

Implementing a Year-Round Forage Program in the Colorado Plains

JOHN HOLTORF, Buffalo Springs Ranch, Akron, Colorado

We think of the type of operation pursued on our Buffalo Springs Ranch as being practical, not only because it has made us money, but also because it seems to be a safe, conservative operation over the long pull. We call it a hybrid type of operation, meaning a cow-calf-yearling program.

Our ranch is located north of Akron, Colorado, in northeastern Colorado in approximately a 16-inch precipitation zone. The ranch has about 7,000 acres of which 3,200 acres is sand hills range, 3,200 acres of plains upland, and 600 acres of flood plains range. The carrying capacity was approximately 250 head when we started out in 1930. Now, we can safely say this has been increased to a 400 animal-unit carrying capacity. This can be attributed, we know, to trial and experience in constantly attempting to reach the goal of increased carrying capacity for the ranch.

Herd Management

The commercial cow herd consists of about 200 Hereford females. Yearlings are made out of all the produce. About 30 to 40 of the top end of the heifers are saved for replacements. A few calves are bought in the fall, steers or heifers

or both, depending somewhat upon the sex percentage of our own calf crop and also on price of steers vs. heifers. Thus, we have a total of about 125 yearling steers to market in the fall. Also approximately 60 yearling heifers to go, plus the 30 to 40 top replacement heifers.

John Holtorf started ranching on the Buffalo Springs Ranch as the operator for a partnership. He purchased the ranch in 1941 and has been active in community, county and state organizations related to range and livestock. Holtorf is at present a member of the Board of Control of the Colorado Cattlemen's Association, Chairman of the Washington County Fair and member of the Washington County FHA loan committee and of the Board of Directors of his bank.

Mrs. Holtorf, sons John and Tom and daughter Mary all have a keen interest in the ranch operation.

One authority has pointed out that this type of operation if practiced by more of the cattle producers would tend to decrease the cattle population. This would come about in that the producer would have to cut his cow-herd one-third in order to provide the additional grass and forage for the yearlings in contrast to a straight cow-calf operation. One of the chief advantages of this hybrid operation, as we see it, is

in the event of a critical drought or other adversity the yearling can be sacrificed at an earlier time thereby saving the cow herd that we have developed over the years, so diligently.

The method of marketing is normally the selling of these yearlings off the grass at home. However, there have been occasions when we would feed them out when it seemed like the margins justified it.

In this High Plains area where we necessarily have to keep good fences and find it beneficial to do cross fencing for better pasture use and rotation it is not too difficult to run the steers and heifers separate during the yearling summer. This is necessary and as a result we have little trouble keeping these heifers open which makes them more desirable to the feeder.

Range Animal Husbandry

We have quite consistently been able to sell 800-pound yearling steers for September to October delivery and approximately 700-pound heifers for September 1 delivery. It might be interesting to note how this end is attained so we'll start with the development of our cow herd which has gradually, from year to year, got to be what we consider a good, commercial cow herd.

The selection and care of our bull battery contributes to the making of the top quality heifers selected each year for replacement purposes. These replacement heifers make better cows than their

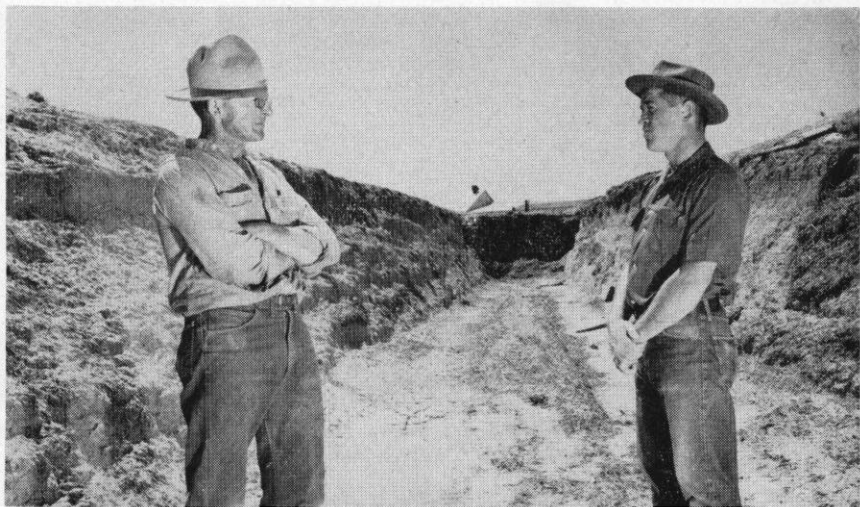
mothers. We are fussy about milking quality of the cows from which the replacement heifers are taken. These heavy milkers are the better doers and their calves are heavier and stronger at weaning time. This, while not as important to one who is growing yearlings, is nevertheless significant.

Research at the U. S. Southern Great Plains Field Station has shown that the bigger, heavier calves winter better and make more gains throughout the winter and summer than lighter calves under the same conditions. We start calving cows about March 1 with first calf heifers starting about April 10, which are bred as yearlings during July to calve as two-year-olds. Our cow herd is calved out, for the most part, in two months and the heifers in about a month. These cows are summered on range consisting of sand hills pasture and upland plains (hardlands).

The calves are creep-fed using rations of equal parts of whole oats and corn, quarter-inch dehydrated alfalfa pellets and commercial calf creep pellets. When grass dries up either in summer or fall we notice increased consumption of the creep ration. And, as grass dries up in late summer, the cows are choice-fed a 41 percent protein concentrate mixed with salt for controlled consumption in feed bunks on the range to about $\frac{1}{2}$ to $\frac{3}{4}$ pound per day per head. This supplemental protein feeding tends to maintain milk production and balances nutritional needs of the cow keeping her in better condition. Contrary to the man who sells calves, we wean early, never later than September 15. Calves are vaccinated with hemorrhagic septicemia just before weaning. This builds resistance against shipping fever.

Calves Weaned Early

Calves are weaned just north of headquarters in a well fenced 120-acre pasture with the cows running at complete freedom on the oppo-



Trench silo used for ensiling sorghums. John Holtorf on the left and Dick Conrad, SCS, on the right.

site side of the fence. There is an uproar for 2 days after which cows and calves become reconciled to their fate and calves start immediately on fresh grass supplemented with the calf creep ration and cane silage fed in the morning and a bit of alfalfa hay fed at night. The creep ration is soon supplemented with a 41 percent protein mixture controlled with salt to about $\frac{1}{2}$ pound daily consumption per head. After the calves are started well, which takes about 3 weeks, they are moved from the weaning pasture to their own fresh winter pasture south of the headquarters where the above method of feeding is employed throughout the winter. By fresh pasture we mean pasture that has been deferred the previous summer for this express purpose.

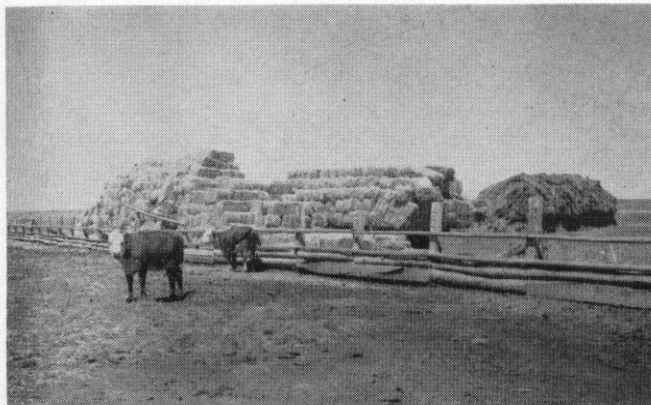
The reason we like this early weaning is two-fold. First, the calves will take off and get started much faster while there is still a bit of green in the grass and before it gets too cold. Secondly, and by no means last, the cows have time to flesh up, or catch up, thereby wintering much easier on less supplemental feed, and coming out in better condition at calving time.

These early weaned calves will hair out more quickly and winter easier, coming out better in the spring than the late weaned calves.

The few calves that are bought to make our quota are purchased in the fall at weaning time or soon after, and are wintered right along with our own produce. This way they are all established when they go out to summer range. Early in the spring the steers are separated from the heifers, and the replacement heifers are vaccinated for Bang's disease and put on their summer range. This range consists of 160 acres of sand hills pasture made up of sand reed grass, sand sage and sand bluestem, and 160 acres of depleted sandy cropland seeded and well established to a mixture of sand lovegrass, intermediate wheatgrass, and sweet clover. This half section will carry 40 head of replacement heifers and two bulls for seven months. At the end of this time the heifers are fat enough to kill.

Winter Forage

Perhaps it would be interesting to note how we provide winter forage for both the cow herd and the weaned calves. We farm between 500 to 600 acres. Most of this is devoted to feed crops, namely sorghums, alfalfa and some sweet clover. The sorghums are put up mostly as silage. Normally 200 to 300 acres will fill the 700- to 800-ton trench silo. In wet years the



Hay is an important part of the year-round forage supply. (Left) Hay and feed rack used in winter feeding program. (Right) Native hay is produced along bottoms receiving an occasional flooding.

excess tonnage of sorghum is put up as bundle feed which acts as a carry-over for our cow herd in the dry years. As mentioned before, the weaned calves are fed this sorghum ensilage supplemented by alfalfa in the evening. At the beginning of calving time we start feeding silage to the cows as we believe this increases the cows' milk flow. In the early winter these cows are put on fresh winter pasture and are supplemented with free choice 41 percent protein controlled with salt to $\frac{3}{4}$ pounds per day consumption. This mixture includes a small percentage of dehydrated alfalfa pellets. As the intensity of winter increases this ration is still further supplemented with a feeding once a day of native hay at the feed rack 1,500 feet long. This hay in the amount of 150 to 250 tons comes from approximately 200 acres of creek bottom that might be considered second bottom land. We have never been aware of a nutritional deficiency as a result of this feeding practice. The calf crop normally runs about 95 percent each year.

Rounding Out The Forage Program

We are constantly attempting to develop additional acreages of dryland alfalfa. At the present there are approximately 160 acres scat-

tered around the ranchstead in favorable moisture areas. About 50 acres are sprinkler-irrigated from a dam supplied not only from runoff of the upstream watershed but also spring fed. This 4 miles of spring-fed creek was an early-day cow camp chiefly because of the living source of water. It has been said that the early migrators settled here and water was hauled for miles around before other sources of water were developed. This sprinkler-irrigated field gets us 3 crops for a total of approximately 3 tons per acre. The dryland acreage gets 1 to 2 cuttings for a total of about 1 ton per acre.

We have found that by building dams intermittently down the drainage-way of the spring-fed-creek, the spring run-off and drainage water is stored and the grazing capacity is not only increased on this creek bottom tremendously but the hay tonnage has increased on the hay meadows. Not only these creek dams but other dams on the east upland range side of the ranch, all of which are strategically located, have resulted in more uniform grazing of pastures.

Overall Program

We have restored to adapted perennial grasses approximately 1,000 acres of sub-marginal cropland. Some of these acreages,

chiefly the sandy lands, we now believe have a greater carrying capacity than the adjoining native sandy land pastures. On the sandy lands, sand lovegrass with yellow-blossom sweet clover has done the best. We have also had very good results with crested wheatgrass, which not only provides early spring grazing, but remains green and palatable longer throughout the summer than on the hardlands. Most of our hardlands reseeding program has been with crested wheatgrass which has been very beneficial.

In implementing a year-round forage program we have rested portions of our range for winter pasture. This system of rotation-deferred grazing appears to be paying dividends. We are quite happy with the overall results of a combination program of developing better native pasture, seeding old fields, and growing forage crops. The program has resulted in both greater animal-unit carrying capacity for the ranch and has assured us of a forage supply the year-round.

Richard F. Conrad, SCS, Akron, Colorado and Donald F. Hervey, Range Management Section, Colorado A. & M. College, Fort Collins, assisted in the preparation of this article.