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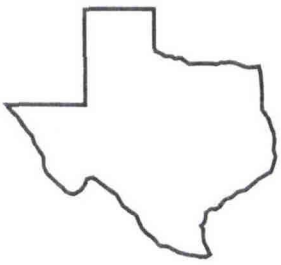

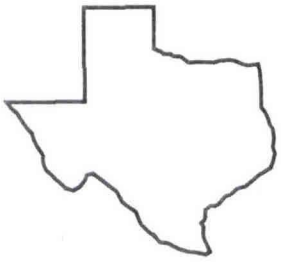

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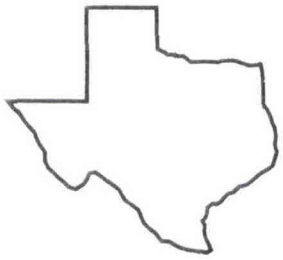

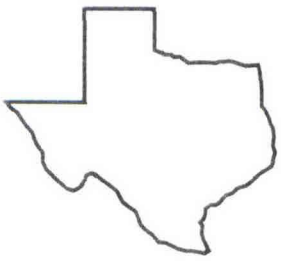

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EFFECT OF GRAZING TERMINATION DATE ON VOLUNTEER RESEEDING OF ANNUAL RYEGRASS VARIETIES

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Background. Ryegrass types grown in the southeastern US are annuals and must be established from seed each autumn. Annual ryegrass seeding costs range from $10 to $25/acre depending on variety, seeding rate, and planting method. Annual ryegrass will volunteer each autumn from seed produced the previous spring if it is not grazed or mowed during seed development. A study was undertaken at the Texas A&M University Agricultural Research and Extension Center at Overton to determine how late some annual ryegrass varieties can be grazed in the spring and still produce sufficient seed to produce a good volunteer stand the following autumn. 'Gulf', 'Marshall', 'TAM 90', and selection TxR-89-EN-1 ryegrass were seeded in a 'Coastal' bermudagrass sod in the autumn of 1990 with three grazing termination dates. The study was repeated in the autumn of 1992 with four grazing termination dates.

Research Findings. Grazing termination dates used the first year were April 1, April 21, and May 14, 1991, which were 3 weeks apart. Volunteer ryegrass seedling density counts were made on November 22, 1991. Ryegrass seedlings/16 $in.^2$ decreased as the grazing season was extended through May 14 (Fig. 1). Planting ryegrass at 25 lb/acre produces 5-7 seedlings/16 $in.^2$. Satisfactory volunteer ryegrass occurred for all varieties if grazing was terminated on April 21 or earlier. Grazing ryegrass until May 14 resulted in very few volunteer ryegrass seedlings.

Four grazing termination dates 2 weeks apart were used when the study was repeated in 1992-93. Good volunteer ryegrass stands occurred if grazing was terminated on April 29 or earlier except for Gulf (Fig. 2). TAM 90 and TxR-89-EN-1 had the highest seedling density at each termination date with Marshall being intermediate. Seed production of Gulf in the spring was similar to the other cultivars (data not shown). Poor reseeding of Gulf may have been due to summer germination. Six inches of rain fell June 19 and 20 which may have germinated most of the Gulf seed if it had poor high temperature dormancy.

Application. Annual ryegrass can be managed for successful reseeding. Grazing should be terminated by May 1 or earlier to allow for good seed production. The pasture may be grazed after ryegrass seedheads turn brown. The area should be grazed or mowed short by October 1 the following fall to allow sunlight to reach the soil surface to improve volunteer ryegrass stands. TAM 90 ryegrass demonstrated better reseeding potential than Gulf or Marshall.

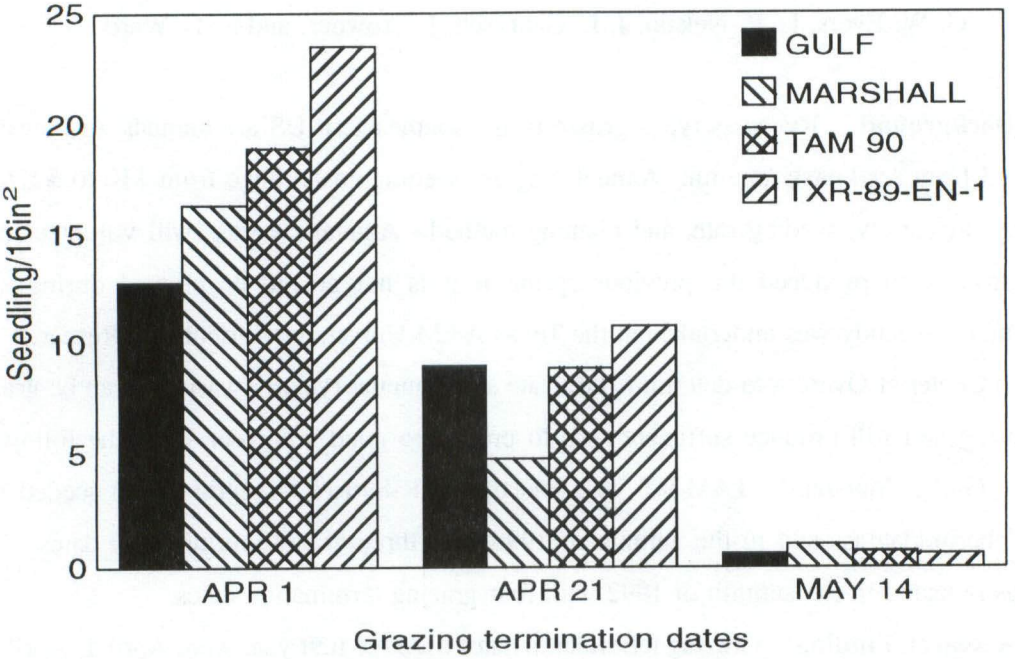

Fig.1 Volunteer ryegrass seedling density in Autumn 1991.

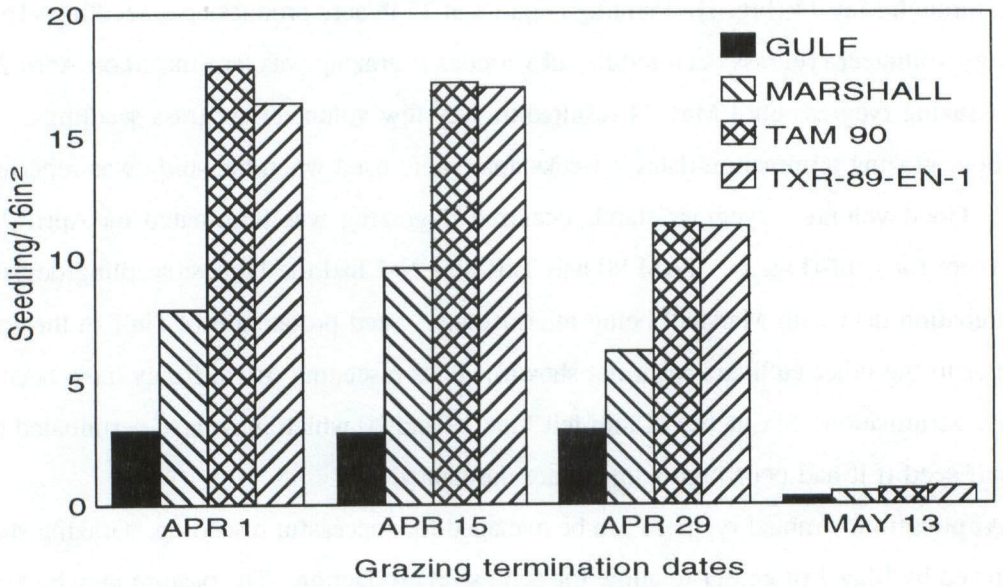

Fig.2 Volunteer ryegrass seedling density in Autumn 1993.