Performance of COOL-SEASON ANNUAL FORAGE CROPS in Louisiana, 2024-2025

LAES Research Summary No. RS-231

LOUISIANA STATE UNIVERSITY AGRICULTURAL CENTER
LOUISIANA AGRICULTURAL EXPERIMENT STATION
LOUISIANA COOPERATIVE EXTENSION SERVICE

Michael Salassi, Interim Vice President for Agriculture
Louisiana State University Agricultural Center
Louisiana Agricultural Experiment Station
Louisiana Cooperative Extension Service
LSU College of Agriculture

This material is based upon work that is supported by the National Institute of Food and Agriculture, U.S. Department of Agriculture. Any opinions, findings, conclusions, or recommendations expressed in this publication are those of the author(s) and do not necessarily reflect the views of the U.S. Department of Agriculture.

Contents

Performance of Cool-season Annual Forage Crops in Louisiana, 2023-2024

K.J. Han[1], C. F. Hutchison[2], E. K. Twidwell[1], Jerry Simmons[2], Greg Williams[3] and Shannon Forbes[2]

INTRODUCTION

Winter annual forages are adapted for grazing, green chop, hay and silage production in Louisiana. Each year, scientists at the Louisiana State University Agricultural Center conduct performance trials to evaluate the forage production of annual ryegrass, small grain forage and legume forage varieties. Trials are conducted at various Louisiana State University Agricultural Center research stations throughout the state to provide information on the performance of varieties under varying soil and climatic conditions.

Louisiana State University Agricultural Center uses the information provided by these trials to develop a list of varieties that have performed satisfactorily in forage performance trials in Louisiana. Louisiana forage producers can use this information to decide on varieties to use in their production systems. To be included on the list of varieties that are considered to have performed satisfactorily from a crop for which several varieties are available, a commercial variety must be tested for three consecutive years and have an average yield not less than 90% of the three-year statewide mean of the top three yielding commercial varieties. A variety will be listed as "Promising" if, following two consecutive years of testing, it has shown acceptable agronomic performance and has yielded at least 90% of the statewide average of the top three commercial varieties. A variety previously suggested for planting consideration will be dropped from the list if it fails to perform satisfactorily, considering both two and three-year yield data, if it is no longer commercially available to producers, or if not submitted for evaluation.

[1] LSU AgCenter, School of Plant, Environmental and Soil Sciences, [2] LSU AgCenter, Southeast Research Station, Franklinton, LA 70438, [3]LSU AgCenter, Iberia Research Station, Jeanerette, LA 70544.

TESTING PROCEDURE AND DATA PRESENTATION

The cool-season annual forage variety testing program is open to all commercially available varieties and advanced experimental lines of annual ryegrass, small grain forages and legume forages developed by either public or private plant breeding programs. The trials are managed using production practices suggested by the Louisiana Cooperative Extension Service (LCES) for each species, with soil amendments applied as indicated by soil test and herbicides used as appropriate.

Data on the cumulative forage yield and seasonal distribution of forage yield are collected for each location to evaluate the adaptation of varieties to specific geographic regions of the state. The trials are conducted in randomized complete block designs with at least three replications. Plots of each species are cut to a 2- to 4-inch stubble height when growth reaches 8 to 12 inches. Forage yield data are statistically analyzed for evaluation of entries by the current trial year, two-year average and three-year average.

1. ANNUAL RYEGRASS

Annual ryegrass (*Lolium multiflorum*) is suggested for use as a high-quality winter grazing, hay or silage crop on most soils throughout Louisiana. Annual ryegrass should be planted at rates of 30 pounds per acre if seeded alone or 20 pounds per acre if seeded with another species such as clover. Suggested planting dates for annual ryegrass are between Sept. 20 and Oct. 15 if planted into a prepared seedbed and approximately Oct. 15 if planted into an existing sod.

2024-2025 Growing Season

The 2024-2025 forage variety testing entry list and submitting agencies for annual ryegrass varieties evaluated for forage yield are listed in Table 1a. In the 2024-2025 growing season, a total of 19 annual ryegrass cultivars and five experimental lines were evaluated. Annual ryegrass forage variety trials were conducted at two Louisiana State University Agricultural Center research stations during the 2024-2025 growing season. Planting was arranged on prepared seedbeds in the locations as presented in Table 1b. Plots at all locations were seeded at the rate of 30 pounds per acre into a prepared seedbed. Phosphorus (P) and potassium (K) fertilizers were applied at all

locations according to soil test recommendations made by the Louisiana Cooperative Extension Service.

Table 1a. Originating agencies for annual ryegrass entries in 2024-2025 LSU AgCenter forage variety tests.

Annual Ryegrass Entry	Originating Agency
Bashaw Diploid Bashaw Tetraploid Lagniappe Tetraploid Rio Cana Sweet T	Nutrien Ag Solutions, 5012 Hot Wells Road, Boyce, LA 71409
Lone Star Diploid Tetrastar Tetraploid MORE Tetraploid	GO Seed, Salem, OR 97305
Wax Marshall ME94 (EXP†) Nelson Tetraploid Jackson ME-4 (EXP) WMWL (EXP) WMWL-2 (EXP) WMCT (EXP)	The Wax Company LLC, P.O. Box 60, Amory, MS 38821
Herdsman	Nusbaum Farms LLC., 26894 Bellfountain Road, Monroe, OR 97456
Earlyploid, Prine	Ragan and Massey, 100 Ponchatoula Parkway, Ponchatoula, LA 70454
Sweet T (not a brand name) Tetraploid Rival Tetraploid Cold Green Diploid Bruiser Diploid	AMPAC Seed Co., 32727 OR-99E, Tangent, OR 97389
Gulf	Acquired as Check Variety

†, Experimental line

Total nitrogen (N) applied varied among locations but was at least 165 pounds per acre during the growing season. Annual ryegrass yield was measured three times during the growing season (Table 1c).

Table 1b. Planting dates and soil types of evaluation locations cooperating in the 2024-2025 annual ryegrass forage variety trials.

Research Station	Location	Planting Date	Soil Type
Southeast	Southeast	10/12/2024	Tangi silt loam
Iberia	Southwest	10/24/2024	Baldwin silty clay loam

Table 1c. Annual ryegrass harvest numbers and the corresponding dates (day/month), 2024-2025.

Location	1st harvest	2nd harvest	3rd harvest
Southeast	01/03/2025	02/28/2025	03/27/2025
Southwest	02/03/2025	03/18/2025	04/15/2025

Current year's (2024-2025 growing season) annual ryegrass yields at the southeast and southwest locations are presented by the three harvest numbers in Tables 1d and 1e, respectively. The forage production of the second harvest was mostly greater than those of the first and third, and it reached approximately 30% to 40% of the top three yield entries' average (2024-2025 season total 8,007 pounds per acre).

Table 1d. Distribution of forage production (dry matter, lbs per acre) during the 2024-2025 growing season in the Southeast Research Station.

Annual Ryegrass Entry	Harvest #1	Harvest #2	Harvest #3
Gulf	1,828 (23)†	2,755 (34)	2,115 (26)
Lagniappe	2,045 (26)	2,542 (32)	2,099 (26)
Rio Cana	1,683 (21)	3,604 (45)	1,636 (20)
Bashaw Diploid	2,127 (27)	2,714 (34)	1,757 (21)
Bashaw Tetraploid	1,918 (24)	3,298 (41)	2,144 (27)
Sweet T (Nutrien)	1,705 (21)	2,948 (37)	2,146 (27)
Lone star Diploid	1,888 (24)	3,145 (39)	1,676 (21)
Tetrastar Tetraploid	1,462 (18)	2,565 (32)	1,883 (24)
MORE Tetraploid	1,591 (20)	3,185 (40)	1,946 (24)
Wax Marshall	2,414 (30)	3,215 (40)	2,170 (27)
ME94 (EXP)‡	1,989 (25)	2,974 (37)	1,640 (20)
Nelson Tetraploid	2,121 (26)	2,646 (33)	1,767 (22)
Jackson	1,971 (25)	2,602 (32)	1,968 (25)
ME-4 (EXP)	1,636 (20)	2,732 (34)	2,301 (29)
WMWL (EXP)	1,686 (21)	3,028 (38)	2,123 (27)
WMWL-2 (EXP)	2,312 (29)	3,301 (41)	2,269 (28)
WMCT (EXP)	1,894 (24)	4,122 (51)	2,324 (29)
Herds man Tetraploid	1,939 (24)	2,353 (29)	2,086 (26)
Prine	2,109 (26)	2,963 (37)	2,185 (27)
Earlyploid	1,609 (20)	2,871 (36)	2,308 (29)
Sweet T (Ampac) Tetraploid	2,043 (26)	3,064 (38)	2,263 (28)
Rival Tetraploid	2,335 (29)	3,303 (41)	1,826 (23)
Cold Green Diploid	1,654 (21)	3,070 (38)	2,526 (32)
Bruiser Diploid	1,816 (23)	2,690 (34)	2,372 (30)
Mean	**1,907**	**2,987**	**2,064**
SE	**256**	**489**	**265**

† Numbers in parentheses are the percentage calculated by dividing the forage yield at each harvest by the average total yield of the 2024-2025 season's top three commercial cultivars, then multiplying by 100.

‡ EXP, experimental line, and not yet commercially available.

Table 1e. Distribution of forage production (dry matter, lbs per acre) during the 2024-2025 growing season in the southwest location.

Annual Ryegrass Entry	Harvest #1	Harvest #2	Harvest #3
Gulf	2,481 (32)†	3,455(45)	1,193 (15)
Lagniappe	2,522 (33)	3,087(40)	1,343 (17)
Rio Cana	2,637 (34)	3,284(43)	1,292 (17)
Bashaw Diploid	2,500 (32)	3,135(41)	1,317 (17)
Bashaw Tetraploid	2,402 (31)	2,946(38)	1,281 (17)
Sweet T (Nutrien)	2,353 (30)	3,025(39)	1,820 (24)
Lone star Diploid	1,961 (25)	3,147(41)	1,603 (21)
Tetrastar Tetraploid	2,398 (31)	3,131(41)	1,586 (21)
MORE Tetraploid	2,205 (29)	2,653(34)	1,627 (21)
Wax Marshall	2,524 (33)	3,312(43)	1,454 (19)
ME94 (EXP)‡	2,691 (35)	3,287(43)	1,350 (17)
Nelson Tetraploid	2,438 (32)	2,797(36)	1,375 (18)
Jackson	2,290 (30)	3,105(40)	1,364 (18)
ME-4 (EXP)	2,242 (29)	3,264(42)	1,977 (26)
WMWL (EXP)	2,471 (32)	3,463(45)	1,798 (23)
WMWL-2 (EXP)	2,257 (29)	3,493(45)	1,725 (22)
WMCT (EXP)	2,775 (36)	3,057(40)	1,496 (19)
Herds man Tetraploid	2,324 (30)	2,993(39)	1,239 (16)
Prine	2,641 (34)	2,791(36)	1,216 (16)
Earlyploid	2,229 (29)	3,068(40)	1,207 (16)
Sweet T (Ampac) Tetraploid	2,540 (33)	3,381(44)	1,270 (16)
Rival Tetraploid	2,305 (30)	2,834(37)	1,229 (16)
Cold Green Diploid	2,470 (32)	3,272(42)	1,862 (24)
Bruiser Diploid	2,371 (31)	3,832(50)	1,536 (20)
Mean	**2,418**	**3,159**	**1,465**
SE	**211**	**245**	**159**

† Numbers in parentheses are the percentage calculated by dividing the forage yield at each harvest by the average total yield of the 2024-2025 season's top three commercial cultivars, then multiplying by 100.

‡ EXP, experimental line, and not yet commercially available.

Total forage production

Total production at two locations over the current year (2024-2025 growing season), two and three years are presented in Tables 1e, 1f and 1g, respectively. Although the annual ryegrass production at the locations varies, entries produced more than 90% of the top three cultivars consistently maintained the forage production levels. Among the 24 entries, 16 entries were tested

for two continuous growing seasons (Table 1f) and considered "Promising" with the average greater than 90% of the top three cultivars. Based on over the recent three years production data, the varieties considered to have performed satisfactorily and suggested for consideration in

Table 1f. Total forage production (dry matter, lbs per acre) by location and the average of them (2024-2025) growing season.

Annual Ryegrass Entry	**Southeast**	**Southwest**	**Average**
Gulf	6,698 (90)†	7,129 (96)	6,913 (93)
Lagniappe	6,686 (90)	6,951 (93)	6,819 (91)
Rio Cana	6,923 (93)	7,213 (97)	7,068 (95)
Bashaw Diploid	6,599 (89)	6,951 (93)	6,775 (91)
Bashaw Tetraploid	7,359 (99)	6,630 (89)	6,995 (94)
Sweet T (Nutrien)	6,799 (91)	7,199 (97)	6,999 (94)
Lone star Diploid	6,710 (90)	6,711 (90)	6,711 (90)
Tetrastar Tetraploid	5,910 (79)	7,115 (95)	6,512 (87)
MORE Tetraploid	6,722 (90)	6,485 (87)	6,603 (89)
Wax Marshall	7,799 (105)	7,291 (98)	7,545 (101)
ME94 (EXP)‡	6,603 (89)	7,327 (98)	6,965 (93)
Nelson Tetraploid	6,534 (88)	6,610 (89)	6,572 (88)
Jackson	6,541 (88)	6,760 (91)	6,650 (89)
ME-4 (EXP)	6,669 (89)	7,483 (100)	7,076 (95)
WMWL (EXP)	6,837 (92)	7,732 (104)	7,285 (98)
WMWL-2 (EXP)	7,882 (106)	7,474 (100)	7,678 (103)
WMCT (EXP)	8,340 (112)	7,328 (98)	7,834 (105)
Herds man Tetraploid	6,378 (86)	6,556 (88)	6,467 (87)
Prine	7,256 (97)	6,649 (89)	6,952 (93)
Earlyploid	6,789 (91)	6,503 (87)	6,646 (89)
Sweet T (Ampac) Tetraploid	7,369 (99)	7,191 (96)	7,280 (98)
Rival Tetraploid	7,464 (100)	6,369 (85)	6,916 (93)
Cold Green Diploid	7,250 (97)	7,603 (102)	7,427 (100)
Bruiser Diploid	6,877 (92)	7,739 (104)	7,308 (98)
Mean	**6,958**	**7,042**	**7,000**
SE	**654**	**360**	**373**

† Numbers in parentheses are the percentage calculated by dividing the corresponding forage yield by the average total yield of the 2024-2025 season's top three commercial cultivars, then multiplying by 100.

‡ EXP, experimental line, and not yet commercially available.

fall 2025 are Bashaw (tetraploid), Gulf, Jackson, Wax Marshall and Prine. Some previously suggested cultivars were eliminated due to their absence during the 2024-2025 season trial. The entries ME-4, ME-94, WMWL, and WMWL2 also produced more than 90% of the total forage production of the top three cultivars, but they are all experimental entries. Therefore, those are commercially unavailable and cannot be recommended to the general public.

Table 1g. Two-year average of total forage production (dry matter, lbs per acre) by location and average of them (2023-2024 and 2024-2025).

Annual Ryegrass Entry	**Southeast**	**Southwest**	**Average**
Bashaw Tetraploid	9,095 (113)†	6,796 (84)	7,945 (98)
Earlyploid	8,180 (101)	6,295 (78)	7,238 (90)
Gulf	8,762 (108)	6,985 (86)	7,873 (97)
Herdsman	8,262 (102)	6,793 (84)	7,527 (93)
Jackson	8,271 (102)	7,337 (91)	7,804 (97)
Lagniappe	8,397 (104)	6,802 (84)	7,599 (94)
ME4 (EXP)‡	8,665 (107)	7,834 (97)	8,250 (102)
ME94 (EXP)	8,480 (105)	7,790 (96)	8,135 (101)
MORE	10,864 (134)	7,025 (87)	8,944 (111)
Wax Marshall	9,657(120)	8,019 (99)	8,838 (109)
Nelson	8,051(100)	6,607 (82)	7,329 (91)
Prine	9,010(112)	6,628 (82)	7,819 (97)
Rio Cana	9,064(112)	6,771 (84)	7,917 (98)
Tetrastar Tetraploid	7,667(95)	6,868 (85)	7,267 (90)
WMWL (EXP)	8,722(108)	7,861 (97)	8,291 (103)
WMWL2 (EXP)	9,559(118)	7,804 (97)	8,682 (107)
Mean	**8,794**	**7,138**	**7,966**
Standard error	**594**	**415**	**420**

† Numbers in parentheses are the percentage calculated by dividing the corresponding forage yield by the two-year average of the top three commercial cultivars, then multiplying by 100.
‡ EXP, experimental line, and not yet commercially available.

Table 1h. Three-year average of total forage production (dry matter, lbs per acre) by location and the average of them (2022-2023, 2023-2024, and 2024-2025).

Annual Ryegrass Entry	Southeast	Southwest	Average
Bashaw Tetraploid	9,007 (113)†	6,262 (79)	7,634 (96)
Earlyploid	7,957 (100)	5,705 (72)	6,831 (86)
Gulf	8,263 (104)	6,373 (80)	7,318 (92)
Herman	7,812 (98)	6,348 (80)	7,080 (89)
Jackson	7,721 (97)	6,815 (86)	7,268 (92)
Lagniappe	7,747 (98)	6,140 (77)	6,944 (87)
ME4 (EXP)‡	8,253 (104)	7,475 (94)	7,864 (99)
ME94 (EXP)	8,365 (105)	7,122 (90)	7,743 (97)
Wax Marshall	8,966 (113)	7,151 (90)	8,058 (101)
Nelson	7,844 (99)	6,080 (77)	6,962 (88)
Prine	8,583 (108)	6,021 (76)	7,302 (92)
Tetrastar Tetraploid	7,241 (91)	6,245 (79)	6,743 (85)
WMWL (EXP)	8,063 (102)	6,941 (87)	7,502 (94)
WMWL2 (EXP)	8,656 (109)	7,157 (90)	7,907 (100)
Mean	**8,177**	**6,560**	**7,368**
SE	**322**	**279**	**198**

† Numbers in parentheses are the percentage calculated by dividing the corresponding forage yield by the three-year average of the top three commercial cultivars, then multiplying by 100.
‡ EXP, experimental line, and not yet commercially available.

2. SMALL GRAINS

Winter annual small grains produce high-quality forage during the early winter. Oats (*Avena sativa*) should be seeded at rates of 100 pounds per acre if planted alone or 60 pounds per acre if planted with annual ryegrass (which should be planted at 20 pounds per acre). Cereal rye (*Secale cereale*), triticale (*Triticosecale*) and wheat (*Triticum aestivum*) should be seeded at rates of 90 pounds per acre if planted alone or 60 pounds per acre if planted with annual ryegrass (which should be planted at 20 pounds per acre). Small grains should be planted for forage production between Sept. 1 and late Oct. in northern Louisiana and between Sept. 15 and mid-Oct. in southern Louisiana if planted into a prepared seedbed and approximately Oct. 15 if planted into an existing sod.

2024-2025 Growing Season

The 2024-2025 forage variety testing entry list and submitting agencies for small grain varieties evaluated for forage yield are listed in Table 2a. In 2024-2025 growing season, a total of 14 small grain entries were evaluated, including 13 oats and one wheat (Table 2a).

The forage production tests for small grain varieties were conducted at the Louisiana State University Agricultural Center's Southeast Research Station and Doyle Chambers Central Research Station during the 2024-2025 growing season (Table 2b). Plots were planted as pure stands at the rate of 100 and 90 pounds of seed per acre for oats and wheat, respectively, into a prepared seedbed. Phosphorus (P) and potassium (K) fertilizers were applied according to soil test recommendations made by the Louisiana Cooperative Extension Service. Total nitrogen (N) applied varied between locations but was at least 140 pounds per acre in multiple applications at planting and postharvest. Contrasting the drought conditions in the 2023-2024 trial, due to the frequent rain and heavy soil in the central location, planting was delayed until late December.

Small grain forages were harvested two times at the southeast location and three times at the central location during the 2024-2025 growing season (Table 2c).

Forage productions from small grain varieties and experimental lines during the 2024-2025 growing season are presented by harvest numbers at central and southeast locations in Tables 2d and 2e, respectively. In the southeast location, after the second harvest, regrowth of small grain forage did not occur. However, the seasonal total forage production was similar at both locations.

Table 2a. Originating agencies for small grain entries in 2024-2025 LSU AgCenter forage variety tests.

Small Grain Entry	**Originating Agency**
SSI30-06 (previously, ForageXtreme 30-06 wheat) GLADIATOR (previously, RoMar), MAXIMUS (previously, FL12034) TX180CS9061 Hot Shot	Specialty Seeds Inc. 132 Ferry Road Anguilla, MS 38721
11019	Ragan and Massey 100 Ponchatoula Parkway Ponchatoula, LA 70454
TX180CS9061	Texas A&M AgriLife Research 2488 TAMU, 954 Agronomy Field Lab College Station, TX 77843
LA171535BSS-46-1 LA17069SBSS-2-1 LA17080SBS-32-1-1 LA17089SBS-45-1-1	School of Plant, Environmental and Soil Sciences, LSU AgCenter Baton Rouge, LA 70803
FLLA17069-52 FLLA17088-77 FL13126-69 FL16516-28	Food Crops Breeding and Genetics Department of Agronomy, UF/IFAS P.O. Box 110965 2005 SW 23rd St., Bldg. 350 Gainesville, FL 32608

Table 2b. Planting dates and soil types of locations cooperating in the 2024-2025 small grain variety forage test.

Research Station	Location	Planting Date	Soil Type
Southeast	Southeast	10/12/2024	Tangi silt loam
Doyle Chambers	Central	12/20/2024	Thibaut clay
Central			

Table 2c. Small grain forage harvest numbers and the corresponding dates (day/month) in the location, 2024-2025.

Location	1st harvest	2nd harvest	3rd harvest
Southeast	12/19/2024	02/18/2025	Not applicable
Central	02/24/2025	03/21/2025	04/16/2025

Table 2d. Distribution of forage production (dry matter, lbs per acre) during the 2024-2025 growing season in the central location.

Small Grain Entry	Harvest #1	Harvest #2	Harvest #3
FLLA17069-52 (EXP)†	2,183 (44)‡	989 (20)	1,685 (34)
FLLA17088-77(EXP)	2,137 (43)	1,067 (21)	1,394 (28)
FL13126-69(EXP)	1,490 (30)	1,031 (21)	1,320 (27)
FL16516-28(EXP)	1,959 (39)	1,114 (22)	1,547 (31)
LA171535BSS-46-1(EXP)	2,105 (42)	889 (18)	1,518 (31)
LA17069SBSS-2-1(EXP)	2,011 (40)	655 (13)	1,781 (36)
LA17080SBS-32-1-1(EXP)	1,922 (39)	664 (13)	1,242 (25)
LA17089SBS-45-1-1(EXP)	2,131 (43)	936 (19)	1,790 (36)
TX180CS9061(EXP)	2,080 (42)	972 (20)	1,475 (30)
11019(EXP)	1,930 (39)	1,086 (22)	1,560 (31)
MAXIMUS	2,044 (41)	1,227 (25)	1,259 (25)
Hot Shot	2,078 (42)	1,176 (24)	1,320 (27)
GLADIATOR	1,971 (40)	953 (19)	1,349 (27)
SSI30-06	2,472 (50)	854 (17)	1,858 (37)
Mean	**2,037**	**972**	**1,507**
SE	**139**	**91**	**192**

† EXP, experimental line, and not yet commercially available.

‡ Numbers in parentheses are the percentage calculated by dividing the forage yield at each harvest by the average total yield of the 2024-2025 season's top three commercial cultivars, then multiplying by 100.

Table 2e. Distribution of forage production (dry matter, lbs per acre) during the 2024-2025 growing season in the southeast location.

Small Grain Entry	Harvest #1	Harvest #2
FLLA17069-52 (EXP)†	1,969 (40)‡	1,961 (40)
FLLA17088-77(EXP)	1,754 (36)	2,359 (48)
FL13126-69(EXP)	1,876 (38)	2,387 (49)
FL16516-28(EXP)	2,244 (46)	2,499 (51)
LA171535BSS-46-1(EXP)	1,792 (37)	2,622 (54)
LA17069SBSS-2-1(EXP)	2,323 (47)	1,545 (32)
LA17080SBS-32-1-1(EXP)	2,055 (42)	1,967 (40)
LA17089SBS-45-1-1(EXP)	1,606 (33)	3,423 (70)
TX180CS9061(EXP)	2,293 (47)	2,164 (44)
11019(EXP)	2,201 (45)	1,986 (41)
MAXIMUS	2,116 (43)	1,935 (40)
Hot Shot	2,226 (45)	2,344 (48)
GLADIATOR	2,517 (51)	2,404 (49)
SSI30-06	1,334 (27)	3,140 (64)
Mean	**2,022**	**2,338**
SE	**373**	**349**

† EXP, experimental line, and not yet commercially available.

‡ Numbers in parentheses are the percentage calculated by dividing the forage yield at each harvest by the average total yield of the 2024-2025 season's top three commercial cultivars, then multiplying by 100.

Total forage production

Except for two experimental lines, all the small grain entries reached 90% of the top three commercial entries' production level in the 2024-2025 growing season (Table 2f). Gladiator, Maximus, SSI30-06, 1109, LA17069SBSS-2-1 are the entries going into the two continuous years' trials, producing forage over 90% of the top three entries' average. Therefore, all of them are classified "Promising" (Table 2g).

Table 2f. Total forage production (dry matter, lbs per acre) by location and average of them during the 2024-2025 growing season.

Small Grain Entry	Central	Southeast	Average
FLLA17069-52 (EXP)†	4,857 (105)‡	3,929 (85)	4,393 (95)
FLLA17088-77(EXP)	4,598 (100)	4,114 (89)	4,356 (94)
FL13126-69(EXP)	3,842 (83)	4,264 (92)	4,053 (88)
FL16516-28(EXP)	4,620 (100)	4,744 (103)	4,682 (101)
LA171535BSS-46-1(EXP)	4,512 (98)	4,413 (96)	4,463 (97)
LA17069SBSS-2-1(EXP)	4,447 (96)	3,869 (84)	4,158 (90)
LA17080SBS-32-1-1(EXP)	3,828 (83)	4,022 (87)	3,925 (85)
LA17089SBS-45-1-1(EXP)	4,858 (105)	5,029 (109)	4,943 (107)
TX180CS9061(EXP)	4,528 (98)	4,457 (97)	4,492 (97)
11019(EXP)	4,575 (99)	4,187 (91)	4,381 (95)
MAXIMUS	4,529 (98)	4,051 (88)	4,290 (93)
Hot Shot	4,574 (99)	4,569 (99)	4,572 (99)
GLADIATOR	4,274 (93)	4,921 (107)	4,597 (100)
SSI30-06	5,184 (112)	4,474 (97)	4,829 (105)
Mean	**4,516**	**4,360**	**4,438**
SE	**327**	**381**	**251**

† EXP, experimental line, and not yet commercially available.

‡ Numbers in parentheses are the percentage calculated by dividing the corresponding forage yield by the average of the total yield of the 2024-2025 season's top three commercial cultivars, then multiplying by 100.

Table 2g. Two-year average of total forage production (dry matter, lbs per acre) by location and average of them (2023-2024 and 2024-2025).

Small Grain Entry	Central	Southeast	Average
11019 (EXP)†	5,892 (108)‡	5,075 (93)	5,484 (101)
GLADIATOR (previously, RoMar)	5,843 (107)	4,861 (89)	5,352 (98)
MAXIMUS (previously, FL12034)	5,736 (105)	5,242 (96)	5,489 (101)
SSI30-06	5,593 (96)	5,753 (107)	5,673 (104)
LA17069SBSS-2-1 (EXP)	5,819 (107)	4,889 (90)	5,354 (98)
Mean	**5,823**	**5,017**	**5,420**
SE	**800**	**508**	**463**

† EXP, experimental line, and not yet commercially available.

‡ Numbers in parentheses are the percentage calculated by dividing the corresponding forage yield by the two-year average of the top three commercial cultivars, then multiplying by 100.

3. LEGUME FORAGE

Legume forage is highly nutritious and does not require nitrogen fertilizer, which is a big advantage of the forage crop. However, the establishment is site-specific, and forage production is more sensitive to soil properties, especially soil pH. Seeding rates vary depending on the seed size of clovers from 5 (Ball and white clovers) to 20 (berseem clover) pounds per acre. In Louisiana, planting dates are between early October to mid-November.

2024-2025 Growing Season

The 2024-2025 forage variety testing entry list and submitting agencies for legume forage entries are listed in Table 2a. In 2024-2025 growing season, a total six legume entries were evaluated, including a balansa, berseem, crimson, Persian and two white clovers. The forage production tests for legume varieties were conducted at the Louisiana State University Agricultural Center's Doyle Chambers Central Research Station and Southeast Research Station during the 2024-2025 growing season (Table 3b). As previously mentioned in the small grain forage trial, the 2024-2025 legume forage planting was also delayed due to the rain and heavy soil conditions at the central location. The establishment of two white clovers and a balansa clover did not occur at the location. At the Southeast Research Station in the southeast location, all the clover establishments were unsuccessful and didn't grow for harvest.

Phosphorus (P) and potassium (K) fertilizers were applied at planting and after harvest #1 according to soil test recommendations made by the Louisiana Cooperative Extension Service. The legume forage productions were measured three times during the 2023-2024 growing season (Table 3c). Again, the delayed planting and wet soil hindered the early legume forage accumulation at the first harvest. Frosty, Kentucky Pride and eNhance recovered for forage production in early April (second harvest). Among them, eNhance demonstrated a substantial forage accumulation to the third harvest in late April (Table 3d).

Table 3a. Originating agencies for legume entries in 2024-2025 LSU AgCenter forage variety tests.

Clover Entry	**Originating Agency**
Neches (white clover) Red Hawk (white clover)	Texas A&M AgriLife Research 1710 FM 3053 N. Overton, TX 77843
Fxation N (balansa clover) Frosty (berseem clover) Kentucky Pride (crimson clover) eNhance (Persian clover)	Grassland Oregon, 4455 60th Avenue NE, Salem, OR 97305

Table 3b. Planting date and soil type of central location in the 2023-2024 legume forage variety test.

Research Station	Location	Planting Date	Soil Type
Ben Hur	Central	12/20/2024	Thibaut clay

Table 3c. legume forage harvest numbers and the corresponding dates (day/month), 2023-2024.

Location	1st harvest	2nd harvest	3rd harvest
Central	03/21/2025	04/04/2025	04/28/2025

Table 3d. Distribution of forage production (dry matter, lbs per acre) in the central location during the 2024-2025 growing season.

Clover Entry	**Harvest #1**	**Harvest #2**	**Harvest #3**	**Total**
Frosty	476 (14)†	2,278 (67)	879 (26)	3,633 (106)
Kentucky Pride	244 (7)	1,196 (35)	669 (20)	2,110 (62)
eNhance	572 (17)	2,600 (76)	1,343 (39)	4,515 (132)
Mean	**431**	**2,025**	**963**	**3,419**
SE	**74**	**280**	**106**	**382**

† Numbers in parentheses are the percentage calculated by dividing the forage yield at each harvest by the average total yield of the 2024-2025 season's top three commercial cultivars, then multiplying by 100.

Total forage production

As presented in the forage production pattern, the total forage production of the eNhance Persian clover was most in the 2024-2025 season (Table 3e). Due to exceptionally unfavorable wet soil conditions, perhaps the two-year average of legume forage data can be a bit biased. The two-year average of three entries was 7,294 pounds per acre, and Frosty and eNhance produced forage more than 90% of their average, which is "Promising." With another year's trial data, one or two legume entries are expected to join the legume forage list for recommendation.

Table 3e. Average forage production (dry matter, lbs per acre) in the central location by one year (2024-2025) and two years (2023-2024 and 2024-2025).

Clover Entry	One year	Two-Year Average
Frosty	3,633 (106)	9,335 (128)[†]
Kentucky Pride	2,110 (62)	5,568 (76)
eNhance	4,515 (132)	6,978 (96)
Mean	**3,419**	**7,294**
SE	**382**	**1,954**

[†] Numbers in parentheses are the percentage calculated by dividing the forage yield at each harvest by the total yield of the 2024-2025 season's top three cultivars, then multiplying by 100.

Acknowledgements

This research was supported by USDA Hatch Project #LAB 94615.