PUBLICATIONS

1989

Ryegrass Forage Variety Evaluation at Beeville, 1987-88 and 1988-89

D. F. Bryn, W. R. Ocumpaugh, J. N. Rahmes, and D. Martinez, Jr.

Summary

This report presents forage yield data for clipping tests on ryegrass at Beeville, Texas. Data are presented for 1987-1988 and 1988-1989 growing seasons. An experimental line, TX862L, produced the most forage in both years while Alamo Blend produced the least. TX862L also was the only line which yielded more than oats ($P<0.05$). When ryegrass is mixed with oats it helps guard against forage shortages following mid-winter freezes and can extend the grazing season later into the spring.

Introduction

Many ryegrass varieties are available to be planted as winter forage crops. Furthermore, plant breeders are continuely developing new varieties better adapted to regional environmental stresses. This research was conducted to evaluate the forage yield potential of several experimental and commercial lines of ryegrass in South Texas.

Ryegrass, if used in South Texas, is used for winter pasture on prepared seedbed in place of, or mixed with, oats. One of the reasons ryegrass has not been widely accepted is the moisture conditions of the area. Ryegrass is planted shallow (<1") while small grains are planted deep (>1.5"). Even though ryegrass is planted at the same time as oats it may lie in dust for some time before adequate moisture is provided for germination and growth.

Procedures

Nine to 10 commercial and experimental lines of ryegrass were evaluated for forage production at Beeville in each of 2 years. In addition, TAMO 386 oat was included in 1987-1988 as a comparison. The study was planted September 24, 1987 and October 12, 1988. The 1987-1988 study was on a Clareville sandy clay loam site while the 1988-1989 site was a Parrita sandy clay loam. It was drilled at 0.75 inches in 5-row plots with 10-inch spacing, 15 ft in length. Ryegrass seeding rate was 35 lbs/A. The oat check was drilled 1.5 inches deep using a 100 lb/A seeding rate. A preplant application of 46 lbs P_2O_5/A was made each year. In 1987-1988, N-fertilizer was applied at 52, 46, and 46 lbs/A on November 23, February 26, and April 12, respectively. In 1988-1989, 75 lbs N/A was applied November 28, 1988, and 50 lbs N/A was applied February 22, 1989. Broadleaf weeds were controlled with 2,4-D applied in January at 0.75 and 0.5 lb/A in 1987 and 1988, respectively.

Due to severe drought conditions in South Texas during both growing seasons, both experiments were irrigated. Approximately 1 to 1.5 inches of water was applied three to four times each growing season.

Results and Discussion

Forage dry matter yield for 1987-1988 (Table 1) was greater than for 1988-1989 (Table 2), probably as a result of irrigation and N fertilizer differences. A Texas experimental line, TX862L, led in total dry matter yield both years (Tables 1 and 2). A Florida experimental line, FLX1986LR, was third in 1987-1988 and second in 1988-1989. Alamo Blend was the lowest yielding line in both years. Ryegrass was generally more productive than TAMO 386 oats in late spring. Water likely limited yield in both years.

While ryegrass may not allow the early grazing that oats can, it has several advantages over oats. It generally allows longer spring grazing, is resistant to iron deficiency chlorosis (common in oats on the higher pH soils of South Texas), and is resistant to frost/freeze damage (Ocumpaugh 1988). These advantages make it an ideal mix with oats for winter pasture in South Texas, often extending the grazing season into June and maintaining forage growth after an infrequent winter freeze.

TABLE 1. RYEGRASS DRY MATTER YIELD FOR 1987-1988 AT TAES-BEEVILLE

	Harvest Date				
Variety/Line	Feb 24	Apr 1	May 5	Jun 7	Total
	Dry Matter lbs/A				
TX862L	1,603	2,107	1,779	337	5,827
TX861	1,680	2,283	1,551	173	5,688
FLX1986LR	1,058	2,659	1,506	444	5,668
TX851	1,194	2,461	1,545	267	5,567
Gulf	774	2,119	1,239	303	4,435
Tetragold	847	1,747	1,504	236	4,334
Florida 80	554	2,188	1,227	342	4,310
Tamo 386 Oats	1,195	2,539	349	35	4,163
Marshall	662	1,624	1,437	439	4,163
Alamo Blend	651	912	1,192	579	3,334
Mean	1,022	2,064	1,337	315	4,739
LSD (0.05)	960	1,130	731	211	1,619
CV	65	38	38	46	24

KEYWORDS: *Lolium multiflorum* Lam./South Texas/winter pasture.

TABLE 2. RYEGRASS DRY MATTER YIELD FOR 1988-1989 AT TAES-BEEVILLE

Variety/Line	Harvest Date			
	Feb. 10	Mar. 30	May 26	Total
	Dry Matter lbs/A			
TX862L	1,324	2,163	482	3,968
FLX1986LR	1,212	2,002	621	3,835
TXR881	1,352	1,914	568	3,833
Tetragold	1,397	1,925	495	3,817
Florida 80	1,311	2,020	460	3,791
Gulf	1,400	1,917	412	3,729
TXR851	1,225	2,010	416	3,651
Marshall	1,290	1,745	588	3,623
TXR852	1,250	1,861	478	3,588
Alamo Blend	1,155	1,534	429	3,118
Mean	1,292	1,909	495	3,695
LSD (0.05)	278	448	234	600
CV	15	16	33	11

Literature Cited

1. Ocumpaugh, W. R. 1988. Cattle Performance and Carrying Capacity of Oat and Wheat Pastures Seeded with Clover and Ryegrass. 1988 American Forage and Grassland Conference, Baton Rouge, LA. p 92-96.