Summer Annual Alternatives for Grazing

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Often commonly used mixtures of cool-season perennial forage grasses and legumes experience summer 'slump'. While cool-season forage production declines toward the end of June, July, and August, this time of year presents warm temperatures and longer days, favoring growth of summer annuals. Graziers look for steady production throughout the year. There are numerous summer annual options offering several combined characteristics, such as rapid growth, drought tolerance, and quick response to fertilizer, that can be used to fill the summer gap.

Figure 1a. Teff grass field, a high quality summer annual. August growth in beef operation near Siren, WI.

Figure 1b. Teff grass seedhead in field near Siren, WI.

Figure 2. Sorghum-sudan BMR hybrid.

Figure 3. Crabgrass pasture. *(Photos: Yoana Newman, UWRF)*

Warm-Season Annuals for the Midwest

Review these summer annual options for better decision-making.

- **Teff Grass.** This is an annual bunch grass originating in the northern highlands of Ethiopia in northeastern Africa in ancient times. It is adapted to temperatures from 50°-80°F and has drought tolerance; however, it does not tolerate frost. Teff grass is adapted to soils ranging from sand to clay, and pH from 4.5-7.0. It has a fibrous root system, and is often used for erosion control. Plants have fast germination (3-5 days), are leafy with small stems, and have rapid growth of 9-12 weeks. For those looking for high quality, with high digestibility and palatability, this plant is a prolific seed producer and its grain has an excellent amino acid composition with lysine levels higher than wheat or barley. It has been used in the last decade as a mite-free alternative to timothy and orchardgrass. In grazing trials in southern Wisconsin, Teff grass planted in 7.5″ rows resulted in 2,900 lbs/ac of forage dry matter.
- **Sudangrass & Sorghum-Sudangrass.** These sorghum hybrids are grown mainly for grazing and are well-adapted to sandy and droughty soils. There are reduced-lignin varieties (e.g., brown mid rib). Plants are high in sugars and are excellent for balancing out pastures with abundant legumes. They can be grazed 5-6 weeks after planting or chopped for first time utilization. After first cutting, regrowth can be grazed. Young sorghum plants may present prussic acid, which is toxic if grazed at this early stage or after a frost. Regrowth for grazing needs to be greater than 18″. If plants are too tall (over 40″), livestock will selectively graze and trample plants.
- **Crabgrass.** This is highly palatable. It is sod forming with runners rooting at the nodes. It is adapted to sandy loam-clay soils with a pH of 5.5-7.0. It lacks cold tolerance and has no frost tolerance. There are specific varieties selected for grazing and haying. It responds well to fertilization and production ranges 4,000-12,000 lbs/ac. It is excellent for grazing and makes top quality, leafy, fine stem hay.
- **Pearl Millet.** This is adapted to infertile, sandy soils. It grows well at soil pH of 6.0-7.0. It is a high nutritive-value summer annual with high protein and energy, and low fiber. Growing or lactating animals with high nutrient requirements can benefit from the quality. It has excellent drought resistance. At the seedling stage, it looks like a corn or sorghum plant but has less waterlogging tolerance compared to sorghum. It requires warm temperatures to start production (minimum soil temperature of 64°F; minimum nighttime temperature of 50°F). Unlike sorghums, it is safe for horses to graze, since it does not produce poisonous prussic acid.