



## Warm-season Annual Legumes: A Fit for Forage Production?

Volume 5, Issue 6

**Rocky Lemus**  
Extension Forage Specialist

June 2012

Visit us at: <http://mississippiforages.com>

Warm-season legumes can provide good quality forage and fix nitrogen over an extended portion of the year. They can bridge the gap by providing high quality grazing and making excellent hay or baleage. Summer legumes have a lower content in neutral detergent fiber when compared to grasses, which improves the dry matter intake of ruminants. Some challenges with their utilization are usually establishment and re-growth potential. Summer forage legumes that can provide high quality feed to grazing animals in summer and fall. This is particularly important in fall when the feed quality of mature pasture and other forages can be low.

### Summer Annual Legumes

**Alyce clover** is not a true clover. The crop may vary in height from 10 to 3 feet. It is a coarse stemmed, low spreading, leafy plant which can make good quality hay if cut in the early bloom stage. Protein content of alyceclover averages about 19%. Alyce clover grows best on well drained to moderately well-drained soils with pH between 6.2 and 7.0. The recommended seeding rate is 15-20 lb/acre to a seeding depth of ¼ to ½ inch. One of the benefits of alyce clover is that it will tolerate heavy grazing. Alyce clover can make good quality hay if the crop is harvested when plants are 18" to 24" tall. Plant should have a remaining 3 to 4" stubble height so enough growing points are left and avoid reducing plant recovery.



**Figure 1.** Seed size and morphology of different summer annual legumes.

**Cowpeas** are warm-season, annual legumes that grow as vines, bushes, or along the ground. Cowpeas are not actually peas, they are beans. Second, they are referred to by many different names including southern peas and field peas. They produce high-protein (20% protein) summer forage. Cowpeas are very susceptible to overgrazing, a reason of why they could be used in mixtures with summer annual grasses such as forage sorghums or millets for hay production. Cowpeas are adapted to a variety of soil conditions. They can be grown on conditions ranging from sandy soils with low fertility, to fertile, clay soils. However, the best growth and forage production will occur on well-drained sandy loam, and clay. Cowpeas should not be planted in wet soils. Ideal pH for cowpeas is between 6.0 and 6.5, but they will tolerate pH as low as 5.5. The recommended seeding rate is 100 to 120 lb/acre to a seeding depth of 1 to 3 inches. Cowpeas can be used in mixtures with pearl millet, forage sorghums, or sorghum-sudangrass for late summer/ early fall grazing and for wildlife feed plots.

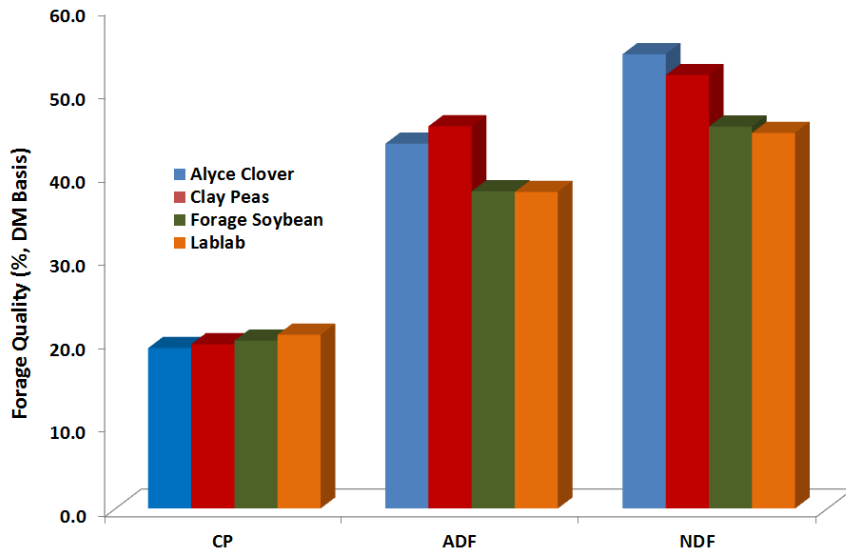


Figure 2. Forage quality of whole plant for summer annual legumes. Source: Lemus and Strickland, 2011.

**Lablab** is a warm-season annual legume that produces abundant summer forage that is preferred by deer. Lablab is basically a large cowpea. The leaves are highly digestible and are very high in protein (23% to 38% protein). The whole forage samples of lablab may contain about 21% crude protein with 64% digestibility. Lablab is very susceptible to overgrazing when the plants are young, so grazing should be delayed until plants have reached 18 inches in height. Lablab is very heat and drought tolerant so it can be grown well in the arid climates of the south. It will also grow in other regions where soybeans and cowpeas are grown. It prefers sandy clay loam soils with pH above 5.0. It will not tolerate poorly drained soils. Lablab can be planted alone in large plots, or mixed with other warm-season forages. The recommended seeding rate is 15 to 30 lb/acre to a seeding depth of 1 to 3 inches.

Lablab grows well in mixtures with tall-growing grasses such as millet and forage sorghum.

**Soybeans** are very nutritious with high in protein (20% to 40% protein) and are highly digestibility (about 60%). They provide an excellent food source in summer and early-fall. Soybeans are very susceptible to overgrazing. The best quality hay is made from soybean crops when pods are half filled. Soybeans will grow on a wide range of soil conditions, but they grow best on well-drained soils. They will not tolerate drought however, so forage production may be low if planted on sandy or gravelly soils. Soil pH should be between 5.8 and 7.0. If utilizing soybean as a forage alternative, it is recommended to use varieties that have been developed for forage production, are late maturing and have few hairs on the stems. When planting soybeans as a monoculture in large acreages it might be beneficial to consider separating the plot in sections and staggering the plantings in each section about two weeks apart. This will provide a continuous supply of soybeans that will reach maturity at different times throughout the growing season and maximize forage utilization. The recommended seeding rate is 100 to 120 lb/acre to a seeding depth of 1 to 3 inches.



Figure 3. Growth potential of summer annual legumes in Mississippi.

Incorporating annual legumes into Mississippi's forage cropping systems could provide producers with a variety of benefits including summer forage, biological N, and improving forage quality of warm-season annual grasses. Several other warm-season annual legumes are available, but are not commonly used because of the difficulty in establishment and the high cost of seed. New studies are under way at Mississippi State University to determine the adaptability and integration of other summer annual legumes such as Hairy Indigo, Deer Vetch (*Aeschynomene*) and Sanfoin into the forage mixed systems.

Cooperative Extension Service • Mississippi State University

Mississippi State University does not discriminate on the basis of race, color, religion, national origin, sex, sexual orientation or group affiliation, age, disability, or veteran status.



# Forages & Pastures



## 2012 North Mississippi Grazing School



**June 29, 2012**

**North Mississippi Research and  
Extension Center**

5421 Hwy 145 S.

Verona, MS

7:30 a.m. to 4:30 p.m.



### Program Topics:

Nutrient cycling in pastures, weed management, grazing systems, animal nutrition, fencing demonstrations, on hand demonstrations and more.....



**Seating is limited to 80 participants.**

Registration is free, but **advanced registration** is required by **June 18, 2012**. Seats will be available on first come first serve basis.

### Contact for more information:

Dr. Rocky Lemus, (662) 325-7718, [Rlemus@ext.msstate.edu](mailto:Rlemus@ext.msstate.edu)

Ms. Tammy Scott, (662) 325-2701

For more information or register on line visit:

<http://msucare.com/crops/forages/grazingschool/>



**MISSISSIPPI STATE  
UNIVERSITY  
EXTENSION SERVICE**



Support for this event has been provided through NRCS Grazing Lands Conservation Initiative

