Performance of Ryegrass Varieties in Alabama, 1991-92

Department of Agronomy and Soils  Departmental Series 162
Alabama Agricultural Experiment Station  Auburn University
Lowell T. Frobish, Director  Auburn University, Alabama
August 1992
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. 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; 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 1 1/2 to 2 inches with a flail harvester each time the ryegrass reached 6-10 inches tall. A herbage sample of approximately 1 pound was taken from each plot at each harvest for determining forage dry matter percentage.

1Associate Professor, Professor, and Research Technician of Agronomy and Soils.
Due to dry soil conditions in fall of 1990, experiments at Fairhope and Tallassee were not planted until October 30 and 25, respectively. The experiment at Crossville was planted September 20, 1990. In 1989, the experiments were all planted by October 13. In 1991, the tests were planted on September 20, October 1, and October 10, at Crossville, Tallassee, and Fairhope, respectively. Above average temperatures recorded at all locations in 1991-92 resulted in good fall and winter growth. There was a severe shortage of moisture in late April and all of May resulting in very low late spring production.

Strategies to meet seasonal forage needs are an important consideration for livestock producers. Tables 1-3 provide yield data by harvest for 1991-92 at a given location, while tables 4-6 show one-, two-, and three-year total yields by location. Dry matter forage is recorded for seasonal and total yields by locations in tables 7-9. The four seasonal periods are: autumn-forage produced through December; winter-January and February production; 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 Mein-Huei Tzeng and to the late Mrs. Sally Bagwell, 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.

Information contained herein is available to all persons regardless of race, color, sex, or national origin.
**SOURCES OF RYEGRASS SEED**

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<th>Variety</th>
<th>Source</th>
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<td>Jackson</td>
<td>Delta and Pine Land Co., Scott, Mississippi</td>
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<tr>
<td>Marshall</td>
<td>Delta and Pine Land Co., Scott, Mississippi</td>
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<tr>
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<td>DLF Trifolium, Albany, Oregon</td>
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<td>Rustmaster</td>
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<td>Surry</td>
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<tr>
<td>TAM 90</td>
<td>Texas A &amp; M University, Overton, Texas</td>
</tr>
<tr>
<td>Tetragrazer 4-4-2</td>
<td>Pennington Seed, Inc., Lebanon, Oregon</td>
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<tr>
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**PLANTED:** OCTOBER 10, 1991.
**SOIL:** MALBIS FINE SANDY LOAM.
TABLE 2. SEASONAL DRY MATTER YIELD OF RYEGRASS VARIETIES AT E.V. SMITH RESEARCH CENTER, TALLASSEE, ALABAMA, 1992

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SOIL: CAHABA FINE SANDY LOAM.
TABLE 3. SEASONAL DRY MATTER YIELD OF RYEGRASS VARIETIES AT SAND MOUNTAIN SUBSTATION, CROSSVILLE, ALABAMA, 1992

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| C.V. (%)            |      |      |      |      |      | 5     |
| L.S.D. (.10)        |      |      |      |      |      | 313   |

SOIL: HARTSELLS FINE SANDY LOAM.
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TABLE 6. TOTAL DRY MATTER YIELD OF RYEGRASS VARIETIES, 1992, AND TWO- AND THREE-YEAR AVERAGES, SAND MOUNTAIN SUBSTATION, CROSSVILLE, ALABAMA

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