View metadata, citation and similar papers at core.ac.uk

brought to you by CORE

provided by Kansas State University

Kansas Agricultural Experiment Station Research Reports

Volume 0
Issue 12 *Keeping up with Research*

Article 118

1983

Seasonal Pasture for Ewes in Northwestern Kansas

Frank J. Schwulst

Evans E. Banbury

Follow this and additional works at: https://newprairiepress.org/kaesrr

Recommended Citation

Schwulst, Frank J. and Banbury, Evans E. (1983) "Seasonal Pasture for Ewes in Northwestern Kansas," *Kansas Agricultural Experiment Station Research Reports*: Vol. 0: Iss. 12. https://doi.org/10.4148/2378-5977.7355

This report is brought to you for free and open access by New Prairie Press. It has been accepted for inclusion in Kansas Agricultural Experiment Station Research Reports by an authorized administrator of New Prairie Press. Copyright 1983 Kansas State University Agricultural Experiment Station and Cooperative Extension Service. Contents of this publication may be freely reproduced for educational purposes. All other rights reserved. Brand names appearing in this publication are for product identification purposes only. No endorsement is intended, nor is criticism implied of similar products not mentioned. K-State Research and Extension is an equal opportunity provider and employer.

K-STATE Research and Extension

Seasonal Pasture for Ewes in Northwestern Kansas

Keywords

Keeping up with research; 68 (Mar. 1983); Kansas Agricultural Experiment Station contribution; no. 83-45-S; Seasonal pasture; Ewes; Kansas; Pasture

Creative Commons License

This work is licensed under a Creative Commons Attribution 4.0 License.

This research report is available in Kansas Agricultural Experiment Station Research Reports: https://newprairiepress.org/kaesrr/vol0/iss12/118

This publication from Kansas State University Agricultural Experiment Station and Cooperative Extension Service has been archived.
Current information: http://www.ksre.ksu.edu.

AES Keeping Up With Research 28

FEBRUARY 1977

Seasonal Pasture for Ewes in Northwestern Kansas[1]

by Frank J. Schwulst and Evans E. Banbury[2]

The Colby Branch of the Kansas State University Agricultural Experiment Station has been investigating seasonal pastures for ewes several years, including cereal crops, legumes, annual grasses, and perennial grasses. All pastures studied were irrigated once or were under approximate full irrigation.

Cereal crops studied include winter wheat, winter and spring barley, rye, triticale, and millet. The legumes were alfalfa and sweetclover. Grasses studied included sudan, a wheat-wheatgrass hybrid, and perennial ryegrass.

This report summarizes results from that seasonal pasture research.

Pastures irrigated pre-planting received one application to bring the available soil moisture in the 5-foot profile to approximately ten inches; none after the crop was planted. Under that system, fall-planted rye and winter barley pastures provided 623(2) and 533(1) ewe grazing days per acre, respectively, during the fall and winter grazing season. Numbers in parentheses are how many years data were recorded. When ewe and lamb pairs grazed during fall and winter 458(6) days were obtained

1. Contribution 167, Colby Branch, Agricultural Experiment Station, Kansas State University.
2. Meat Animal Research Scientist and Superintendent of Colby Branch Station, respectively.

AGRICULTURAL EXPERIMENT STATION
Kansas State University, Manhattan
Floyd W. Smith, Director

This publication from Kansas State University Agricultural Experiment Station and Cooperative Extension Service has been archived.
Current information: http://www.ksre.ksu.edu.

from rye and 477(1) days per acre from winter wheat. Fall-planted winter wheat supplied an additional 493(1) ewe grazing days per acre during the spring grazing season.

Winter wheat planted and grazed in the spring yielded only 221(1) ewe grazing days. Grazing days obtained from winter barley, 478(4), and spring barley, 477(5), both were planted and grazed in the spring.

Pastures under full irrigation were irrigated prior to planting to have approximately ten inches of available soil moisture in the first five feet soil depth plus two or three five-inch irrigations during the growing season. That more than doubled ewe grazing days per acre for all fall-planted cereals compared with pre-plant irrigation only. The increase in grazing capacity probably resulted from two main factors: increased growth and recovery rate of the crops; and extended grazing time. Fall-planted cereals fully irrigated were grazed from mid-September until early June, but cereals grazed until June were never harvested for grain.

Under full irrigation rye provided more grazing days per acre, 1709(5), than other cereal crops tested. A wheat-wheatgrass hybrid produced 1500(3) grazing days per acre; winter wheat produced 1440(4) days and Triticale Fas Gro 131 produced 1372(3) grazing days per acre.

Table 1.—Average Ewe Grazing Days Per Acre Under Pre-Planting Irrigation.*

Crop	Fall-grazed[a]		Spring-grazed	Summer-grazed
	Ewe	Ewe & Lamb	Ewe	Ewe
Fall-Planted				
Rye	632 (2)	458 (6)		
Winter wheat		477 (1)	493 (1)	
Winter barley	533 (1)			
Spring-Planted				
Winter wheat			221 (1)	
Winter barley			478 (1)	
Spring barley			477 (5)	
Sudangrass				1063 (5)

* Approximately 8-10 inches available soil moisture in the first five feet soil depth (continuously cropped).

(a) Includes grazing to late February.

( ) Numbers in parentheses = years of records.

Spring planted sudangrass produced 1063(5) grazing days per acre under pre-irrigation only and 1441(4) grazing days under approximate full irrigation. All sudan grazing days have been from mid-summer to frost.

Linn perennial ryegrass, a recent addition to our pasture research, has shown indication of being a prolific producer of grazing days under irrigation. During the summer of 1975 it produced 2910(1) grazing days per acre. However, it suffered extensive damage from win-

This publication from Kansas State University Agricultural Experiment Station
and Cooperative Extension Service has been archived.
Current information: http://www.ksre.ksu.edu.

ter-kill. So its ability to survive winters in northwestern Kansas may limit its usefulness there.

Alfalfa under full irrigation produced 2150(4) grazing days per acre. Alfalfa grazing days have been from mid-May to frost. The alfalfa has shown no winter-kill.

We have had no ewes bloat on the cereal and grass pastures, and alfalfa pastures have produced very little bloat. In one study comparing a bloat preventing agent with no bloat preventative, the bloat preventative was discontinued since bloating was so rare among non-treated ewes. However, ewes grazing alfalfa always were observed and managed very carefully.

Planting rates of 90, 120, and 150 pounds of seed per acre were used to study the effects of planting rate on grazing days per acre provided by triticale, wheat-wheatgrass, rye, and barley during the 1973-1974 and 1974-1975 grazing seasons. Barley replaced rye the second year. Ewe grazing days per acre increased as planting rate increased only for the wheat-wheatgrass hybrid. No trend was apparent in the other crops.

How much will grazing decrease the grain yield of wheat? Three years' data indicate that the decrease varies greatly with length of grazing period and the stage of the wheat's development when it is grazed. A plot of wheat not grazed produced 55.2 bushels of grain per acre. A total of 609 grazing days per acre between October 20 and January 20 was followed by harvesting 52.0 bushels per acre. Grazing by lambs from January 20 to April 20 produced 670 grazing days, but reduced grain yield to 22.7 bushels per acre. When wheat was grazed, as growth allowed, from October 20 through April 20 grain yields were reduced 20 to 25 bushels per acre compared with wheat not grazed. Grazing days per acre provided during the longer grazing season did not differ greatly from the number of days obtained during the shorter grazing periods.

During the 1975-1976 grazing season ewes were pastured on four wheat varieties under full irrigation. Ewe grazing days produced were: Scout 66, 2828; Centurk, 2699; Eagle, 2471; and Buckskin, 2388. Totals were markedly more than from any previous grazing tests. This is due to limiting ewes in this test to no more than half-day grazing. They maintained weight while limited to half-day grazing with no supplementary grain or forage.

Table 3.—Effect of Planting Rate on Ewe Grazing Days Per Acre.

Crop	Years of data	Rate	Ewe Grazing Days/Acre
Triticale	2	90	1353
		120	1188
		150	1422
Wheat-wheatgrass	2	90	1485
		120	1588
		150	1906
Rye	1	90	1748
		120	1879
		150	1771
Barley	1	90	1152
		120	1099
		150	1109

Table 2.—Average Ewe Grazing Days Per Acre Under Approximate Full Irrigation.*

Crop	Late Sept.-early June	Mid-May-late June	Mid-June-early Sept.	Early July to frost
Fall-planted				
Rye	1705 (5)			
Triticale Graze Grain 70	764 (2)			
Triticale Fas Gro 131	1372 (3)			
Winter wheat	1440 (4)			
Wheat-wheatgrass hybrid	1500 (3)			
Winter barley	1119 (1)			
Spring-planted				
Wheat-wheatgrass hybrid			1011 (2)	
Winter barley		1159 (1)		
Millet				758 (1)
Sudangrass				1441 (4)
Linn perennial ryegrass				2910 (1)
Alfalfa				2150 (4)**

* Irrigated prior to planting to approximately ten inches available soil moisture in the first five feet soil depth plus 2 or 3 five-inch applications during growing season.

** Grazed from mid-May to frost.

( ) Numbers in parentheses = years of records.

This publication from Kansas State University Agricultural Experiment S and Cooperative Extension Service has been archived.
Current information: http://www.ksre.ksu.edu.

Table 4.—Effect of Feeder Lamb Grazing on Wheat Grain Yield (1968-1970).*

Grazing period	ADG by lambs, lb. Fall	Spring	Grazing days per acre	Wheat yield, bu/A
No graze				55.2
Oct. 20-Jan. 20	.44		609	52.0
Jan. 20-April 20		.40	670	22.7
Oct. 20-April 20	.49	.35	625	34.1
Oct. 20-April 20**	.51	.39	641	30.9

* = Planting dates: Aug. 23, 1968; Aug. 22, 1969; Aug. 20, 1970. Planting rates: 90 lb./acre except for non-graze plots 60 lb./acre.

** = Added 50 lb. N/acre March 15.

Corn stalks, milo stover, and wheat stubble also offer sheep producers a way to reduce ewe feed costs. The residues may be harvested or grazed. In January and February, 1976, a flock of ewes was divided into two groups of 82 ewes each. One group grazed 7½ acres of corn stalks supplemented with one pound of alfalfa hay per head daily; the other was maintained in drylot. Those in drylot received six pounds of sorghum silage and one pound of alfalfa hay per head daily. Initial weights and average weights during the first 34 days on test were about equal for the two groups. However, after 34 days, ewes on the corn stalks did not maintain weight. By that time ewes on the corn stalks had cleaned up all the grain lost during harvesting and had consumed most of the husks and other leafy material leaving only the less palatable bare stalks.

Publications and public meetings by the Kansas Agricultural Experiment Station are available and open to the public regardless of race, color, national origin, sex, or religion. 2M—2-77