

Professor discusses warm season legumes

CARL HOVELAND

Most of the legumes grown in the southeastern United States are cool season clovers such as white, red, arrowleaf and crimson. Questions often come from cattle producers about legumes that grow during the summer months to improve quality of grazing. This discussion will cover some annual and perennial warm season legumes that can be planted in spring for summer grazing and hay production. Warm season legumes do not require nitrogen fertilizer, have relatively high nutritive quality, and also have no bloat problems with cattle grazing them.

Annual lespedeza

Annual lespedeza, a native of eastern Asia, was first reported in Georgia during 1846. This is an ideal legume to plant in low-input tall fescue and bermudagrass pastures. It tolerates soil acidity and low levels of phosphorus. Grass pastures that are highly fertilized will be too excellent if allowed to make some seed each year. Forage yields are low, about one to one and a half tons of dry matter per acre, but the nutritive quality is high which provides an excellent supplement for animals grazing low quality grasses in late summer. Marion is the best variety to plant because of greater disease resistance. Seed is available and can be broadcast at 25 to 30 pounds per acre on pastures from midwinter to early spring.

Sericea lespedeza

This perennial legume from China and Japan is commonly planted on steep slopes along highways because of its tolerance to drought, soil acidity and low fertility. It was once widely used as a hay and pasture crop throughout the southeastern United States but fell into disfavor with the advent of hybrid bermudagrass and low cost nitrogen fertilizer. This is truly a low-input crop and could provide inexpensive forage on poor land. Hay yields of three tons or more per acre from two cuttings can be obtained on relatively poor land. The hay cures rapidly when a hay conditioner is used. Although cattle do not readily graze high-tannin

sericea varieties such as Serala, the hay is highly palatable as the tannin content declines sharply during drying. Sericea hay quality is similar to bermudagrass and is satisfactory for beef cows and calves.

For grazing, the low-tannin variety AU Donnelly is recommended as it is palatable and will provide higher daily gains than high-tannin sericea. Continuous close grazing should be avoided as it will weaken stands. Ideally, rotational grazing should be used to maintain stands and productivity. Sericea planting at 25 to 30 pounds per acre during March-April must be done on a well-prepared seedbed using a preemerge herbicide such as Eptam at three to four pounds per acre because the small seedlings do not compete well with weeds. The new stand should not be grazed the first year. On established sericea stands, no-till planting of rye or wheat can provide additional grazing in winter and spring.

Forage soybean

Seed of three new tall-growing forage soybean varieties for hay production, Derry, Donegal, and Tyrone, have been released by the USDA and will be available to plant in spring 2001. They were selected for yields. Trials in Alabama had yields of five tons dry forage per acre. Hay quality is excellent with 18 percent crude protein and 60 percent digestibility if harvested properly to retain leaves. Plant 60 to 75 pounds of seed per acre in narrow rows on prepared land.

Kudzu

This perennial legume from Japan and Korea was introduced into the United States around 1876. It was widely planted on badly eroded land in the southeastern United States for erosion control, pasture and hay. This rapid-growing, long-lived viny plant with a deep tap root soon covered large areas of land and became a pest in many places, covering fences, trees, bridges and buildings. Newspaper and magazine writers frequently have

scare stories about the kudzu menace which will eventually take over the landscape and how nothing can stop it. The truth about kudzu is a bit different.

Kudzu is normally established by planting vegetative crowns since it produces little or no seed in our area. The vines root readily at nodes or joints when in contact with moist soil so it has the potential to spread. It grows on a wide range of soils, tolerates acidity, low fertility, and drought, but not poor drainage. A mass of kudzu vines looks like it is a high yielding plant but hay yields are normally only one to two tons of dry matter per acre. The forage is palatable to cattle and nutritive quality is good. During eight years at Tifton, Ga., beef steers grazing kudzu pasture averaged about 1.5 pounds per day gain but only 240 pounds of gain per acre, an indication of the relatively low carrying capacity.

Does kudzu have a place as a forage plant? Generally, the question many people ask is how to get rid of kudzu. Herbicides can be used but an easier way is to just let cattle graze it to death. Kudzu will not tolerate close continuous grazing as the food storage in the crowns will be depleted, the plants weakened, and eventually die. Two to three ears of continuous close grazing will generally eliminate a kudzu stand. Kudzu can be a valuable resource on cattle farms. Many farms have some badly eroded land with a good kudzu stand. This can be stockpiled and utilized for grazing in late summer when nutritive quality of grass pastures is often poor. The result will be improved calf weaning weights.

Perennial peanut

This warm season perennial, a native of Brazil, is an ideal hay and pasture legume. It produces good forage yields of high nutritive quality, is tolerant of drought, acid soils, and grows well on sandy well-drained soils. Once established, it produces hay yields of four to five tons per acre with 14 to 19 percent crude protein and 60 to 70 percent

digestibility. It tolerates grazing well because of massive rhizomes (underground stems) although best production is obtained with rotational grazing. Since perennial peanut has so many excellent characteristics, then why isn't it grown more widely? There are two main reasons for the low acreage of perennial peanut: 1. It is cold hardy only in Florida and in the lower part of the Coastal Plain area of Georgia, Alabama, and other Gulf Coast states. 2. It produces few seed and must be planted from rhizomes similar to hybrid bermudagrass. Establishment is very slow and two to three years are required for top hay production.

With the limited area of climate adaptation and slow establishment, this legume has not been used for beef cattle production. Instead, the high demand and price for high quality perennial peanut

hay by the horse and dairy market has made it very attractive for commercial hay producers. There is one place where perennial peanut could be useful on beef cattle farms in the lower Coastal Plain. Very small areas can be planted adjacent to bermudagrass and bahiagrass pastures and used for creep grazing beef calves to improve calf weaning weights. Plant 80 bushels per acre of Florigraze variety perennial peanut rhizomes on a well-prepared seedbed in February or March. Herbicide and mowing will be needed the first and second year to control weeds. No-till planting of rye or wheat in autumn will provide additional grazing and give cold protection to the dormant perennial peanut.

Dr. Carl Hoveland is a professor of the University of Georgia.
