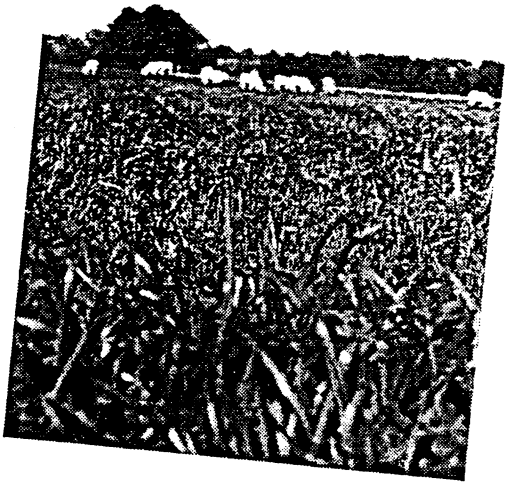

# PERFORMANCE OF RYEGRASS VARIETIES IN ALABAMA

## 1994-1995

AGRONOMY AND SOILS DEPARTMENTAL SERIES NO. 187
AUGUST 1995
ALABAMA AGRICULTURAL EXPERIMENT STATION
LOWELL T. FROBISH, DIRECTOR
AUBURN UNIVERSITY, ALABAMA

# PERFORMANCE OF RYEGRASS VARIETIES IN ALABAMA, 1994-95

K.M. Glass and D.I. Bransby[1]

The Alabama Ryegrass Variety Evaluation is a continuing study of available varieties and breeding lines from private companies and state agricultural experiment stations. Experiments are planted annually in northern, central, and southern locations to evaluate the varieties and lines under the different environmental conditions of Alabama. Entries in each experiment are determined by the companies or institutes which control each variety, or line, not by experiment station personnel. The experiments are conducted by experiment station personnel and the results are presented in a fair and unbiased manner.

## EXPERIMENTAL PROCEDURES AND DISCUSSION

Ryegrass entries were seeded at a 20-pound-per-acre rate in rows 7 inches apart, using plots 5 x 20 feet with four replications. Good stands were obtained at the following locations: Sand Mountain Substation, Crossville; E.V. Smith Research Center, Tallassee[2]; and Gulf Coast Substation, Fairhope.

The experiments were fertilized with phosphorus and potassium according to Auburn University soil test recommendations. At planting, nitrogen was applied at the rate of 50 pounds per acre, and an additional 50 pounds of N was applied per acre after each cutting. A 32- or 49-inch swath of each plot was harvested to a cutting height of 11/2 to 2 inches with a flail harvester each time the ryegrass reached 6-10 inches tall. A herbage sample of

---

[1]Research Assistant and Professor of Agronomy and Soils.

[2]Research conducted at the Plant Breeding Unit in Tallassee, which is a part of the E.V. Smith Research Center in Shorter.

approximately 1 pound was taken from each plot at each harvest for determining forage dry matter percentage.

In 1994, the tests were planted September 30, September 22, and October 19 at Crossville, Tallassee, and Fairhope, respectively. Wet, cloudy conditions reduced fall growth at Crossville. Adequate rainfall in October and November produced good fall growth at Tallassee. At Fairhope, rainfall was slightly below normal during winter, but did not seem to effect yield. Winter temperatures were mild for all locations allowing good forage production throughout the rest of the growing season. In 1993, the tests were planted on October 8, October 5, and October 26, at Crossville, Tallassee, and Fairhope, respectively.

Strategies to meet seasonal forage needs are an important consideration for livestock producers. Tables 1-3 provide yield data by harvest for 1994-95 at a given location, while tables 4-6 show 1, 2, and 3-year total yields by location. Seasonal and total forage dry matter yields by locations are provided in tables 7-9. The three seasonal periods are: fall- forage produced through February; early spring-March and early April production; and late spring-production after April 20. A 3-year average provides a more dependable comparison of ryegrass varieties than do single-year results.

## ACKNOWLEDGMENTS

Appreciation is expressed to Mien-Huei Tzeng, Research Data Analysis, for the data processing of this report. Also acknowledged are the contributions of J.T. Eason and M.E. Ruf, Sand Mountain Substation; E.L. Carden, N.R. McDaniel, and M.D. Pegues, Gulf Coast Substation; and S.P. Nightengale, E.V. Smith Research Center, for growing and harvesting the experiments.

## SOURCES OF RYEGRASS SEED

| | |
|---|---|
| LM 601<br>Florida | Barenburg USA, Tangent, Oregon |
| Rustmaster<br>WVPB-AR-90-1 | DLF Trifolium, Albany, Oregon |
| Southern Star | Forbes Seed & Grain, Junction City, Oregon |
| RIO | Olsen-Fennell Seeds, Inc., Salem, Oregon |
| Gulf (Oregon State) | Oregon State University, Corvallis, Oregon |
| Gulf (Source A) | Piedmont Fertilizer, Auburn, Alabama |
| Gulf (Source B) | Silverhill Farmer's Assn., Robertsdale, Alabama |
| Arme<br>Tetrablend 444 | Smith Seed Service, Halsey, Oregon |
| TAM 90<br>TA5<br>TXR93-8 | Texas A & M University, College Station, TXR91-Texas |
| Jackson<br>Marshall<br>WAX ME94 | The Wax Company, Inc., Amory, Mississipi |
| FL/OR X 1994 LR<br>Florida 80<br>Surrey | University of Florida, Gainesville, Florida |
| Grazer | USDA, Tifton, Georgia |
| Andrea<br>Columbus<br>Comet<br>Magnum<br>Max | Willamette Seed Company, Albany, Oregon |
| WVPB-AR-90-300<br>WVPB-AR-93-101<br>WVPB-AR-R-3<br>WVPB-AR-92-401<br>WVPB-AR-93-A-9<br>WVPB-AR-ETCO 8-88 | Willamette Valley Plant Breeders, Inc. Brownsville, Oregon |

TABLE 1. SEASONAL DRY MATTER YIELD OF RYEGRASS VARIETIES AT GULF COAST SUBSTATION, FAIRHOPE, ALABAMA, 1995

| Brand-variety | Acre Yield by Harvest Date | | | | | | Season Total |
|---|---|---|---|---|---|---|---|
| | 2/20 | 1/18 | 2/14 | 3/3 | 3/22 | 4/25 | |
| | *Lb.* | *Lb.* | *Lb.* | *Lb.* | *Lb.* | *Lb.* | *Lb.* |
| WAX ME94 | 2,745 | 1,585 | 1,432 | 1,544 | 1,463 | 2,393 | 11,162 |
| RIO | 2,236 | 1,422 | 1,073 | 1,375 | 1,319 | 2,394 | 9,819 |
| Andrea. | 2,460 | 1,318 | 1,167 | 1,237 | 1,334 | 2,005 | 9,521 |
| Jackson | 2,214 | 1,383 | 1,280 | 1,227 | 1,219 | 2,150 | 9,473 |
| Southern Star | 1,877 | 1,394 | 1,201 | 1,156 | 1,296 | 2,285 | 9,209 |
| FL/OR X 1994 LR | 1,502 | 1,321 | 1,096 | 1,444 | 1,411 | 2,281 | 9,055 |
| Gulf (Source A) | 2,393 | 1,344 | 1,035 | 962 | 1,062 | 2,069 | 8,865 |
| LM 601 | 2,706 | 1,315 | 1,047 | 1,123 | 1,048 | 1,616 | 8,855 |
| WVPB-AR-90-1 | 1,506 | 1,185 | 1,075 | 1,441 | 1,460 | 2,185 | 8,852 |
| Surrey | 1,829 | 1,276 | 1,108 | 1,320 | 1,203 | 2,099 | 8,835 |
| Florida 80. | 2,028 | 1,222 | 1,074 | 1,052 | 1,109 | 2,306 | 8,791 |
| Rustmaster | 1,661 | 1,397 | 1,108 | 1,385 | 1,287 | 1,902 | 8,740 |
| Columbus. | 1,788 | 1,302 | 1,175 | 1,184 | 1,242 | 1,984 | 8,675 |
| Marshall | 2,064 | 1,222 | 889 | 1,221 | 1,379 | 1,894 | 8,669 |
| Florida | 2,016 | 1,236 | 1,157 | 1,123 | 965 | 2,162 | 8,659 |
| Gulf (Source B) | 1,640 | 1,403 | 1,070 | 1,174 | 1,174 | 2,143 | 8,604 |
| MAX | 1,896 | 1,250 | 1,129 | 1,204 | 1,247 | 1,798 | 8,524 |
| Tetrablend 444T3 | 1,818 | 1,304 | 998 | 1,174 | 1,225 | 1,998 | 8,517 |
| Magnum | 1,912 | 1,325 | 1,164 | 1,081 | 1,147 | 1,879 | 8,508 |
| Gulf (Oregon State). | 1,761 | 1,295 | 1,069 | 1,034 | 1,147 | 2,193 | 8,499 |
| TAM 90 | 1,623 | 1,252 | 1,165 | 1,268 | 1,171 | 2,005 | 8,484 |
| Arm | 1,933 | 1,335 | 1,126 | 1,007 | 1,150 | 1,903 | 8,454 |
| TX R93-8 | 1,711 | 1,375 | 1,050 | 1,312 | 1,214 | 1,648 | 8,310 |
| Grazer | 1,814 | 1,282 | 1,121 | 1,160 | 979 | 1,610 | 7,966 |
| TX R91-TA5 | 1,301 | 1,132 | 1,106 | 1,267 | 1,249 | 1,797 | 7,852 |
| Comet | 2,100 | 1,179 | 1,110 | 1,020 | 974 | 1,415 | 7,798 |
| Test Mean | 1,944 | 1,310 | 1,116 | 1,211 | 1,211 | 2,004 | 8,796 |
| C.V. (%) | 23 | 11 | 12 | 12 | 8 | 11 | 8 |
| L.S.D. (.10) | 520 | 164 | 162 | 168 | 118 | 266 | 798 |

Planted: October 19, 1994.
Soil: Malbis Fine Sandy Loam.

TABLE 2. SEASONAL DRY MATTER YIELD OF RYEGRASS VARIETIES AT PLANT BREEDING UNIT, TALLASSEE, ALABAMA, 1995

| Brand-variety | Acre Yield by Harvest Date | | | | | | Season Total |
|---|---|---|---|---|---|---|---|
| | 11/17 | 12/14 | 3/2 | 3/20 | 3/21 | 4/25 | |
| | *Lb.* | *Lb.* | *Lb.* | *Lb.* | *Lb.* | *Lb.* | *Lb.* |
| Jackson | 1,277 | 622 | 722 | 590 | 620 | 1,837 | 5,668 |
| Surrey | 1,148 | 638 | 878 | 555 | 499 | 1,296 | 5,014 |
| Gulf (Oregon State) | 868 | 608 | 861 | 581 | 461 | 1,496 | 4,875 |
| WAX ME94 | 1,064 | 619 | 581 | 478 | 496 | 1,554 | 4,792 |
| Florida 80 | 966 | 663 | 907 | 420 | 473 | 1,290 | 4,719 |
| Grazer. | 558 | 663 | 1,049 | 488 | 384 | 1,488 | 4,630 |
| Marshall | 931 | 578 | 543 | 409 | 582 | 1,517 | 4,560 |
| Magnum | 777 | 576 | 859 | 579 | 515 | 1,214 | 4,520 |
| WVPB-AR-93-A-9. | 501 | 539 | 817 | 468 | 510 | 1,594 | 4,429 |
| WVPB-AR-90-300 | 610 | 614 | 776 | 360 | 485 | 1,514 | 4,359 |
| Gulf (Source B) | 448 | 595 | 843 | 399 | 383 | 1,644 | 4,312 |
| Arme | 465 | 574 | 783 | 530 | 529 | 1,427 | 4,308 |
| Southern Star | 645 | 584 | 746 | 458 | 474 | 1,357 | 4,264 |
| WVPB-AR-ETCO-8-88 | 493 | 511 | 805 | 502 | 726 | 1,152 | 4,189 |
| WVPB-AR-R-3 | 432 | 588 | 762 | 530 | 482 | 1,346 | 4,140 |
| TAM 90 | 424 | 563 | 754 | 498 | 537 | 1,344 | 4,120 |
| WVPB-AR-90-1 | 646 | 453 | 485 | 260 | 638 | 1,613 | 4,095 |
| Gulf (Source A) | 870 | 637 | 731 | 500 | 443 | 889 | 4,070 |
| Andrea | 744 | 547 | 664 | 427 | 506 | 1,171 | 4,059 |
| Comet | 847 | 635 | 735 | 401 | 284 | 1,100 | 4,002 |
| WVPB-AR-92-401 | 347 | 508 | 753 | 519 | 517 | 1,278 | 3,922 |
| FL/OR X 1994 LR | 460 | 496 | 563 | 345 | 540 | 1,512 | 3,916 |
| TX R93-8 | 545 | 469 | 580 | 434 | 539 | 1,328 | 3,895 |
| LM 601 | 872 | 565 | 634 | 358 | 491 | 970 | 3,890 |
| Columbus | 610 | 562 | 621 | 409 | 434 | 1,227 | 3,863 |
| Florida | 479 | 488 | 1,025 | 422 | 300 | 1,106 | 3,820 |
| WVPB-AR-93-101 | 287 | 469 | 558 | 510 | 429 | 1,486 | 3,739 |
| RIO | 326 | 415 | 617 | 458 | 511 | 1,385 | 3,712 |
| Tetrablend 444T3 | 422 | 521 | 578 | 364 | 467 | 1,313 | 3,665 |
| Rustmaster | 450 | 447 | 591 | 448 | 522 | 1,177 | 3,635 |
| MAX | 675 | 568 | 499 | 353 | 421 | 891 | 3,407 |
| TX R91-TA5 | 335 | 402 | 536 | 502 | 450 | 1,166 | 3,391 |
| Test Mean | 641 | 554 | 714 | 455 | 489 | 1,334 | 4,187 |
| C.V. (%) | 37 | 18 | 22 | 25 | 24 | 23 | 12 |
| L.S.D. (.10) | 276 | 116 | 186 | 132 | 138 | 355 | 612 |

Planted: September 22, 1994.
Soil: Cababa Fine Sandy Loam.

TABLE 3. SEASONAL DRY MATTER YIELD OF RYEGRASS VARIETIES AT SAND MOUNTAIN SUBSTATION, CROSSVILLE, ALABAMA, 1995

| Brand-variety | Acre Yield by Harvest Date | | | | | | Season Total |
|---|---|---|---|---|---|---|---|
| | 12/2 | 3/15 | 3/28 | 4/18 | 5/2 | 5/19 | |
| | *Lb.* | *Lb.* | *Lb.* | *Lb.* | *Lb.* | *Lb.* | *Lb.* |
| FL/OR X 1994 LR | 634 | 535 | 943 | 1,003 | 641 | 1,171 | 4,927 |
| Gulf (Source A) | 1,026 | 863 | 815 | 725 | 380 | 978 | 4,787 |
| WVPB-AR-90-1 | 643 | 389 | 868 | 1,060 | 646 | 1,107 | 4,713 |
| Surrey | 772 | 612 | 809 | 856 | 513 | 1,115 | 4,677 |
| WAX ME94 | 772 | 419 | 876 | 958 | 461 | 1,186 | 4,672 |
| Jackson | 913 | 380 | 895 | 923 | 478 | 1,067 | 4,656 |
| Marshall | 743 | 459 | 823 | 1,146 | 513 | 972 | 4,656 |
| Andrea | 880 | 348 | 710 | 1,137 | 536 | 949 | 4,560 |
| TAM 90 | 769 | 673 | 843 | 873 | 411 | 975 | 4,544 |
| RIO | 595 | 388 | 780 | 910 | 561 | 1,161 | 4,395 |
| Gulf (Oregon State) | 786 | 766 | 704 | 803 | 361 | 909 | 4,329 |
| Arme | 725 | 471 | 721 | 975 | 389 | 1,035 | 4,316 |
| Rustmaster | 601 | 504 | 814 | 861 | 432 | 1,005 | 4,217 |
| Tetrablend 444T3. | 730 | 352 | 710 | 827 | 517 | 1,055 | 4,191 |
| Gulf (Source B) | 646 | 653 | 777 | 811 | 331 | 960 | 4,178 |
| Southern Star. | 702 | 498 | 650 | 847 | 454 | 991 | 4,142 |
| Florida 80 | 623 | 555 | 723 | 901 | 319 | 1,007 | 4,128 |
| Grazer | 496 | 800 | 568 | 1,016 | 270 | 936 | 4,086 |
| Columbus | 644 | 307 | 762 | 778 | 698 | 843 | 4,032 |
| Magnum | 627 | 464 | 607 | 949 | 358 | 928 | 3,933 |
| TX R93-8 | 555 | 317 | 850 | 808 | 373 | 987 | 3,890 |
| LM 601 | 910 | 400 | 468 | 809 | 554 | 746 | 3,887 |
| Florida | 656 | 630 | 577 | 838 | 234 | 855 | 3,790 |
| TX R91-TA5 | 260 | 554 | 744 | 799 | 450 | 974 | 3,781 |
| MAX | 638 | 152 | 595 | 847 | 612 | 665 | 3,509 |
| Comet | 708 | 261 | 564 | 759 | 449 | 654 | 3,395 |
| Test Mean | 694 | 490 | 738 | 893 | 459 | 970 | 4,246 |
| C.V. (%) | 23 | 33 | 16 | 15 | 17 | 13 | 9 |
| L.S.D. (.10) | 184 | 190 | 142 | 155 | 90 | 144 | 464 |

Planted: September 30, 1994.
Soil: Hartsells Fine Sandy Loam.

TABLE 4. TOTAL DRY MATTER YIELD OF RYEGRASS VARIETIES, 1995, AND TWO- AND THREE-YEAR AVERAGES, GULF COAST SUBSTATION, FAIRHOPE, ALABAMA

| Brand-variety | Dry Matter/Acre | | |
|---|---|---|---|
| | 1995 | 2-Yr. Av. (1994-1995) | 3-Yr. Av. (1993-1995) |
| | *Lb.* | *Lb.* | *Lb.* |
| Jackson | 9,473 | 9,196 | 9,542 |
| RIO | 9,819 | 9,109 | 9,513 |
| Rustmaster | 8,740 | 9,111 | 9,500 |
| Florida 80 | 8,791 | 9,030 | 9,273 |
| Gulf (Source B) | 8,604 | 8,900 | 9,090 |
| Gulf (Source A) | 8,865 | 8,680 | 9,082 |
| Surrey | 8,835 | 8,395 | 9,053 |
| Gulf (Oregon State) | 8,499 | 8,793 | 9,007 |
| TAM 90 | 8,484 | 8,626 | 8,994 |
| Southern Star | 9,209 | 9,066 | - |
| Marshall | 8,669 | 8,691 | - |
| FL/OR X 1994 LR | 9,055 | 8,598 | - |
| Arme | 8,454 | 8,524 | - |
| WAX ME94 | 11,162 | - | - |
| Andrea | 9,521 | - | - |
| LM 601 | 8,855 | - | - |
| WVPB-AR-90-1 | 8,852 | - | - |
| Columbus | 8,675 | - | - |
| Florida | 8,659 | - | - |
| MAX | 8,524 | - | - |
| Tetrablend 444T3 | 8,517 | - | - |
| Magnum | 8,508 | - | - |
| TX R93-8 | 8,310 | - | - |
| Grazer | 7,966 | - | - |
| TX R91-TA5 | 7,852 | - | - |
| Comet | 7,798 | - | - |

TABLE 5. TOTAL DRY MATTER YIELD OF RYEGRASS VARIETIES, 1995, AND TWO- AND THREE-YEAR AVERAGES, PLANT BREEDING UNIT, TALLASSEE, ALABAMA

| Brand-variety | Dry Matter/Acre | | |
|---|---|---|---|
| | 1995 | 2-Yr. Av. (1994-1995) | 3-Yr. Av. (1993-1995) |
| | *Lb.* | *Lb.* | *Lb.* |
| Surrey | 5,014 | 4,916 | 5,691 |
| Marshall | 4,560 | 4,883 | 5,649 |
| Gulf (Source B) | 4,312 | 4,232 | 5,480 |
| Gulf (Oregon State) | 4,875 | 4,379 | 5,479 |
| Florida 80 | 4,719 | 4,504 | 5,426 |
| Gulf (Source A) | 4,070 | 4,373 | 5,409 |
| Rustmaster | 3,635 | 4,087 | 5,374 |
| RIO | 3,712 | 4,455 | 5,184 |
| WVPB-AR-90-300 | 4,359 | 4,470 | 5,176 |
| WVPB-AR-90-1 | 4,095 | 4,485 | 5,144 |
| TAM 90 | 4,120 | 4,133 | 5,117 |
| Jackson | 5,668 | 5,433 | - |
| Southern Star. | 4,264 | 4,700 | - |
| Arme | 4,308 | 4,641 | - |
| WVPB-AR-93-101 | 3,739 | 4,459 | - |
| FL/OR X 1994 LR | 3,916 | 4,365 | - |
| WAX ME94 | 4,792 | - | - |
| Grazer | 4,630 | - | - |
| Magnum | 4,520 | - | - |
| WVPB-AR-93-A-9 | 4,429 | - | - |
| WVPB-AR-ETCO-8-88 | 4,189 | - | - |
| WVPB-AR-R-3 | 4,140 | - | - |
| Andrea | 4,059 | - | - |
| Comet | 4,002 | - | - |
| WVPB-AR-92-401 | 3,922 | - | - |
| TX R93-8 | 3,895 | - | - |
| LM 601 | 3,890 | - | - |
| Columbus | 3,863 | - | - |
| Florida | 3,820 | - | - |
| Tetrablend 444T3 | 3,665 | - | - |
| MAX | 3,407 | - | - |
| TX R91-TA5 | 3,391 | - | - |

TABLE 6. TOTAL DRY MATTER YIELD OF RYEGRASS VARIETIES, 1995, AND TWO- AND THREE-YEAR AVERAGES, SAND MOUNTAIN SUBSTATION, CROSSVILLE, ALABAMA

| Brand-variety | Dry Matter/Acre | | |
|---|---|---|---|
| | 1995 | 2-Yr. Av. (1994-1995) | 3-Yr. Av. (1993-1995) |
| | *Lb.* | *Lb.* | *Lb.* |
| Marshall | 4,656 | 4,596 | 5,051 |
| Surrey | 4,677 | 4,268 | 4,763 |
| Gulf (Source A) | 4,787 | 4,282 | 4,555 |
| RIO | 4,395 | 4,130 | 4,554 |
| TAM 90 | 4,544 | 4,293 | 4,455 |
| Rustmaster | 4,217 | 3,966 | 4,320 |
| Gulf (Oregon State) | 4,329 | 4,045 | 4,295 |
| Florida 80 | 4,128 | 3,941 | 4,273 |
| Gulf (Source B) | 4,178 | 3,901 | 4,266 |
| FL/OR X 1994 LR | 4,927 | 4,535 | - |
| Jackson | 4,656 | 4,421 | - |
| Southern Star | 4,142 | 4,065 | - |
| Arme | 4,316 | 3,694 | - |
| WVPB-AR-90-1 | 4,713 | - | - |
| WAX ME94 | 4,672 | - | - |
| Andrea | 4,560 | - | - |
| Tetrablend 444T3 | 4,191 | - | - |
| Grazer | 4,086 | - | - |
| Columbus | 4,032 | - | - |
| Magnum | 3,933 | - | - |
| TX R93-8 | 3,890 | - | - |
| LM 601 | 3,887 | - | - |
| Florida. | 3,790 | - | - |
| TX R91-TA5 | 3,781 | - | - |
| MAX | 3,509 | - | - |
| Comet | 3,395 | - | - |

TABLE 7. THREE-YEAR AVERAGE SEASONAL DISTRIBUTION OF RYEGRASS VARIETY FORAGE PRODUCTION, GULF COAST SUBSTATION, FAIRHOPE, ALABAMA, 1993-1995

| Brand-variety | Seasonal Forage Yield/Acre | | | |
|---|---|---|---|---|
| | Fall | Early Spring | Late Spring | Total |
| | *Lb.* | *Lb.* | *Lb.* | *Lb.* |
| Jackson | 3,739 | 4,333 | 1,470 | 9,542 |
| RIO | 3,544 | 4,281 | 1,688 | 9,513 |
| Rustmaster | 3,521 | 4,531 | 1,449 | 9,500 |
| Florida 80 | 3,607 | 4,172 | 1,494 | 9,273 |
| Gulf (Source B) | 3,849 | 3,855 | 1,386 | 9,090 |
| Gulf (Source A) | 3,741 | 3,901 | 1,441 | 9,082 |
| Surrey | 3,322 | 4,261 | 1,470 | 9,053 |
| Gulf (Oregon State) | 3,780 | 3,836 | 1,390 | 9,007 |
| TAM 90 | 3,433 | 4,139 | 1,421 | 8,994 |

TABLE 8. THREE-YEAR AVERAGE SEASONAL DISTRIBUTION OF RYEGRASS VARIETY FORAGE PRODUCTION, PLANT BREEDING UNIT, TALLASSEE, ALABAMA, 1993-1995

| Brand-variety | Seasonal Forage Yield/Acre | | | |
|---|---|---|---|---|
| | Fall | Early Spring | Late Spring | Total |
| | *Lb.* | *Lb.* | *Lb.* | *Lb.* |
| Surrey | 767 | 2,761 | 2,163 | 5,691 |
| Marshall | 747 | 2,634 | 2,268 | 5,649 |
| Gulf (Source B) | 704 | 2,616 | 2,160 | 5,480 |
| Gulf (Oregon State) | 793 | 2,681 | 2,005 | 5,479 |
| Florida 80 | 754 | 2,639 | 2,033 | 5,426 |
| Gulf (Source A) | 805 | 2,846 | 1,758 | 5,409 |
| Rustmaster | 523 | 2,776 | 2,075 | 5,374 |
| RIO | 401 | 2,605 | 2,178 | 5,184 |
| WVPB-AR-90-300 | 535 | 2,548 | 2,092 | 5,176 |
| WVPB-AR-90-1 | 491 | 2,546 | 2,107 | 5,144 |
| TAM 90 | 533 | 2,669 | 1,914 | 5,117 |

TABLE 9. THREE-YEAR AVERAGE SEASONAL DISTRIBUTION OF RYEGRASS VARIETY FORAGE PRODUCTION, SAND MOUNTAIN SUBSTATION, CROSSVILLE, ALABAMA, 1993-1995

| Brand-variety | Seasonal Forage Yield/Acre | | | |
|---|---|---|---|---|
| | Fall | Early Spring | Late Spring | Total |
| | *Lb.* | *Lb.* | *Lb.* | *Lb.* |
| Marshall | 384 | 2,720 | 1,947 | 5,051 |
| Surrey | 366 | 2,459 | 1,938 | 4,763 |
| Gulf (Source A) | 522 | 2,302 | 1,732 | 4,555 |
| RIO | 321 | 2,338 | 1,894 | 4,554 |
| TAM 90 | 407 | 2,391 | 1,657 | 4,455 |
| Rustmaster | 294 | 2,340 | 1,686 | 4,320 |
| Gulf (Oregon State) | 447 | 2,260 | 1,589 | 4,295 |
| Florida 80 | 335 | 2,217 | 1,721 | 4,273 |
| Gulf (Source B) | 458 | 2,263 | 1,545 | 4,266 |