

# MISSISSIPPI ANNUAL COOL- SEASON FORAGE CROP

## VARIETY TRIALS, 2022

Information Bulletin 571 • September 2022



**MISSISSIPPI'S OFFICIAL VARIETY TRIALS**



**MISSISSIPPI STATE UNIVERSITY™**  
MS AGRICULTURAL AND  
FORESTRY EXPERIMENT STATION

# Mississippi Annual Cool-Season Forage Crop Variety Trials, 2022

---

## ***MAFES Official Variety Trial Contributors***

### **Joshua White**

Variety Testing Manager  
Department of Plant and Soil Sciences  
Mississippi State University

### **Brett Rushing**

Associate Extension/Research Professor  
Coastal Plain Branch Experiment Station  
Mississippi State University  
Newton, Mississippi

---

Recognition is given to research technician Melvin Gibson at the South Mississippi Branch Experiment Station for ground preparations. In addition, recognition is given to student worker Joey Hester for his assistance in cultivating, packing, planting, harvesting, and recording plot data.

This document was approved for publication as Information Bulletin 571 of the Mississippi Agricultural and Forestry Experiment Station. It was published by the Office of Agricultural Communications, a unit of the Mississippi State University Division of Agriculture, Forestry, and Veterinary Medicine. It is a contribution of the Mississippi Agricultural and Forestry Experiment Station.

Copyright 2022 by Mississippi State University. All rights reserved. This publication may be copied and distributed without alteration for nonprofit educational purposes provided that credit is given to the Mississippi Agricultural and Forestry Experiment Station.

Find variety trial information online at [mafes.msstate.edu/variety-trials](https://mafes.msstate.edu/variety-trials).

# Mississippi Annual Cool-Season Forage Crop Variety Trials, 2022

## INTRODUCTION

Varieties of several forage crops species are evaluated every year in the Mississippi Agricultural and Forestry Experiment Station (MAFES) small-plot forage trials. Entries are provided by seed companies as well as forage and breeding programs at state universities. Experimental and commercially available varieties are tested at one or more locations across Mississippi. All entries from privately owned companies are tested on a fee basis. Some varieties may be added by the MAFES forage variety testing program as a reference for comparison purposes. In addition, varieties of interest may also be added when applicable. Testing during 2020–2021 was conducted at the following locations: Leveck Animal Research Center Forage Unit (Mississippi State campus), Black Belt Branch

Experiment Station (Brooksville, Mississippi), Coastal Plain Branch Experiment Station (Newton, Mississippi), and McNeill Research Unit (McNeill, Mississippi). The ryegrass trial in Brooksville was injured by herbicide drift, likely from aerial application. As a result, data were not included from ryegrass plots in Brooksville.

Data presented in Tables 2–9 are used to evaluate the performance of each forage crop within its respective trial. Mean and harvest comparisons were statistically evaluated by using the least significant difference (LSD) test at the probability level of  $\alpha = 0.05$ . The LSD value represents the minimum amount of dry matter yield that must be observed between any two varieties to determine if the difference was due to the variety's performance alone. Sources of seed are presented in Table 10.

## PROTOCOL

Annual ryegrass, small grains, and annual clover trials across the state were established between October and November of 2021. At all locations, soil samples were taken and analyzed by the Mississippi State University Soil Testing Laboratory. Trial areas were amended with lime and fertilized with phosphorus ( $P_2O_5$ ) and potassium ( $K_2O$ ) according to the soil test recommendations for individual species. Grass trials were additionally fertilized with 50 pounds of N per acre at planting and after the first harvest using urea ammonium sulfate (33-0-0/11S). Plots were 6 feet by 10 feet and planted using an ALMACO (Nevada, Iowa) precision cone seeder on a prepared seedbed. The trial design was a randomized complete block replicated four times. The seeding rates used are presented in Table 1.

| Type/Species          | Seed rate   |
|-----------------------|-------------|
|                       | <i>lb/A</i> |
| <b>Annual Grasses</b> |             |
| Rye                   | 100         |
| Oat                   | 100         |
| Triticale             | 100         |
| Ryegrass              | 30          |
|                       |             |
| <b>Annual Clovers</b> |             |
| Arrowleaf             | 10          |
| Berseem               | 25          |
| Balansa               | 4           |
| Ball                  | 3           |
| Crimson               | 30          |
| Persian               | 8           |

Individual trials were harvested when 75% of the plots achieved 15 inches of growth. All plots were harvested to a 3-inch stubble height. Plots were harvested using a Winterstieger Cibus F (Winterstieger AG, Ried, Austria) equipped with a forage plot harvester reel type header that collected a 4.8-foot-by-10-foot swath to calculate

the total yield. A subsample was collected and dried at 130°F until constant a weight was achieved to calculate dry matter concentration. Data were analyzed using the General Linear Model (PROC GLM) of SAS and mean separation was conducted using LSD at  $\alpha = 0.05$ .

## ANNUAL RYEGRASS

### Introduction

Annual ryegrass is the most relevant and versatile cool-season annual grass for livestock producers in Mississippi. In pasture and hay systems, annual ryegrass is a popular forage because of its ease of establishment, high nutritive value, high yielding potential, good reseeding ability, and adaptability to a wide range of soil types. Annual ryegrass can be established in pure stands or mixed with small grains and/or clovers for cool-season forage production. For these reasons, annual ryegrass is a staple for many cool-season grazing programs in Mississippi. Recommended planting dates vary by location but usually fall between September and mid-October for prepared seedbeds or late October if overseeded on a warm-season perennial grass pasture. Seeding rates are 30 pounds per acre for pure stands and 20 pounds per acre for mixtures with small grains and/or clovers. Annual ryegrass is very responsive to nitrogen fertilizer, and its use should be split into two applications for grazing systems. Reasonable productivity can be expected from November to May in the southern part of Mississippi and February to May in the northern part of Mississippi. Annual ryegrass should normally be allowed to reach an initial height of at least 10 inches before grazing begins.

### Results

Data in Tables 2–5 present the yield performance of ryegrass varieties across Mississippi. The mean yield of the first harvest was 1,124, 1,162, and 1,350 pounds per acre for Starkville, Newton, and McNeill, respectively. The mean yield of the second harvest and subsequent total yield was greatest in McNeill. Newton was the only

location that was only harvested twice, possibly due to dryer conditions combined with sandier soils. McNeill yields were above average for south Mississippi (8,686 pounds per acre), possibly due to relatively high organic matter soils being utilized after forage rotation.



**Table 2. Annual ryegrass production by harvest date and total yield in Starkville.**

| Variety             | 2/11/22            | 3/14/22            | 4/21/22             | Total yield         |
|---------------------|--------------------|--------------------|---------------------|---------------------|
| Andes               | <i>lb/A</i><br>477 | <i>lb/A</i><br>884 | <i>lb/A</i><br>2422 | <i>lb/A</i><br>3783 |
| Angusta             | 669                | 1177               | 2785                | 4632                |
| B-21.1159           | 763                | 1008               | 2605                | 4376                |
| Bashaw Diploid      | 1687               | 1334               | 2588                | 5610                |
| Bashaw Tetraploid   | 1199               | 1481               | 3265                | 5945                |
| Big Boss            | 774                | 964                | 3071                | 4809                |
| Centurion           | 1167               | 908                | 2482                | 4557                |
| Diamond T           | 1555               | 1270               | 2608                | 5433                |
| Double Diamond      | 993                | 1091               | 2675                | 4759                |
| Earlyploid          | 1572               | 1298               | 2723                | 5592                |
| Flying A            | 910                | 890                | 2395                | 4195                |
| FrostProof          | 1493               | 1121               | 2560                | 5173                |
| GO-MOT              | 1101               | 842                | 1650                | 3593                |
| Green Farm 2        | 576                | 1085               | 2938                | 4599                |
| Grits               | 1814               | 929                | 2245                | 4988                |
| Jackson             | 1298               | 1325               | 3185                | 5808                |
| KB Shield           | 1841               | 932                | 2487                | 5261                |
| KB Supreme          | 1705               | 999                | 2176                | 4879                |
| Lonestar            | 1798               | 1087               | 2824                | 5710                |
| Mantis              | 910                | 1056               | 2710                | 4676                |
| Marshall            | 326                | 410                | 1904                | 2640                |
| ME-4                | 725                | 1037               | 2766                | 4528                |
| ME-94               | 712                | 992                | 3108                | 4812                |
| Nelson              | 963                | 1018               | 2714                | 4695                |
| New Dawn            | 1050               | 1073               | 2849                | 4972                |
| Prine               | 1728               | 1318               | 2477                | 5523                |
| Ranahan             | 1233               | 1276               | 2920                | 5429                |
| Ration              | 828                | 851                | 2538                | 4216                |
| RM4L                | 868                | 1106               | 2791                | 4765                |
| TAMTBO              | 990                | 804                | 2720                | 4515                |
| TAS-TARG-21         | 1097               | 1080               | 2965                | 5142                |
| Tetrastar           | 1285               | 1143               | 2491                | 4919                |
| Triangle T          | 1120               | 927                | 2423                | 4471                |
| Trinova             | 1412               | 1067               | 2602                | 5081                |
| Winterhawk          | 1065               | 870                | 2444                | 4379                |
| WMWL                | 729                | 795                | 2579                | 4103                |
| WMWL-2              | 1167               | 1039               | 2789                | 4995                |
| Mean                | 1124               | 1040               | 2634                | 4799                |
| LSD <sub>0.05</sub> | NS                 | 618                | 791                 | 1812                |
| CV, %               | 40                 | 35                 | 18                  | 23                  |

Planted: 10/11/21  
 Fertilizer: 50 lb N/A (33-0-0S) after planting and after the first harvest  
 Herbicide: 1 qt/A of GrazonNext® (aminopyralid and 2,4-D) after the first harvest  
 Soil type: Savannah fine sandy loam

**Table 3. Annual ryegrass production by harvest date and total yield in Newton.**

| Variety             | 3/7/21      | 4/12/21     | Total yield |
|---------------------|-------------|-------------|-------------|
|                     | <i>lb/A</i> | <i>lb/A</i> | <i>lb/A</i> |
| Andes               | 900         | 2083        | 2983        |
| Angusta             | 1058        | 2206        | 3264        |
| B-21.1159           | 1023        | 2094        | 3116        |
| Bashaw Diploid      | 1332        | 2455        | 3787        |
| Bashaw Tetraploid   | 1115        | 2431        | 3546        |
| Big Boss            | 975         | 2171        | 3145        |
| Centurion           | 1154        | 2395        | 3549        |
| Diamond T           | 1383        | 1588        | 2970        |
| Double Diamond      | 518         | 2155        | 2673        |
| Earlyploid          | 1333        | 2074        | 3407        |
| Flying A            | 1840        | 2097        | 3936        |
| FrostProof          | 1145        | 1957        | 3102        |
| GO-MOT              | 1023        | 2409        | 3432        |
| Green Farm 2        | 1138        | 2155        | 3292        |
| Grits               | 1547        | 1473        | 3020        |
| Jackson             | 1252        | 2310        | 3562        |
| KB Shield           | 1624        | 2417        | 4040        |
| KB Supreme          | 1284        | 2178        | 3461        |
| Lonestar            | 994         | 2377        | 3371        |
| Mantis              | 1189        | 2284        | 3473        |
| Marshall            | 905         | 2560        | 3465        |
| ME-4                | 1041        | 2304        | 3345        |
| ME-94               | 1311        | 2176        | 3487        |
| Nelson              | 1162        | 2203        | 3364        |
| New Dawn            | 1295        | 1927        | 3222        |
| Prine               | 1462        | 2362        | 3824        |
| Ranahan             | 1136        | 2031        | 3167        |
| Ration              | 1071        | 1942        | 3012        |
| RM4L                | 753         | 2371        | 3123        |
| TAMTBO              | 866         | 2289        | 3155        |
| TAS-TARG-21         | 819         | 2453        | 3272        |
| Tetrastar           | 1612        | 2253        | 3865        |
| Triangle T          | 1216        | 1985        | 3201        |
| Trinova             | 1107        | 2328        | 3435        |
| Winterhawk          | 1037        | 2068        | 3105        |
| WMWL                | 1081        | 2493        | 3574        |
| WMWL-2              | 1312        | 2299        | 3611        |
| Mean                | 1162        | 2199        | 3361        |
| LSD <sub>0.05</sub> | 645         | 607         | 872         |
| CV, %               | 34          | 16          | 15          |

Planted: 10/15/21  
 Fertilizer: 50 lb N/A (33-0-0S) after planting and after the first harvest  
 Herbicide: 1 qt/A of GrazonNext® (aminopyralid and 2,4-D) after the first harvest  
 Soil type: Prentiss sandy loam

**Table 4. Annual ryegrass production by harvest date and total yield in McNeil.**

| Variety             | 2/1/22              | 3/29/22             | 5/13/22             | Total yield         |
|---------------------|---------------------|---------------------|---------------------|---------------------|
| Andes               | <i>lb/A</i><br>1529 | <i>lb/A</i><br>5166 | <i>lb/A</i><br>2587 | <i>lb/A</i><br>9283 |
| Angusta             | 1308                | 6292                | 2274                | 9874                |
| B-21.1159           | 773                 | 5073                | 2277                | 8123                |
| Bashaw Diploid      | 1703                | 5660                | 1372                | 8735                |
| Bashaw Tetraploid   | 1299                | 5753                | 1437                | 8489                |
| Big Boss            | 1221                | 5368                | 2377                | 8966                |
| Centurion           | 1638                | 5230                | 1701                | 8569                |
| Diamond T           | 1654                | 6036                | 1576                | 9265                |
| Double Diamond      | 1001                | 4425                | 2570                | 7996                |
| Earlyploid          | 1194                | 6257                | 1577                | 9028                |
| Flying A            | 1652                | 4917                | 1396                | 7965                |
| FrostProof          | 1059                | 6054                | 1936                | 9049                |
| GO-MOT              | 1622                | 4966                | 3166                | 9754                |
| Green Farm 2        | 762                 | 5316                | 1277                | 7355                |
| Grits               | 1567                | 6841                | 1663                | 10071               |
| Jackson             | 1002                | 5272                | 2028                | 8302                |
| KB Shield           | 1656                | 4910                | 1849                | 8415                |
| KB Supreme          | 1344                | 4342                | 2084                | 7770                |
| Lonestar            | 1620                | 4951                | 1706                | 8277                |
| Mantis              | 1572                | 6236                | 2262                | 10070               |
| Marshall            | 1204                | 3433                | 3028                | 7665                |
| ME-4                | 1892                | 4378                | 3099                | 9369                |
| ME-94               | 1084                | 4540                | 2200                | 7824                |
| Nelson              | 1572                | 5213                | 1928                | 8712                |
| New Dawn            | 1149                | 5657                | 1638                | 8444                |
| Prine               | 1480                | 6519                | 2293                | 10292               |
| Ranahan             | 1584                | 5975                | 2821                | 10380               |
| Ration              | 740                 | 4135                | 2386                | 7261                |
| RM4L                | 1116                | 5335                | 2084                | 8535                |
| TAMTBO              | 1309                | 5192                | 2954                | 9456                |
| TAS-TARG-21         | 1357                | 4986                | 3754                | 10097               |
| Tetrastar           | 1523                | 5228                | 1357                | 8108                |
| Triangle T          | 1178                | 5092                | 2063                | 8333                |
| Trinova             | 1356                | 5887                | 1403                | 8646                |
| Winterhawk          | 1375                | 4718                | 2014                | 8107                |
| WMWL                | 1539                | 3844                | 2135                | 7518                |
| WMWL-2              | 1315                | 3942                | 2019                | 7277                |
| Mean                | 1350                | 5220                | 2116                | 8686                |
| LSD <sub>0.05</sub> | 723                 | 1632                | 691                 | 2117                |
| CV, %               | 38                  | 22                  | 23                  | 17                  |

Planted: 10/21/21  
 Fertilizer: 50 lb N/A (33-0-0S) after planting and after the first harvest  
 Herbicide: 1 qt/A of GrazonNext® (aminopyralid and 2,4-D) after the first harvest  
 Soil type: Ruston fine sandy loam

# SMALL GRAINS

## Introduction

In Mississippi, small grains (oat, wheat, rye, and triticale) are not used as extensively for forage production as annual ryegrass because of lower annual dry matter yields. However, some small grains tend to be more drought- and cold-tolerant than ryegrass and can provide highly digestible forage when other forages are not available. They can also be used for early grazing during the transition period from summer perennial grasses to annual ryegrass grazing. Cereal rye and triticale have greater cold tolerance among small grains; therefore, they have the potential to continue vegetative growth during the fall and winter months in Mississippi.



## Results

Data in Table 5–8 represent forage dry matter yields in Starkville, Brooksville, Newton, and McNeill. The greatest yields for the small-grain test were observed in McNeill. A relatively warm winter with adequate moisture led to above-average yields in the southernmost location. The greatest yields were observed from March to April at all locations. Some disease pressure was noticed in Brooksville (Table 9), and lower-than-normal yields were recorded in Newton. Figures 1 and 2 illustrate the variability of disease pressure observed in Brooksville on small-grain plots.





**Table 5. Small grain production by harvest date and total yield in Starkville.**

| Species   | Variety   | 1/28/22     | 3/14/22     | 4/21/22     | Total yield  |
|---|-----------|-------------|-------------|-------------|--------------|
|   |           | <i>lb/A</i> | <i>lb/A</i> | <i>lb/A</i> | <i>lb /A</i> |
| OR140760  | Barley    | 969         | 766         | 1760        | 3495         |
| OR140789  | Barley    | 512         | 268         | 1346        | 2126         |
| OR140797  | Barley    | 645         | 841         | 2211        | 3697         |
| Intimidator   | Oats      | 1561        | 355         | 953         | 2869         |
| OR-0367   | Oats      | 1099        | 946         | 2595        | 4640         |
| Ram   | Oats      | 1340        | 657         | 2322        | 4318         |
| Shooter   | Oats      | 1972        | 547         | 1191        | 3710         |
| Trical Swift  | Rye       | 1962        | 2316        | 1803        | 6081         |
| Merlin Max  | Triticale | 1207        | 616         | 1414        | 3236         |
| Trical 1143   | Triticale | 1841        | 565         | 1713        | 4119         |
| Trical 342  | Triticale | 1561        | 622         | 1224        | 3407         |
| Trical 344  | Triticale | 2538        | 424         | 1648        | 4609         |
| Trical Surge  | Triticale | 1013        | 848         | 1797        | 3657         |
| SSI30-06  | Wheat     | 579         | 930         | 2710        | 4219         |
| Mean  |           | 1343        | 764         | 1763        | 3870         |
| LSD <small>(0.05)</small>   |           | 1108        | 536         | 458         | 1644         |
| CV, %   |           | 38          | 35          | 18          | 29           |
| Planted: 10/11/21<br>Fertilizer: 50 lb N/A (33-0-0S) after planting and the first harvest<br>Herbicide: 1 qt/A of GrazonNext® (aminopyralid and 2,4-D) after the first harvest<br>Soil type: Savannah fine sandy loam |           |             |             |             |              |

**Table 6. Small grain production by harvest date and total yield in Brooksville.**

| Species   | Variety   | 2/4/22      | 4/4/22      | Total yield |
|---|-----------|-------------|-------------|-------------|
|   |           | <i>lb/A</i> | <i>lb/A</i> | <i>lb/A</i> |
| OR140760  | Barley    | 417         | 1366        | 1783        |
| OR140789  | Barley    | 380         | 1116        | 1496        |
| OR140797  | Barley    | 76          | 820         | 895         |
| Intimidator   | Oats      | 441         | 468         | 909         |
| OR-0367   | Oats      | 110         | 1616        | 1726        |
| Ram   | Oats      | 783         | 1229        | 2012        |
| Shooter   | Oats      | 950         | 1432        | 2382        |
| Trical Swift  | Rye       | 1327        | 1704        | 3031        |
| Merlin Max  | Triticale | 548         | 964         | 1512        |
| Trical 1143   | Triticale | 782         | 717         | 1499        |
| Trical 342  | Triticale | 1285        | 1187        | 2472        |
| Trical 344  | Triticale | 956         | 1004        | 1960        |
| Trical Surge  | Triticale | 884         | 1709        | 2592        |
| SSI30-06  | Wheat     | 85          | 672         | 757         |
| Mean  |           | 645         | 1143        | 1787        |
| LSD <small>(0.05)</small>   |           | 975         | 649         | 1468        |
| CV, %   |           | 36          | 39          | 28          |
| Planted: 10/15/21<br>Fertilizer: 50 lb N/A (33-0-0S) after planting and after the first harvest<br>Herbicide: 1 qt/A of GrazonNext® (aminopyralid and 2,4-D) after the first harvest<br>Soil type: Silty clay |           |             |             |             |

**Table 7. Small grain production by harvest date and total yield in Newton.**

| Species               | Variety   | 2/1/21      | 3/7/21      | 4/12/21     | Total yield |
|-----------------------|-----------|-------------|-------------|-------------|-------------|
|                       |           | <i>lb/A</i> | <i>lb/A</i> | <i>lb/A</i> | <i>lb/A</i> |
| OR140760              | Barley    | 871         | 1128        | 821         | 2820        |
| OR140789              | Barley    | 664         | 1178        | 1204        | 3046        |
| OR140797              | Barley    | 473         | 1036        | 850         | 2358        |
| Intimidator           | Oats      | 726         | 663         | 166         | 1554        |
| OR-0367               | Oats      | 581         | 731         | 512         | 1824        |
| Ram                   | Oats      | 763         | 769         | 482         | 2013        |
| Shooter               | Oats      | 827         | 726         | 445         | 1998        |
| Trical Swift          | Rye       | 536         | 1032        | 303         | 1870        |
| Merlin Max            | Triticale | 670         | 1003        | 452         | 2124        |
| Trical 1143           | Triticale | 661         | 733         | 96          | 1489        |
| Trical 342            | Triticale | 722         | 809         | 169         | 1700        |
| Trical 344            | Triticale | 671         | 764         | 190         | 1625        |
| Trical Surge          | Triticale | 491         | 932         | 241         | 1664        |
| SSI30-06              | Wheat     | 266         | 845         | 1037        | 2148        |
| Mean                  |           | 637         | 882         | 497         | 2017        |
| LSD <sub>(0.05)</sub> |           | NS          | 216         | 228         | 607         |
| CV, %                 |           | 35          | 17          | 323         | 21          |

Planted: 10/15/21  
 Fertilizer: 50 lb N/A (33-0-0S) after planting and after the first harvest  
 Herbicide: 1 qt/A of GrazonNext® (aminopyralid and 2,4-D) after the first harvest  
 Soil type: Prentiss Sandy Loam

**Table 8. Small grain production by harvest date and total yield in McNeil.**

| Species               | Variety   | 2/1/21      | 3/39/21     | 5/13/21     | Total yield |
|-----------------------|-----------|-------------|-------------|-------------|-------------|
|                       |           | <i>lb/A</i> | <i>lb/A</i> | <i>lb/A</i> | <i>lb/A</i> |
| OR140760              | Barley    | 597         | 5460        | 867         | 6924        |
| OR140789              | Barley    | 692         | 2602        | 1016        | 4310        |
| OR140797              | Barley    | 564         | 3188        | 1120        | 4872        |
| Intimidator           | Oats      | 1358        | 3838        | 519         | 5715        |
| OR-0367               | Oats      | 888         | 6295        | 577         | 7760        |
| Ram                   | Oats      | 1108        | 5207        | 874         | 7189        |
| Shooter               | Oats      | 1848        | 3608        | 1149        | 6605        |
| Trical Swift          | Rye       | 1256        | 8332        | 998         | 10586       |
| Merlin Max            | Triticale | 1054        | 5187        | 915         | 7157        |
| Trical 1143           | Triticale | 989         | 8313        | 412         | 9713        |
| Trical 342            | Triticale | 405         | 6791        | 544         | 7740        |
| Trical 344            | Triticale | 1032        | 6787        | 473         | 8292        |
| Trical Surge          | Triticale | 658         | 4755        | 570         | 5983        |
| SSI30-06              | Wheat     | 701         | 2546        | 3120        | 6368        |
| Mean                  |           | 939         | 5208        | 940         | 7087        |
| LSD <sub>(0.05)</sub> |           | 514         | 1462        | 372         | 1734        |
| CV, %                 |           | 35          | 19          | 27          | 17          |

Planted: 10/21/21  
 Fertilizer: 50 lb N/A (33-0-0S) after planting and after the first harvest  
 Herbicide: 1 qt/A of GrazonNext® (aminopyralid and 2,4-D) after the first harvest  
 Soil type: Ruston fine sandy loam

# DISEASE RATINGS

**Table 9. Small grain disease rating in Brooksville.**

| Species               | Variety   | Rated 3/21/22 |
|-----------------------|-----------|---------------|
| OR140760              | Barley    | 2.50          |
| OR140789              | Barley    | 1.25          |
| OR140797              | Barley    | 2.25          |
| Intimidator           | Oats      | 3.75          |
| OR-0367               | Oats      | 3.00          |
| Ram                   | Oats      | 3.50          |
| Shooter               | Oats      | 2.50          |
| Trical Swift          | Rye       | 2.75          |
| Merlin Max            | Triticale | 2.75          |
| Trical 1143           | Triticale | 3.50          |
| Trical 342            | Triticale | 3.25          |
| Trical 344            | Triticale | 3.25          |
| Trical Surge          | Triticale | 2.50          |
| SSI30-06              | Wheat     | 2.00          |
| Mean                  |           | 2.75          |
| LSD <sub>(0.05)</sub> |           | 0.88          |
| CV, %                 |           | 22.00         |

Planted: 10/15/21  
 Rating: 1 = not severe; 5 = severe  
 Soil type: silty clay



**Figure 1. Small grain with severe (5) disease rating.**



**Figure 2. Small grain with minimal disease (1) rating.**

**Table 10. Seed sources for the 2020–21 annual cool-season forage variety testing program.**

| <b>Species/Variety</b> | <b>Seed company/source</b> | <b>Species/Variety</b> | <b>Seed company/source</b> |
|------------------------|----------------------------|------------------------|----------------------------|
| <b>Annual Ryegrass</b> |                            | <b>Small Grains</b>    |                            |
| Bashaw                 | Bashaw Land and Seed Inc.  | Shooter                | Oregro Seeds               |
| Bashaw                 | Bashaw Land and Seed Inc.  | Intimidator            | Oregro Seeds               |
| B-21.1159              | Blue Moon Farms            | OR-0367                | Oregro Seeds               |
| Augusta                | DLF                        | OR140760               | Oregro Seeds               |
| Andes                  | DLF                        | OR140789               | Oregro Seeds               |
| New Dawn               | DLF                        | OR140797               | Oregro Seeds               |
| Lonestar               | Grassland Oregon           | Ram Oat                | Ragan and Massey           |
| TetraStar              | Grassland Oregon           | SS130-06               | Specialty Seed Inc.        |
| GO-MOT                 | Grassland Oregon           | Trical 342             | Trical Superior Forage     |
| KB Supreme             | GS3 Quality Seeds          | Trical Surge           | Trical Superior Forage     |
| KB Shield              | GS3 Quality Seeds          | Trical 1143            | Trical Superior Forage     |
| Grits                  | Lewis Seed Co.             | Trical 344             | Trical Superior Forage     |
| Centurion              | MVS                        | Trical Swift           | Trical Superior Forage     |
| Ranahan                | MVS                        | Merlin Max             | Trical Superior Forage     |
| Flying A               | Oregro Seeds               | SS130-06               | Specialty Seed Inc.        |
| Winterhawk             | Oregro Seeds               |                        |                            |
| Diamond T              | Oregro Seeds               |                        |                            |
| TAMTBO                 | Oregro Seeds               |                        |                            |
| Triangle T             | Oregro Seeds               |                        |                            |
| Double Diamond         | Oregro Seeds               |                        |                            |
| Prine                  | Ragan and Massey           |                        |                            |
| Earlyploid             | Ragan and Massey           |                        |                            |
| RM4L                   | Ragan and Massey           |                        |                            |
| Mantis                 | Smith Seed Services        |                        |                            |
| Trinova                | Smith Seed Services        |                        |                            |
| Big Boss               | Smith Seed Services        |                        |                            |
| Green Farm 2           | Smith Seed Services        |                        |                            |
| FrostProof             | Smith Seed Services        |                        |                            |
| Marshall               | The Wax Company LLC        |                        |                            |
| Jackson                | The Wax Company LLC        |                        |                            |
| Nelson                 | The Wax Company LLC        |                        |                            |
| ME-94                  | The Wax Company LLC        |                        |                            |
| ME-4                   | The Wax Company LLC        |                        |                            |
| WMWL                   | The Wax Company LLC        |                        |                            |
| WMWL-2                 | The Wax Company LLC        |                        |                            |
| Ration                 | Thomas Ag Services LLC     |                        |                            |
| TAS-TARG-21            | Thomas Ag Services LLC     |                        |                            |



The mission of the Mississippi Agricultural and Forestry Experiment Station and the College of Agriculture and Life Sciences is to advance agriculture and natural resources through teaching and learning, research and discovery, service and engagement which will enhance economic prosperity and environmental stewardship, to build stronger communities and improve the health and well-being of families, and to serve people of the state, the region and the world.

Scott Willard, Director

[www.mafes.msstate.edu](http://www.mafes.msstate.edu)

Mention of a trademark or proprietary product does not constitute a guarantee or warranty of the product by the Mississippi Agricultural and Forestry Experiment Station and does not imply its approval to the exclusion of other products that also may be suitable.

Discrimination based on race, color, ethnicity, sex (including pregnancy and gender identity), religion, national origin, disability, age, sexual orientation, genetic information, status as a U.S. veteran, and/or any other status protected by state or federal law is prohibited in all employment decisions.