Bermudagrass is an integral component of southern pasture and hay forage systems. As a summer perennial forage, bermudagrass is productive, durable and able to withstand heavy grazing pressure and weather extremes seen in many areas of the U.S. With good management and favorable weather, bermuda can produce crude protein levels ranging from 8 – 16% and total digestible nutrient (TDN) content of 55% or higher.

Bermudagrass Trial
Bandera, TX*

Variety	Dry Matter lbs/acre
Mohawk	*3434*
Coastal	3383
Giant	2928
Wrangler	2853

**planted 2004*

Advantages of Seed

- Easy to plant on small acreage
- Can plant on rough ground
- Less cost per acre
- Can plant no-till
- Plant when conditions are right (no waiting on custom sprigger)
- Make fewer trips over the field
- Excellent first year results
- Easily done with existing equipment

2001-03 Bermudagrass Trial - Blackstone, VA

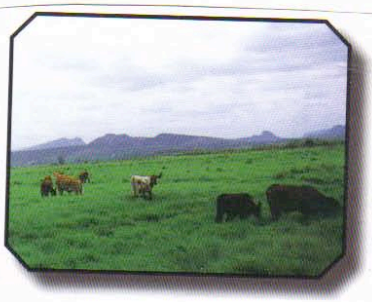
Variety	2001	2002	2003	3 yr. avg.
	------Dry Matter lbs. per Acre------			
Ranchero Frio	6774	19144	15288	13735
Cheyenne	6547	18781	14695	13341
Mohawk	*4902*	*14796*	*17739*	*12479*
Wrangler	3695	13643	18801	12046
Pyramid	4782	14752	16310	11948
Guymon	3664	12849	16859	11124

CHEYENNE II

Improved Forage Bermudagrass

CHEYENNE II FORAGE BERMUDAGRASS RELEASED

A new seeded variety of bermudagrass with improved production traits has been added to the already outstanding Pennington forage product lineup. Named "Cheyenne II", this improved variety was developed cooperatively by Seeds West, Inc. in Roll, AZ, and Texas A&M University.



Seeds West bermudagrass cultivars were evaluated three years for seed production characteristics in Arizona and three years in Overton, Texas by Texas A&M for forage yield and quality traits. From these trials came Cheyenne II – a 23 clone synthetic with 57% of its germplasm related to Pennington's current Cheyenne variety.

The original Cheyenne variety is a proven performer for both grazing and hay production; however, it is not a prolific seed producer. This lack of seed production has limited its availability in the market. Cheyenne II is a more reliable seed producer and is predicted to yield approximately 10% more forage than Cheyenne with the same excellent forage quality. It is adapted across the southern 1/3 of the U.S. from California to Virginia.

Like Cheyenne, Cheyenne II is a certified, stable variety that will not revert to common. It produces top hay yields and has an excellent leaf to stem ratio leading to outstanding palatability.

Proper Fertilization Vital for Bermudagrass Growth & Health

Because of its durability, bermudagrass has long been a favorite pasture forage in the southern U.S. It thrives under warm, humid conditions, has relatively few pests, withstands heavy grazing pressure and tolerates weather extremes often experienced in this region.

While bermudagrass is commonly considered a hardy and low maintenance forage, it cannot tolerate low soil fertility over long periods of time. To cut costs, farmers often apply ample amounts of nitrogen but fail to maintain proper soil pH and adequate soil levels of phosphorus and potassium. This leads to poor yields, plant decline and thinning stands.

Maintaining proper soil pH and providing adequate amounts of phosphorus & potassium is crucial to keeping bermudagrass stands thick, productive and healthy

Phosphorus plays a key role in several metabolic functions within the plant including photosynthesis, respiration and nutrient storage and transfer. Potassium is of particular importance to bermuda. Like phosphorus, potassium aids in several metabolic functions within the plant. But perhaps more importantly, it is a key component of cell wall structure giving the plant improved winter hardiness and disease resistance. Potassium also increases rhizome and stolon production which allows bermudagrass to spread. Failure to maintain adequate soil potassium levels often leads to increased disease, lower production and stand loss (See Tables).

Applying adequate amounts of potassium to bermudagrass hayfields is of utmost importance because of the large amounts removed with each hay harvest. According to Clemson University Forage Specialist John Andrae, a six ton per acre annual bermudagrass hay harvest removes approximately 260 lbs of nitrogen, 60 lbs of phosphorus and 290 lbs of potash per acre with it.

Soil tests are essential for determining and maintaining adequate soil pH and nutrient levels and should be taken on a regular basis. The local university extension office or farm supply dealer can offer information and assistance on collecting and processing soil samples.

Effect of K_2O on Coastal Bermuda Stand

K_2O rate, lb./A	% stand*
0	17
120	59
240	88

*Late summer
Source: International Plant Nutrition Institute

Effect of K_2O on Yield and Leafspot Disease in Coastal Bermuda

N-P-K applied *lb./A*	Disease rating*	Dry forage yield *lb./A (second cutting)*
500-0-0	3.8	2,693
500-0-60	1.4	4,509
500-0-120	1.0	4,679

*Rating of 1-5, with 1.0 being disease free
Source: International Plant Nutrition Institute

Successfully Establishing Seeded Bermudagrass

Competition from other grasses and weeds is the number one reason for bermudagrass stand failure. Taking steps to reduce this competition will increase one's chance of success.

Don't get in a hurry to plant. If soil temperature is not 65° F or higher at a depth of 4", bermudagrass will not germinate. When the seed does germinate, it will be weaker and more subject to disease.

For No-Till

- Check that seed is not dropping too deep; 1/8"or less is ideal. One method to prevent deep planting is to pull the drop tubes from the openers and let the seed fall behind the opener to be pressed into the loosened soil by the press wheel.
- Be sure that existing residue is not too thick for seedlings to emerge and that the seed is making soil contact beneath the residue.

For Clean-Tilled Ground

- Plow and disk, then culti-pack before and after planting to form a very firm seedbed. Several passes may be necessary to achieve proper firmness. Bermudagrass seed will not establish in a fluffy, loose seedbed. Take care to place seed at a proper depth of 1/8" or less.
- For fields with a history of undesirable weeds and annual grasses, prepare the seedbed well in advance to allow the first flush of crabgrass and other weed and grass competition to emerge. Use a non-selective, non-residual herbicide such as glyphosate to kill this flush of weeds before planting Cheyenne II, Ranchero Frio or Mohawk.

Planting Rate:	15 lbs./acre
Date:	Late spring through early summer when soil temperatures at a 4" depth are 65°F or above. Plow and cultipack to develop a firm seedbed. Proper firmness is indicated by a heel print no more than 1/8" deep in the soil.
Depth:	1/8" depth maximum.
Fertilizer:	Apply lime, phosphorus and potassium fertilizer according to soil test recommendations. Apply 20-30 lbs. of nitrogen at planting time. When the new plants begin to develop runners, apply 50-60 lbs. of nitrogen. After the stand is established, apply 70-100 lbs. of nitrogen after each cutting.
Management:	If grazed, apply up to 150 lbs. of nitrogen per year in split applications throughout the summer. Last fertilizer application each year should be done 4 to 6 weeks before a killing frost to increase cold tolerance. Delay grazing until forage is 8" to 10" tall. Do not graze or clip for hay shorter than 2". Rotate animals more often during periods of drought stress.

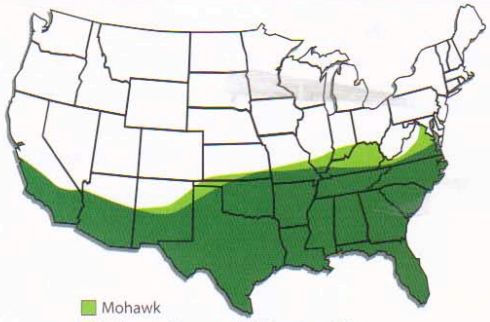


Photo courtesy of U.S.D.A. ARS, Tifton, GA

A grass variety's winter hardiness is critical in deciding whether it is suitable for your area. Cheyenne II is considered to possess average cold tolerance and can be planted in areas where bermudagrass is naturally adapted. However, this does not mean that instances of winter-kill could not occur under certain situations. If you are concerned about winter-kill in your area or you are located north of areas where bermudagrass is naturally adapted, consider planting a variety with improved cold tolerance such as Mohawk.