Bluestem Pasture in Summer and Winter for Making Beef

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Bluestem pastures cover almost four million acres in the eastern third of Kansas. Several methods of beef production in this region are practiced but four are followed most extensively. They are: (1) summer grazing, (2) wintering and grazing, (3) deferred full-feeding, and (4) cowherds for feeder calves and creep-fed calves.

This area, sometimes called Flint Hills, covers 12 counties and is approximately 50 miles wide and 200 miles long from Riley and Pottawatomie counties on the north to Chautauqua county on the south; elongated, oval-shaped, roughly two counties wide. Approximately 600,000 head of cattle are wintered annually. In addition, some 300,000 head are moved in each spring for summer grazing. Due to the high nutritive value of its early summer grass and its location between the breeding and growing areas of the Southwest and the fattening and market areas of the Midwest, the bluestem pasture region serves as an important intermediate step in beef production.

Summer grazing, the first method of production listed, has made this region famous for its grass-fat steers. Aged steers received in April are fat enough to slaughter by mid-July. Of primary interest in a summer grazing program is a large gain and in many cases cattle must be in slaughter condition by the end of summer.

One of the most important factors affecting summer gains is cattle condition; the thinner the cattle, as a general rule, the more they gain. Two factors that influence gains and finish that we have less information about are spring burning of pastures and supplemental feeding.

Experimental data are inconclusive in respect to burning off old grass remaining after the grazing season. It appears that spring burning may decrease the total yield of grass but that it may be quite helpful in some cases from the standpoint of distribution of grazing. Cattle have a tendency to graze the same areas season after season in unburned pastures. However, burning removes the ungrazed portion and evens up the forage over the entire pasture with respect to stage of growth and palatability, resulting immediately in more uniform grazing distribution. General opinion is that burning increases gains and improves condition of cattle. Some of the experimental work seems to support this opinion.

In regard to supplemental feeding on grass, supplements fed any time during the season, will, of course, improve the finish of animals but late season supplementation in most areas returns most in increased gains. However, in four out of the past six years at the Kansas Station, it has not been profitable to feed two to three pounds of protein on grass after mid-summer to two-year-old steers. One year, 1948, benefits were doubtful, and in the other year, 1947, the practice was highly profitable.
Other stations have found caking a profitable practice. It seems if any grassland should benefit from caking, the bluestem area should. It has long been noted for its high quality summer grazing, but it is commonly thought that the pasture grasses decline rapidly in nutritive value in the late summer and fall as compared to the western short grass ranges. The age and condition of the cattle are important. Other stations have used yearlings. In the one year that caking paid at the Kansas Station, the cattle were yearlings. In the other five years they were two-year-olds wintered on dry grass in five of the six years, and in very thin condition when spring arrived.

Bluestem pastures may be used intensively in a wintering and grazing program, the second method of production listed. Calves, yearlings, and older cattle may be satisfactorily wintered on bluestem pasture supplemented with protein.

Yearling steers, 160 head, have gained an average of 39 pounds per head during the winter, and 310 pounds during the summer for a yearly gain of 349 pounds, for the past five years at the Kansas Station.

For the past three years, steer calves wintered on dry bluestem pasture supplemented with protein have gained an average of 115 pounds during the winter and 262 pounds during the summer, a yearly gain of 377 pounds. Steer calves wintered on prairie hay and one pound of 40 percent protein have gained 147 pounds for the winter, 232 pounds on grass, and 379 pounds for the year.

These results demonstrate the value of bluestem pasture for winter use in a wintering and grazing program using steer calves or yearling steers that are to be sold off grass as stocker or feeder cattle.

It is recommended that calves or yearlings be fed one and one-half to two pounds of a 40 percent protein concentrate or the equivalent during the winter while on dry grass. A reserve supply of feed should be available to be fed when necessary, especially when the grass is covered with snow.

Third, limited but profitable use is made of bluestem pasture during the early summer by the deferred full-feeding program in which steer calves are wintered so as to gain about 250 pounds, grazed with no supplemental feed from May 1 to August 1, and finished in dry lot, with a 100-day full-feeding period.

The cattle may be started on grain on the grass from August 1 to September 1, resulting in a saving of hay when consumption would be greatest. A greater return has generally been obtained when the cattle were finished in dry lot during the final phases of the program. The feeding of grain on grass would be desirable if we could approach the results obtained in dry lot due to lower roughage and labor costs and to greater convenience. About 100 pounds of beef per head is produced from grass under the deferred full-feeding program.

Maintaining a cow herd for the production of feeder calves is a sound program in the Flint Hills, and is the fourth and last program to be discussed. No experimental work is available along this line but many operators make maximum use of grass during the winter by having cows calve in late spring and leaving them on grass and protein supplement alone until they calve. After calving it is desirable to feed roughage and raise the plane of nutrition.

There is little question that the cow herd should be left outside all winter even if fed hay and silage. Most cattlemen believe that the cows are better off in the hills than they are in dry lot.

When calves are dropped in the fall and fed grain in a creep, the cows must
be fed roughage and protein supplement in order to enable them to furnish enough milk for the calves. But even under this system the cows may be left on the pasture the year round.

It is important that a good stand of grass be maintained. To do so, a sufficient number of acres of grass must be supplied both during the summer and winter. Yearlings should have three to five acres of grass during the summer; two-year-olds and older steers four to six acres; and cows and calves six to eight acres. Where the grass is used summer and winter over a long period of time, it would be wise to provide plenty of grass during the winter to avoid over-grazing and excessive trampling.

TRANSFER OF COMMONWEALTH BUREAU OF PASTURES AND FIELD CROPS

The Commonwealth Bureau of Pastures and Field Crops, which has been attached to the Welsh Plant Breeding Station, Aberystwyth, for the past 24 years was transferred to Hurley, Berkshire, in August 1953 where it will be attached to the Grassland Research Station, of which Dr. Wm. Davies is Director.

This Bureau, one of the 10 Commonwealth Agricultural Bureaus, was founded at Aberystwyth in 1929, its first Consultant Director being Professor, now Sir George, Stapledon. For the first 20 years of its existence the Bureau was in charge of Dr. R. O. Whyte who was succeeded as Director in 1949 by Mr. A. G. G. Hill, formerly Director of the East African Agricultural Research Institute, Amani. The Bureau issues the well-known quarterly abstract journals *Herbage Abstracts* and *Field Crop Abstracts*, in addition to its other activities.