Project 253-3: Effect of Grazing System on Livestock and Vegetation

A Comparison of Different Methods of Grazing Bluestem Pastures

Ed F. Smith - A. G. Pickett
and Kling Anderson

It is important that we know as much as possible about the carrying capacity of our bluestem pastures. Cattlemen in general are interested in obtaining as much gain as possible from their grass in keeping with sound management. They would like to know whether there is any method of increasing the safe stocking load and maintaining gain as well as grass. Also the effect of such increase on forage species, stand and vigor, and weed population.

EXPERIMENTAL PROCEDURE

Six pastures containing 60 acres each are being used in this study and were managed as follows in 1949:

Pasture 1: Normal rate of stocking, 4 acres per head

Pasture 2: Overstocked, 3 1/3 acres per head

Pasture 3: Not stocked during May, turned on June 1, 3 acres per head

Pastures 4, 5 and 6: Deferred and rotation grazing, 4 acres per head. All steers were held in two pastures until June 20, then turned into the protected pasture until deemed advisable to allow them the run of all three pastures which in 1949 was August 5.

The stocking rates are flexible and may be adjusted as deemed necessary.

OBSERVATIONS

1. The gain made by the steers in the pasture grazed at the rate of 4 acres per steer was 244 pounds per head; on the deferred and rotation plan 221 pounds; and at the rate of 3 1/3 acres per steer, 219 pounds.

2. Pasture 3 in which grazing was deferred until June 1, thus allowing the grass to obtain good growth and thereby increasing carrying capacity produced the smallest gain in this test. Although difficult to show, it should not be overlooked that the steers grazed in this pasture were utilizing other grass prior to June 1 and had already made substantial gains before going on test. A system of grazing of this type is designed to utilize earlier grasses in conjunction with bluestem.

3. The greatest gain per acre was obtained from Pasture 2, overstocked. Other experiments have sometimes shown this to be true during the early stages of the experiment, but as overgrazing continued gains per acre have declined.

4. In view of the unusually light rainfall during the period from July to the close of the growing season of 1949 all of the pastures were fairly closely grazed; however, the three used in the deferred-rotation trials were much less closely grazed than the other three.

TABLE 1. A COMPARISON OF DIFFERENT METHODS OF GRAZING BLUESTEM PASTURES

May 1, 1949 to October 10, 1949—162 days

1. Pasture number	1	2	3	4, 5 & 6
2. Method of grazing.....	Normally stocked	Over-stocked	Stocked June 1	Deferred and rotated[1]
3. No. of head per pasture	15	18	20	45
4. No. of acres per pasture	60	60	60	3–60 acre pastures
5. No. of acres per head	4	3 1/3	3	4
6. Av. initial weight, lbs...	731	728	804[2]	729
7. Av. final weight, lbs. ..	975	947	951	950
8. Av. gain, lbs.	244	219	147	221
9. Av. daily gain, lbs.	1.51	1.35	1.12	1.36
10. Gain per acre, lbs.	61	66	49	55

1—Deferred and rotated grazing—all steers were held in two pastures until June 20, then turned into protected pasture until August 5 at which time they were allowed the run of all three pastures.

2—Lot 3 was held on another pasture until June 1 which decreased their number of days on test to 131. Their initial weight is as of June 1, whereas the other weights date from May 1.

Project 253-4: Wintering and Grazing Yearling Steers

A—A Comparison of Protein Supplements and Methods of Feeding Protein Supplements to Yearling Steers Wintered on Bluestem Pasture. 1948-49

Ed F. Smith—A. G. Pickett

Good to choice quality yearling Hereford steers were used in this study which included four lots of 10 steers each. The objective was to determine the value of dry bluestem grass when supplemented with different proteins fed by various methods. All pastures used for winter grazing had been used the previous summer but were not closely grazed and dry grass was abundant. The steers were allowed from twelve to eighteen acres per head.

EXPERIMENTAL PROCEDURE

Lot 1—Wintered on bluestem grass with three pounds of soybean pellets per steer fed **every other day.**

Lot 2—Wintered on bluestem grass with a mixture of salt and cottonseed meal, self-fed. (The purpose of the salt is to limit the consumption of the cottonseed meal.)

Lt 3—Wintered on bluestem grass with six pounds of alfalfa hay per steer daily.

Lot 4—Wintered on bluestem grass with 1½ pounds of soybean pellets per steer daily.

TABLE 1. A COMPARISON OF PROTEIN SUPPLEMENTS AND METHODS OF FEEDING PROTEIN SUPPLEMENTS TO YEARLING STEERS WINTERED ON BLUESTEM PASTURE

December 1, 1948 to May 1, 1949—151 Days

1. Lot number	1	2	3	4
2. No. steers per lot	10	10	10	10
3. Method of feeding	Fed soybean pellets every other day	Self fed cottonseed meal and salt mixed together	Fed alfalfa hay daily	Fed soybean pellets daily
4. Average daily winter ration:				
Soybean pellets	1.51			1.50
Cottonseed meal		2.81		
Salt	ad lib	.88	ad lib	ad lib
Alfalfa hay			6.10	