

2016 WARM-SEASON ANNUAL GRASS VARIETY TRIAL

The forage cultivar evaluation program is a partnership between University of Tennessee Extension and UT AgResearch to aid producers in the selection of the best cultivars for their farm. The crop was grown using management practices considered to be the best for the crop, including fertilization according to soil test results. This study was conducted using a randomized complete block design with four replications. Least significant difference (LSD) values at the 5 percent level are shown at the bottom of each table with the coefficient of variation (CV). Within any table, yield of any two varieties being compared must differ by at least this amount to be considered different.

Table 1: Yield of warm-season annual grass varieties at the Greeneville AgResearch and Education Center in Greeneville, TN.

| Variety | Species | Supplier | Commercially Available | Yield (ton DM/acre) | | | |
|--|----------------------|-----------------------|------------------------|---------------------|-----------------|-------|-------|
| | | | | Jun 28 | Jul 24 | Sep 2 | Total |
| Cowvittles II | Forage Sorghum | Farm Science Genetics | Yes | 2.00* | 2.44 | 0.60 | 5.04 |
| EXP 10216 | Forage Sorghum | Gayland Ward Seed | Yes | 1.43* | 1.52 | 0.58 | 3.53 |
| EXP-10216 BMR | Forage Sorghum | Farm Science Genetics | Yes | 2.09* | 2.62 | 0.51 | 5.21 |
| FSG 114 BMR6 | Forage Sorghum | Farm Science Genetics | Yes | 1.39 | 2.67 | 0.55 | 4.60 |
| FSG 115 Dwarf BMR6 | Forage Sorghum | Farm Science Genetics | Yes | 1.03 | 2.75 | 0.51 | 4.29 |
| GW 2120 | Forage Sorghum | Gayland Ward Seed | Yes | 1.16 | 2.02 | 0.67 | 3.86 |
| GW 400 BMR | Forage Sorghum | Gayland Ward Seed | Yes | 1.55* | 3.38 | 0.55 | 5.47 |
| GW 600 BMR | Forage Sorghum | Gayland Ward Seed | Yes | 0.95 | 2.26 | 0.59 | 3.80 |
| Silo Pro BMR | Forage Sorghum | Gayland Ward Seed | Yes | 1.07 | 2.32 | 0.48 | 3.87 |
| FSG 300 | Pearl Millet | Farm Science Genetics | Yes | 1.07 | 2.06 | 0.50 | 3.62 |
| FSG 315 Dwarf BMR | Pearl Millet | Farm Science Genetics | Yes | 0.88 | 2.06 | 0.57 | 3.50 |
| FSG 214 BMR6 | Sorghum x Sudangrass | Farm Science Genetics | Yes | 1.43* | 3.56 | 0.52 | 5.51 |
| FSG 215 BMR6 | Sorghum x Sudangrass | Farm Science Genetics | Yes | 1.04 | 2.21 | 0.57 | 3.81 |
| Greengrazer V | Sorghum x Sudangrass | Farm Science Genetics | Yes | 1.30 | 2.84 | 0.52 | 4.65 |
| Nutra King BMR | Sorghum x Sudangrass | Gayland Ward Seed | Yes | 1.72* | 3.28 | 0.66 | 5.65 |
| Super Sugar | Sorghum x Sudangrass | Gayland Ward Seed | Yes | 1.31 | 2.88 | 0.68 | 4.86 |
| Super Sugar DM | Sorghum x Sudangrass | Gayland Ward Seed | Yes | 1.36 | 2.74 | 0.51 | 4.61 |
| Sweet Forever BMR | Sorghum x Sudangrass | Gayland Ward Seed | Yes | 1.32 | 2.55 | 0.51 | 4.38 |
| Sweet Six BMR | Sorghum x Sudangrass | Gayland Ward Seed | Yes | 1.61* | 3.36 | 0.61 | 5.57 |
| SWI-16 | Sorghum x Sudangrass | Pennington Seed | No | 1.30 | 2.90 | 0.68 | 4.88 |
| SBA446 | Sudangrass | Saddle Butte Ag Inc. | No | 1.40 | 2.56 | 0.76 | 4.71 |
| CV | | | | 24 | 20 | 13 | 16 |
| LSD (P<0.05) | | | | 0.66 | ns ¹ | ns | ns |
| * yielded statistically the same as the top-yielding variety | | | | | | | |
| ¹ non-significant at the 0.05 level | | | | | | | |
| Nitrogen application: 60 lb/acre at planting, 30 lb/acre after first harvest | | | | | | | |
| Planted May 11, 2016 | | | | | | | |

Table 2: Yield of warm-season annual grass varieties at the Greeneville AgResearch and Education Center in Greeneville, TN- Continued.

| Variety | Species | Supplier | Commercially Available | Yield (ton DM/acre) | | | | |
|--|-----------|-----------------------|------------------------|---------------------|--------|-----------------|-------|-------|
| | | | | Jun 28 | Jul 24 | Aug 14 | Sep 2 | Total |
| BAR CW0604 | Teffgrass | Barenbrug | No | 0.74* | 1.04 | 0.36 | 0.24 | 2.37 |
| Corvallis | Teffgrass | James VanLeeuwen | Yes | 0.84* | 1.26 | 0.58 | 0.20 | 2.88 |
| Dessie | Teffgrass | Farm Science Genetics | Yes | 0.54* | 1.15 | 0.46 | 0.14 | 2.28 |
| NFCG07-1 | Crabgrass | Barenbrug | No | 0.42 | 1.41* | 0.46 | 0.16 | 2.45 |
| Quick-N-Big | Crabgrass | Dalrymple Farms | Yes | 0.35 | 1.62* | 0.23 | 0.20 | 2.44 |
| Red River | Crabgrass | Dalrymple Farms | Yes | 0.32 | 1.29* | 0.43 | 0.25 | 2.27 |
| CV | | | | 22 | 16 | 28 | 12 | 9 |
| LSD (P<0.05) | | | | 0.32 | 0.35 | ns ¹ | ns | ns |
| * yielded statistically the same as the top-yielding variety | | | | | | | | |
| ¹ non-significant at the 0.05 level | | | | | | | | |
| Nitrogen application: 60 lb/acre at planting, 30 lb/acre after first harvest | | | | | | | | |
| Planted May 11, 2016 | | | | | | | | |

Table 3: Mean forage nutritive values by harvest.

| Species | Constituents ¹ (%) | Harvest Date | | |
|----------------------|-------------------------------|--------------|--------|-------|
| | | Jun 28 | Jul 24 | Sep 2 |
| Forage Sorghum | CP | 15.2 | 13.0 | 9.3 |
| | ADF | 34.1 | 35.6 | 38.0 |
| | NDF | 59.8 | 61.2 | 64.1 |
| | TDN | 69.7 | 68.0 | 65.1 |
| Pearl Millet | CP | 15.2 | 13.0 | 7.5 |
| | ADF | 34.1 | 36.7 | 32.1 |
| | NDF | 59.8 | 61.4 | 58.6 |
| | TDN | 69.7 | 67.3 | 61.2 |
| Sorghum x Sudangrass | CP | 12.2 | 11.4 | 7.4 |
| | ADF | 35.3 | 35.9 | 33.2 |
| | NDF | 62.5 | 61.6 | 60.0 |
| | TDN | 68.0 | 69.3 | 59.4 |
| Sudangrass | CP | 11.6 | 9.9 | 7.1 |
| | ADF | 36.5 | 37.2 | 32.5 |
| | NDF | 61.6 | 61.1 | 59.6 |
| | TDN | 67.4 | 68.7 | 62.4 |

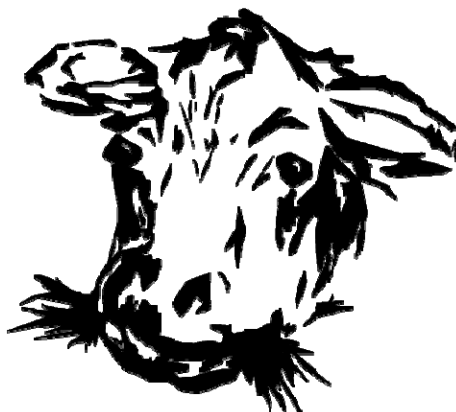
¹ Nutritive values represented at 100% DM Basis for CP, crude protein; ADF, acid detergent fiber; NDF, neutral detergent fiber; TDN, total digestible nutrients; RFQ, relative forage quality (Analysis performed using Near Infrared Spectrometer [NIRS] Technology) Target stage of growth for harvest was late boot. Grass Hay Equation (NIRS Consortium, 2016).

Table 4: Mean forage nutritive values by harvest- Continued.

| Species | Constituents ¹ (%) | Harvest Date | | | |
|-----------|-------------------------------|--------------|--------|--------|-------|
| | | Jun 28 | Jul 24 | Aug 14 | Sep 2 |
| Teffgrass | CP | 15.3 | 15.0 | 13.2 | 9.6 |
| | ADF | 31.2 | 34.4 | 37.2 | 36.5 |
| | NDF | 59.9 | 61.5 | 62.2 | 59.7 |
| | TDN | 73.9 | 67.4 | 65.8 | 68.4 |
| Crabgrass | CP | 15.0 | 14.8 | 11.4 | 9.9 |
| | ADF | 34.3 | 34.3 | 35.9 | 37.2 |
| | NDF | 61.8 | 61.3 | 62.5 | 61.1 |
| | TDN | 66.5 | 67.8 | 66.5 | 68.7 |

¹ Nutritive values represented at 100% DM Basis for CP, crude protein; ADF, acid detergent fiber; NDF, neutral detergent fiber; TDN, total digestible nutrients; RFQ, relative forage quality (Analysis performed using Near Infrared Spectrometer [NIRS] Technology) Target stage of growth for harvest was late boot. Grass Hay Equation (NIRS Consortium, 2016).

This and other useful information can be found at your local Extension office, or on our website.



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