Field Crops, Forages and Soils Updates for NNY ***24 May 2019***

Summer Annual Forage Options for NNY

The following annual forage alternatives are sometimes recommended in delayed spring planting or crop failure situations. Before planting a summer annual forage, think through the following considerations and alternatives.

Considerations:
Accurately inventory stored forages on hand and estimate realistic yields of established crops
After May 15-20, cool season perennials are not recommended as they do not compete with summer annual weeds well.
Potential for herbicide carryover in available fields
Availability of seed
Soil moisture status
Adequate growing season remaining
Base selections on intended use – dry hay, silage, grazing.

Options:
Purchase additional forages
Plant emergency forage crop(s)
Reduce animal numbers

Emergency forage options for a late spring or summer planting:

Forage Species	Yield Results/Potential	Seeding rate & N requirement	Harvest and other details
BMR Corn (warm season annual grass)	2-8 tons DM/acre 4 tons DM/acre in a ENY study	Drilled or 15" rows. 50,000-60,000/acre at 1.5-2" depth	Should be planted by July 15. Select short-season variety for possibility of an ear, long-season variety for no attempt at an ear. Harvest at tasseling, 60 days. High moisture at harvest, can't ensile until after frost. Silage or baleage.
BMR Sorghum Sudangrass (warm season annual grass)	3-5.5 tons DM/acre	65-70 lbs/acre at ½-3/4" depth 100-135 lbs N/acre at planting	Drill is best. Harvest at 36-48" at 5-6" from ground for good regrowth. Cut again in 40 days. Wide swath for drying, chop at 65% moisture. Prussic acid concern if frosted. 15-16% CP Can be expensive for 1-cut. Silage or baleage. More info. And more.

Forage Species	Yield Results/Potential	Seeding rate & N requirement	Harvest and other details
Pearl Millet (warm season annual grass)	2.7 tons DM/acre in a 2005 NNY study	15-20 lbs/acre 50-75 lbs N/acre at planting	Well-suited to warm, dry growing conditions. Cheap alternative to BMR SxS Silage, baleage or dry hay.
Spring Oats (cool season annual grass)	1-3 tons DM/acre. 0.8 to 1.5 tons DM/acre in a 2015-16 NNY study (v. dry conditions)	3-3.5 bu/acre at 1/8-1/4" depth 50-75 lbs N/acre (No detected advantage for forage varieties over grain varieties when planted in August.)	Use a rust-resistant variety if possible. Plant before Aug 15th, harvest in 60-75 days. 20% CP, 46% NDF Silage, baleage or dry hay.
Spring oats + Winter Triticale (cool season annual grasses)	Fall oat forage with spring triticale forage	100 lbs oats + 80 lbs triticale/acre	Plant by August 1-15. Mow oats in the fall at a MINIMUM of 4" to ensure triticale survival. Apply some N at planting with a 2nd application in the spring on triticale. More info.
Buckwheat (warm season annual)	1.4 tons DM/acre in a 2005 NNY study	36-72 lbs/acre at 1-2" depth 20-30 lbs N/acre	Drill is best. Favors cool, wet conditions. Not well-suited to warm, dry conditions. Cut at flowering, 5-6 weeks after planting. 15-18% CP, 43% NDF Silage, baleage or dry hay. More info.
Teff (warm season annual grass)	1.5-2 tons DM per acre for late-planted, 1 cut. 1.8 tons DM/acre in a 2005 NNY study	4-5 lbs/acre 50 lbs N/acre at planting	Tiny seed Needs firm, fine seedbed - drill or cultipacker seeder. Harvest 50-55 days after planting at early boot stage, then 40-45 days later, at height of 3-4" 15-16% CP, 64% NDF, 69% NDFD Well-suited to dry growing conditions. Silage, baleage or dry hay. More info. And more.
Small Grain with Peas (oats, wheat, barley, triticale)	1 to 3 tons DM/acre depending on seeding date. Unless N is limiting, adding peas to small grains will have minimal effect on total yield but it will improve overall forage quality and palatability.	Target 10-15 oat seeds/sq ft (30 to 45 lbs./a) and 4 pea seeds/sq ft. (Pea size varies considerably so adjust for the variety used.) Similar rates are recommended for barley and triticale mixtures with peas. 15-25 lbs N/acre	Best when planted before May 1 as both small grains and peas perform poorly under warm conditions. Adjust seeding rate down if moisture is limiting and seed cost is higher. Higher rate of peas increases the cost of the seed mix, increases lodging, and slows drying rate of the resulting silage or hay with little additional quality benefit. Small grain pea mixtures should be harvested based on the maturity stage of the small grain. Harvest at the late boot stage for lactating dairy cows and the soft dough stage for heifers, dry cows, and beef cattle. More info.

Forage Species	Yield Results/Potential	Seeding rate & N requirement	Harvest and other details
Forage Radishes and Turnips (radishes, rape, kale, turnips, and swedes,)	0.5 to 4 tons DM/acre depending on seeding date. (For grazing only.)	2-8 lbs/acre depending on planting method and companion crop. 30 lbs N/acre at planting in late summer or 75 lbs N/acre in spring. Seed only after soil temp exceeds 50 °F.	Tiny seed. Needs firm, well-prepared seedbed, pH 5.3 to 6.8. Drill or seed with cultipacker seeder. ¼ to ½" seed depth, up to 1" deep in dry conditions. Will not overwinter in NNY. Strong odor when roots decompose in spring. Plant with an overwintering grass for nutrient capture during decomposition. Graze before heading for best quality. Introduce animals slowly and/or supplement with dry hay to avoid potential health disorders. More info. And more.

For more information about field crop and soil management, contact your local Cornell Cooperative Extension office or NNY Cornell University Cooperative Extension Regional Field Crops and Soils Specialists, Mike Hunter and Kitty O'Neil.

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