

# Cool-season Pasture & Forage Varieties

2016–2017



## Variety Selection

One of the most important decisions a forage producer must make is which variety or varieties to plant. Many varieties of forage crops are marketed in Louisiana. To help farmers make logical choices among crops and varieties, the Louisiana State University Agricultural Center conducts variety trials and makes suggestions each year. These suggestions are available in your county agent's office (Table 1).

**Promising Varieties:** Promising varieties are those that have been tested on a limited basis for two years and found to perform well enough to suggest trial plantings. These varieties are not yet fully suggested, and producers should avoid large plantings until further testing can be completed.

## Grass Varieties

**Fescue:** Fescue is better adapted to heavier soils of northern Louisiana than to other soils or locations in the state. In recent years the variety Jesup Max Q tall fescue has been released which is available as certified low endophyte seed. This variety yields well but appears to be less persistent than older varieties such as Kentucky-31. For maximum survival, these varieties should be well established before grazing begins and should not be grazed below a 2-inch height. No nitrogen should be applied from May 1 to September. Harvesting fescue for hay is not advised during the period from June 1 to September.

**Oats:** Oats can be successfully planted slightly earlier and produce earlier growth than ryegrass or wheat. They are often included in grazing mixtures for these reasons. Varieties of oats are tested and suggested primarily on the basis of dry forage yields. The yield ranking among suggested varieties has varied from location to location and year to year. In recent years RAM LA 99016 has been among the leaders (Table 2).

**Rye:** Rye is a good producer of fall, winter and early spring growth.

It matures earlier than ryegrass or other small grains. Rye is sometimes planted to give early grazing. Varieties of rye are tested and suggested primarily on the basis of dry forage yields. Rye varieties have not been evaluated in recent years.

**Ryegrass:** Ryegrass is important as a cool-season annual grass for grazing and harvested forage in Louisiana. Its high yielding ability, ease of establishment, high forage quality and tendency to form a denser sod than small grains make it attractive. Its peak growth period is in

the spring, but it has good fall growth if planted early and weather is suitable.

Varieties of ryegrass are tested annually at several locations.

In addition to yield determination and seasonal yield distribution at each location, rust ratings have been made at the Iberia Research Station at Jeanerette when conditions permitted. In those evaluations, Jackson has generally been least infected by rust. Marshall and Gulf have been most severely infected.

Yield rankings of ryegrass varieties have varied with year and location (Table 3). Gulf has exhibited poor cold tolerance, and its yield performance has been inconsistent (Table 4). Marshall is susceptible to rust and may be damaged by it in some years.

**Wheat:** Wheat is a good producer of late fall and spring growth.

The LSU AgCenter only does a limited amount of testing of wheat varieties for forage. No specific variety suggestions are presented because of a lack of data.

## Legume Varieties

**Alfalfa:** Alfalfa is an important hay and haylage crop in many states, but the amount produced in Louisiana is very limited.

It requires excellent drainage, highly fertile soils, a near neutral soil pH and a high level of management. Many varieties are marketed, but only a few are adapted in Louisiana.

**Arrowleaf Clover:** Arrowleaf clover is an annual with fair reseeding ability. It starts growth in the fall but produces most of its growth from March to late May or even to July, depending on moisture supply and variety. Varieties suggested in Louisiana include Amclo (early maturity), Yuchi (intermediate maturity) and Meechi (late maturity). The difference in maturity between Amclo and Meechi is about five weeks.

**Berseem Clover:** Berseem clover is an annual, upright-growing clover. The only variety suggested in Louisiana is Bigbee, which was first suggested in 1986. It is noted for excellent fall and winter growth and a long period of good growth in the spring.

Its reseeding ability in Louisiana has been disappointing, but it has produced reseeding stands in Mississippi.

**Crimson Clover:** Crimson clover is an upright-growing, annual clover. It produces some fall and winter growth but produces most of its growth in early spring.

All suggested varieties are reseeding varieties. Dixie and Tibbee are early maturing, and Chief is late maturing.

**Red Clover:** Red clover is an upright-growing clover that is a short-lived perennial. In Louisiana, it is managed as an annual or biennial. It has poor reseeding ability and depends on most of its growth in late spring or early summer. There are several new varieties available that appear to be promising.

**Subterranean Clover:** Subterranean clover is a low-growing annual clover that has prostrate creeping stems with erect leaves. Seeds are produced in a bur that develops at or below the soil surface. It has excellent reseeding ability under close grazing, but some reseeding failures have been reported after the initial stand had thrived for several years. It produces most of its growth in the spring slightly later than crimson clover.

All of the suggested varieties originated in Australia. In Australia, the maturity is considered to be early for Woogenellup, midseason for Mt. Barker, and late for Nangeela and Tallarook. Woogenellup has a low to moderate level of hard-seededness. The others have a low level of hard-seededness.

**White Clover:** White clover is a low-growing, perennial clover that has prostrate stems and erect leaves. A few varieties have good reseeding ability and act more like annuals than perennials in Louisiana. White clover produces most of its growth in the spring, early summer and late fall.

Louisiana S-1 is an intermediate variety which has intermediate size and good reseeding ability. It has some perennial tendencies, but summer survival is usually poor, especially on upland soils. It produces little fall growth.

Most of the ladino or large varieties flower less than the intermediate varieties and generally depend on their perennial nature for summer survival and production following the seeding year. Osceola is a variety of the ladino type that was developed by the Florida Agricultural Experiment Station. It flowers more than other ladinos tested in Florida but not as much as LA S-1. It reportedly produces sufficient seed to ensure reseeding in Florida. Its reseeding ability has not been evaluated in Louisiana. Summer survival has been good in south Louisiana tests of Osceola, and yields have generally been higher than for LA S-1.

Several varieties such as Durana, Regalgraze and Pinnacle have shown the ability to persist for several years.

**Ball Clover:** Ball clover is a low-growing winter annual clover. It resembles intermediate white clover. It has excellent reseeding ability. Grazer's Select and Don are currently the only varieties of ball clover available.

## Seeding Rates

The seeding rates suggested (Table 5) are based on favorable planting conditions. If soil or climatic conditions are not favorable, the seeding rates should be adjusted upward slightly. Remember that simply planting more seed is not a good substitute for correcting unfavorable conditions that can be corrected.

Many producers plant more than recommended amounts of seed to try to produce more forage or to get earlier grazing. Planting more than the recommended amounts of seed may give slightly earlier grazing in some cases, but the total production for the season is not likely to improve. In planting mixtures of crops, recommended seeding rates must be followed to minimize competition between crops.

## Planting Depth

Clovers and other small-seeded legumes should generally be planted at depths of 1/4 to 1/2 inch. Do not cover them deeper than 3/4 inch, or poor stands will result.

Ryegrass and fescue should be planted about 1/2 inch deep but can tolerate coverage of up to 1 inch under favorable moisture and temperature conditions. They should not be covered deeper than 1 inch. Small grains need soil coverage of about 1 inch for good germination and emergence.

If seedbeds are soft and fluffy, rolling them before planting can help achieve the proper planting depth.

## Seeding Dates

Planting pasture and forage crops at the proper date (Table 6) is important to allow good germination and emergence. Planting date can also affect the probability of seedling exposure to insect and disease problems. Planting should be early enough to allow good crop establishment before winter weather becomes severe. The amount of growth produced by plants and the amount of grazing available before winter freezes occur are affected by the planting date. Seed planted into prepared seedbeds can be planted earlier than if planted into undisturbed sod since summer grass sod remains competitive in the early fall planting season. Planting too early into growing sod may result in poor stands or stand failures.

## Inoculate Legumes

Forage legumes, when they have the proper rhizobia in root nodules, can provide their own nitrogen and often furnish some additional nitrogen for use by associated grasses. The rhizobia needed are not the same for all legumes and are not even the same for all clovers. Application of the proper rhizobia to the seed before planting (inoculation) is necessary to ensure that they are present. Only packages of rhizobia with labels which specify the legume that is being planted, and for which the expiration date has not passed, should be used. Using an adhesive in applying the inoculant increases the effectiveness of inoculation. Either commercial adhesives or mixtures of water with syrup or sugar can be used.

**Table 1. Cool-season Pasture and Forage Crop Varieties Suggested for Consideration in 2016-2017.**

Crop		Varieties
<b>Grasses</b>		
	Tall Fescue	Jesup Max Q, Kentucky-31
	Oats	RAM LA 99016. The varieties TAMO 411 and TAMO 606 are considered promising.
	Cereal Rye	Elbon, Maton, Maton II, Oklon, Wintergrazer 70
	Annual Ryegrass	Attain, Big Boss, Diamond T, Earlyploid, Flying A, Gulf, Fria, Jackson, Jumbo, Marshall, Nelson Tetraploid, Passerel Plus, Prine, TAMTBO and Winterhawk. The varieties Andes, Lonestar and Tetrastar are considered promising.
	Wheat	(No commercial varieties have been tested in recent years).
<b>Legumes</b>		
	Alfalfa	AmeriGraze 702
	Arrowleaf Clover	Amclo, Meechi, Yuchi, Apache
	Balansa Clover	FIXatioN
	Berseem Clover	Bigbee, Frosty
	Crimson Clover	Chief, Dixie, Tibbee, AU Robin
	Red Clover	Kenland, Kenstar, Cherokee, Southern Belle, AU Red Ace
	Subterranean Clover	Mt. Barker, Nangeela, Tallarook, Woogenellup
	White Clover	LA S-I, Osceola, Regalgraze, Pinnacle, Durana, Neches
	Ball Clover	Grazer's Select, Don

**Table 2. Performance of oat entries in forage production evaluation trials at LSU AgCenter Research Stations, Franklinton and Winnsboro, Louisiana, during two growing seasons (2014-15 and 2015-16).**

Variety/Brand	Location		2-Year Mean
	Franklinton	Winnsboro	
	<i>Dry Forage (pounds per acre)</i>		
RAM LA99016	6,774	5,448	6,111
TAMO 606	6,609	5,492	6,050
TAMO 411	6,327	5,466	5,896
Mean	6,570	5,469	6,019
LSD (.10)	NS	NS	NS
CV%	15	8	13

**Table 3. Mean dry forage production from annual ryegrass entries at three locations in Louisiana during three growing seasons, 2013-2014 through 2015-2016.**

Variety/Brand	Location			3-Year Mean
	Jeanerette	Winnsboro	Franklinton	
	----- Dry forage, lb/acre -----			
Nelson Tetraploid	14,321	8,498	11,087	11,302
Marshall	12,853	9,389	11,103	11,115
ME4 (exp.)*	12,798	9,108	10,840	10,916
Winterhawk	13,275	8,795	10,526	10,865
TAMTBO	14,319	7,956	10,155	10,810
Fria	13,357	8,830	10,164	10,784
ME94 (exp.)	12,999	8,774	10,522	10,765
RM Exp 2012-A (exp.)	14,009	8,090	10,193	10,764
Prine	13,418	8,053	10,555	10,676
Jackson	13,161	8,455	10,294	10,637
Big Boss	12,723	8,134	10,996	10,618
Earlyploid	13,455	7,881	10,356	10,564
M2CVS (exp.)	11,968	9,348	10,161	10,492
Jumbo	12,792	8,019	10,340	10,384
Attain	12,763	8,238	10,124	10,375
Diamond T	13,106	7,842	9,758	10,235
Flying A	12,872	8,601	9,018	10,164
Maximus	11,656	7,984	10,221	9,954
Passerel Plus	11,460	8,165	10,078	9,901
Gulf	12,751	7,673	8,533	9,652
Mean	13,003	8,392	10,251	10,549
LSD (.10)	1,291	460	995	812
CV %	15	7	12	6

\*Entries followed by (exp.) are experimental and not commercially available.

**Table 4. Seeding Rates for Cool-season Pasture and Forage Crops**

Crop	Seeding Rate (lb/A)	
	Planted Alone	Planted in Mixture
<b>Grasses</b>		
Tall Fescue	30	20
Oats	100	60
Cereal Rye	90	50
Annual Ryegrass	30	20
Wheat	90	60
<b>Legumes</b>		
Alfalfa	20-30	---
Arrowleaf Clover	8	5
Balansa Clover	5-8	4
Berseem Clover	20	15
Crimson Clover	15	12
Red Clover	12	8
Subterranean Clover	15	12
White Clover	5	3
Ball Clover	5	3

**Table 5. Planting Dates for Cool-season Pasture and Forage Crops**

Crop	Planting Dates for	
	Prepared Seedbeds	Sod Planting
<b>Grasses</b>		
Tall Fescue	Sept. 20-Oct. 15	---
Oats	Sept. 1-Oct. 15 (N LA)	Approx. Oct. 15
	Sept. 15-Oct. 15 (S LA)	Approx. Oct. 15
Cereal Rye	Sept. 20-Oct. 15	Approx. Oct. 15
Annual Ryegrass	Sept. 20-Oct. 15	Approx. Oct. 15
Wheat	Sept. 20-Oct. 15	Approx. Oct. 15
<b>Legumes</b>		
Alfalfa	Oct. 5-Oct. 20	---
Arrowleaf Clover	Oct. 1-Nov. 15	Oct. 15-Nov. 15
Balansa Clover	Oct. 1-Nov. 15	Oct. 15-Nov. 15
Berseem Clover	Oct. 1-Nov. 15	Oct. 15-Nov. 15
Crimson Clover	Oct. 1-Nov. 15	Oct. 15-Nov. 15
Red Clover	Oct. 1-Nov. 15	Oct. 15-Nov. 15
Subterranean Clover	Oct. 1-Nov. 15	Oct. 15-Nov. 15
White Clover	Oct. 1-Nov. 15	Oct. 15-Nov. 15
Ball Clover	Oct. 1-Nov. 15	Oct. 15-Nov. 15

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