



Effects of Irrigation and Grazing Systems on Steer Performance and Plant Response in an Old World Bluestem Pasture

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Our objective was to investigate different alternatives for beef production using improved forage. A combination of continuous and 3-pasture grazing system and 2 rates of irrigation (0 and 75 mm ha⁻¹) were used as treatments and applied to three repetitions of a WW-B.Dahl pastures. Average daily gain, beef production per ha and grass standing crop were measured during two consecutive summers. Steers were individually weighed every 28 days from June to September of 1999 and 2000. No interactions were found between the three factors studied (irrigation, grazing system, and grazing period) on animal performance on both years. In 1999, steers on irrigated pastures gained more weight than those on non-irrigated plots regardless of grazing system and period. ADG did not differ between grazing systems. During 2000, ADG was not affected by irrigation, grazing system, or grazing period. Beef production per ha was different between rates of irrigation and between grazing periods regardless of the system observed in 1999. More beef per ha was produced on the continuously grazed pastures compared to the rotational grazed pastures during 2000. Overall in both years, continuous irrigated pastures yield the best gains per animal, and also per ha. The non-irrigated rotational grazing system was the treatment with the lowest performance. Irrigated pastures always had higher standing crop than non-irrigated. In regard to the grazing systems, continuous vs. rotational grazed pastures did not differ in standing crop. When compared within irrigation rate, the continuous system produced the most and proved to be better than the rotational. When compared within the continuous grazing system, irrigated pastures were better than non-irrigated. Comparisons within rotational system showed no significant difference between rates of irrigation.

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