are mature.

Have a flexible supplementation program that allows you to begin supplementation while body condition is still optimal and before late summer pasture quality declines, rather than using more resources to reclaim an already declined condition. Aim for more consistent conditioning.

Stocking Rates

As a general rule, 45,000 to 50,000 lbs of animal weight per acre per day for maximizing efficiency. This depends on several other factors, including

- Pasture productivity
- Breed and size of cattle
- Plans to stockpile or make hay from surplus forage
- Manure management details

Beef cows will need 2-3% of their body weight in dry matter intake each day. As you calculate paddock sizes, use a pasture stick to get a sense of pasture density and height. A mixed pasture in good condition has about 250-350 lbs of dry matter per inch of height per acre. Ideally, your paddocks would be matched well enough with your herd size to be rotating into a fresh paddock every 2-3 days. This ensures that the cattle are accessing high quality forage. Depending on the class of livestock, this rotation can be shortened even more to ensure that livestock are consuming the highest quality, top growth forage available before moving to a new paddock.



Pasture Management

Know when to put cattle on pasture and when to remove them. For regular vegetative grazing, start when grass is 8-10 inches high, and remove cattle when approximately 3-4 inches of residue remain (this is where the food reserves and regrowth potential for grass is stored). Overgrazing will lead to slow regrowth.

Top growth is the highest quality, so cattle with the highest nutritional needs should get priority in grazing this. For example "creep grazing" allows only suckling calves access to a very high quality pasture, with an entry gate that only they can fit through. After they have been allowed to graze off the rich top growth, their mothers follow.

