



FORAGE FACTS

Publication Series

IRRIGATED PASTURE

INTRODUCTION

Irrigated pasture can be a high producing, high quality forage alternative to traditional grazing options and assist feedlots with organized cattle placement. Irrigated pastures have been primarily used for stocker cattle, but the use of irrigated pasture for cow/calf operations has increased. Irrigated pasture is a high-investment, high-management grazing system that requires the efficient conversion of forage to pounds of beef throughout the grazing season.

MANAGEMENT CONSIDERATIONS

Producers using irrigated pasture in southwest and south central Kansas have reported high performance for forage and livestock. Management requirements are 20 to 24 inches of irrigation above normal precipitation, 200 to 300 pounds of nitrogen applied in split applications, and 20 to 40 pounds of phosphorus annually. Production costs are about the same as a well-managed corn crop on the same field.

Species used successfully are primarily smooth brome grass, cool-season mixes and Matua prairie brome grass. Warm-season pastures have not been economically practical due to the limited use season, normally May through mid-September.

Very few species or mixtures have been used for long periods of time on irrigated pastures. Sharp's #6 (from Sharp Brothers Seed; Healy, Kansas) is a mixture of smooth brome, meadow brome, orchard grass and creeping foxtail. After two to four years, the bromes will provide the bulk of the forage and creeping foxtail will dominate around wet areas or standing water. Matua prairie brome grass, a cool-season perennial from New Zealand, has been in use for a few years on irrigated pastures. However, several stands have been recently reduced by winterkill.

Two management considerations must be evaluated when using mixtures. First, the species must be of equal palatability or have growth patterns that allow grazing to move from one species as it reaches maturity to the next species as it begins vegetative growth. Mixtures that have palatability differences and grow with the same growth patterns have not been practical. Secondly, most mixtures of warm-season and cool-season species have not worked well because one will dominate the other. The exception is the use of rye, triticale, annual ryegrass or similar annuals interseeded into a warm-season perennial in late August or early September. This system works best when the cool-season is grazed-out by the start of the warm-season's spring growth.

LIVESTOCK PERFORMANCE

Stocker gains have exceeded 2 pounds per head per day in May and June, but generally drop to 1¼ to 1½ pounds per day in July and August. From late August to mid-November, gains usually attain 2 pounds per day. Utilizing two to three groups of animals each year is common practice on irrigated pastures.

Carrying capacities have been in the 8 to 12 AUM per acre range. Typical stocking rates for stockers and cow/calf pairs are shown in Table 1.

Table 1. The following stocking rates are typical on irrigated land capable of 150 bushels of corn per acre.

Season of year	Stockers	Cow/calf
----pounds of live animal per acre----		
Late April through June	2,500	2,500
July through mid-September	1,000	900
Mid-September through November	1,500	1,350

GRAZING SYSTEMS

Rotational grazing is highly recommended for irrigated pastures. Eight paddocks appears to be ideal, but six can be effective especially when two circles are used. Destruction of the plants in the narrow points at the pivot can reduce the total acres available for grazing. The rotation system should be based on using 40 to 50 percent of available forage each time through to obtain best animal and forage performance.

Cool-season forage production is similar to brome or fescue with 40 to 50 percent of the dry matter produced from May to early June. Twenty to 40 percent of the dry matter will be produced from late June through August (depending on water application and temperature), and 20 to 30 percent will be produced in the fall.

Livestock water can be located at several places in the circle. If nitrogen fertilizer is injected through the pivot system, DO NOT USE the pivot for livestock water. Water sources can be located on the perimeter of the circle and serve several paddocks by using a pen and rotating the animals through the pen.

OTHER PUBLICATIONS

Stocking Rate and Grazing Management (MF-1118)

Stocking Distribution (MF-515)

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