

Grazing Non-Traditional Forages

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In the Heart of America region we are blessed with perennial cool-season grasses and legumes as the bulk of our forage production. Efficiently taking advantage of that perennial production is the focus of most grazing operations. Occasionally there are times when the production from our cool-season grass and legume pasture is not sufficient. In Ohio, that is late summer and late fall through winter till early spring. Non-traditional forages could be used when cool season forages are not producing. Non-traditional forages can provide a large volume, of high-quality feed during specific times of the year.

To utilize non-traditional forages takes forethought and planning. Most need to be planted months before they are needed using equipment that the grazier may not have. Some producers have tried a non-traditional forage and had trouble getting it established. The production suffered. They then become discouraged about the usefulness of the forage in their system.

How will you incorporate an annual into your existing system? Some graziers have successfully included an annual as part of their perennial pasture renovation. By planting an annual for two years they can successfully eradicate the existing forages, while still harvesting feed from that field. Others have devoted the most appropriate

fields to a rotation of annuals. Summer annuals and winter annuals can be grown on the same field in succession. Basically this double cropping takes more planning.

Finally, how do you plan to use the annual crop planted. What happens if you have too much or it matures at the same time? Can you harvest it effectively? Will you just graze it? Perhaps you want to use the annual in a combination of production systems, i.e., hay and graze.

Small Grains

Most grain crops can also be used for forage. This includes small grains such as wheat, rye, barley, triticale, and spring oats. Planting these in the fall allows for some fall grazing and early spring grazing. The most widely used are rye and spring oats.

Grazing of small grains should begin when there is enough growth to support livestock. Typically the two biggest problems are delayed planting dates and wet fields during the prime grazing season. Sufficient growth in the fall for late fall grazing will be in the early planted stands. Begin grazing when at least six inches of growth is available, and leave a two to three-inch stubble after grazing. Heavy fall grazing increases the risk of winter kill. In the spring, graze only when fields are firm.

Heavy or late-spring grazing greatly reduces grain yields. If you want grain then remove livestock when the plants begin stem elongation or "jointing" stage. Rye will be the first to begin jointing.

Summer-Annual Grasses

These annuals grow rapidly in late spring and summer. This group includes Sudan, Sorghum-Sudan, Millet and Corn. They can supplement pastures forages when perennial cool-season forages are in the summer slump.

These summer annuals should be grazed after they are 18-inches tall. Grazing earlier will weaken them causing slower regrowth. Trampling and wastage will increase when grazing is delayed past the boot stage. Plants reach the grazeable height of 18 to 30 inches about six to eight weeks after planting. Rotational grazing or strip grazing management should be practiced. A high stocking density should be used to graze the grass down in less than 10 days. Clipping left over stems down to 8 inches will improve forage quality for the next grazing period.

Corn

Corn is a summer annual grass but it has a few more options for utilization than the preceding ones. Grazing standing corn can be a viable forage for some producers. Corn provides several options to livestock producers. As an annual it is extremely flexible as to when it can be grazed. It has been successfully used during the summer, fall and even winter. With the potential to produce more than ten tons of forage to the acre, few annual crops can

compare to corn in terms of dry matter (DM) yield per acre.

Standing corn has the nutritive composition to meet the requirements for many categories of livestock. From the animal's nutritional standpoint, grazing immature corn is similar to grazing other summer annual forages. The big difference comes when the plant reaches maturity. With corn the loss in the feed value of the forage (leaves and stalk) is compensated by the grain produced.

Corn can be grazed during that mid-summer slump that occurs when the temperatures are hot and/or the moisture is short. Local producers have had success grazing sheep when corn plants are 18 inches tall, rotating quickly as to protect the growing point (3-4 inches above the ground) and rotating back into the corn throughout the summer.

Harvesting corn by grazing may take place from 30 to 100 or more days following planting. Traditionally, producers have planted grazing corn as they would for corn silage, planting corn in late May or early June and grazing it 70 to 90 days following planting. This late summer to early fall grazing allows them to stockpile their perennial pastures for late fall/early winter grazing.

Corn may also be grazed extremely late in the season, even after it is fully mature, providing needed energy and shelter during the winter months. Typically, the corn plant loses some leaves and stalks begin to break down as the winter progresses. This causes a loss in digestible nutrients and protein. However, the remaining stalks, leaves,

and grain are still excellent supplemental feed for over-wintering beef cows, stockers, and growing animals. Depending on the type of livestock used, producers may have to supplement to compensate for lower protein levels.

Animal Health Concerns with Annuals

There are a few animal health concerns that producers should be aware of before grazing annuals. These have been written about many times and are repeated here as a reminder. Winter annuals need to be aware of grass tetney and the summer annuals need to be aware of nitrate and prussic acid poisoning.

Brassicas

Forage brassicas are high quality, high yielding, fast growing crops. Both the tops and bulbs can be grazed. Brassicas can be planted in April through May for summer grazing or in July through August for fall/winter grazing. All members of the brassica family - turnips, rape, kale, and swedes can be used.

Turnips and rutabagas are short-season root brassicas that provide roots, stem and leaf growth for rotational grazing or strip grazing 70 to 90 days after planting. Rape is a short-season leafy brassica whose stems and leaves are ready to graze in 90- 120 days. Kale has highest yields of all brassicas (12,000 lb/acre dry matter) but requires the longest growing season to produce that (150 days). It has the greatest cold tolerance in the Brassica family, surviving temperatures down to 10 degrees

Brassicas are very high in crude protein and energy, but extremely low in fiber. Consider them a concentrate that needs roughage supplementation. Feeding grass hay or allowing access to grass pastures is usually all that is required. Most dairymen have avoided off-flavors in milk by preventing brassica consumption two hours before milking.

Chicory

Forage chicory (*Cichorium intybus* L.) is a perennial plant that produces leafy growth.

It is higher in nutritive and mineral content than cool-season grasses. It has a deep taproot which helps it produce during drought conditions.

In stands it last from two to seven years. Care must be taken to prevent overgrazing. A stubble height of 1.5 to 2 inches should remain after grazing. Rotational grazing management is needed for forage chicory persistence. Generally, 25 to 30 days of rest between grazing events is recommended.

Warm Season Grasses

Perennial warm-season grasses have potential to produce good hay and pasture growth during the warm and dry mid- summer months. These grasses initiate growth in late April or early May, and produce 65 to 75 percent of their growth from mid- June to mid-August in Ohio.

Warm-season grasses are slow to establish. They are weak competitors with weeds and cool-season grasses until established. Patience is required. Two years is generally required for successful establishment of warm-season grasses.

Once established these grasses should be harvested or grazed when they are 16 to 20 inches or more in height (boot stage). Once seedheads emerge, the quality decreases rapidly. Heading will occur in late June to early July depending on location, year and species. Mowing or grazing height is critical to stand maintenance. Leave at least a 5-inch stubble for rapid regrowth. Mowing or grazing closer than 5 inches will remove important plant carbohydrate storage organs and areas of new bud development.

Enough time should be allowed for at least 12 inches of fall regrowth before frost on all species. This means these grasses should not be grazed or harvested after mid-September. Plants can be harvested after a killing frost without damage to the stand and the forage is safe to livestock.

For more detailed information check out the references for this paper:

Maximizing Fall and Winter Grazing of Beef Cows and Stocker Cattle Bulletin 872
<http://ohioline.osu.edu/b872/index.html>

Grazing Corn Residue ANR-10-02
<http://ohioline.osu.edu/anr-fact/0010.html>

Using Corn for Livestock Grazing ANR-11-02
<http://ohioline.osu.edu/anr-fact/0011.html>

Emergency and Supplemental Crops for Forage AGF-019-90
<http://ohioline.osu.edu/agf-fact/0019.html>

Winter Rye for Extending the Grazing Season AGF-026-00
<http://ohioline.osu.edu/agf-fact/0026.html>

Brassicas for Forage AGF-020-92
<http://ohioline.osu.edu/agf-fact/0020.html>

Perennial Warm Season Grasses For Ohio AGF-022-95
<http://ohioline.osu.edu/agf-fact/0022.html>

CHICORY: An Alternative Livestock Forage AGR-190
<http://www.ca.uky.edu/agc/pubs/agr/agr190/agr190.pdf>