

One Rancher's Experience—In The Grassland Range of Southern Arizona

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The ranch we are writing about lies near the Mexican border in southern Arizona in some of the best grass country in the West. The topography is rather gentle, the range being crossed by a number of low ridges and intermittent water courses. Most of the soils are of granitic origin and hence very open although some of the ridge tops are characterized by more droughty tighter soils. The average annual precipitation is 18 inches, of which about 14 inches comes during the frostfree period.

The ranch base property was built up by consolidating a number of homesteads. Like many other southwestern homesteaders, those in this area found that the 160 acres allotted by the Homestead Act was too small to make a family living. Those who stayed longest managed to survive by working part-time at nearby mines, but gradually, as the mines closed down, the homesteaders were nearly all forced to leave. The ranch now comprises 1,310 acres of patented land acquired from eight different owners, and 6,700 acres of forest allotment on the Coronado National Forest.

Range Animal Husbandry

Cattle on the ranch are all purebred Herefords. The essentials of the livestock breeding program are 50 cows per bull, permitted by the gentle topography, with a breeding season from April 1 to September 1. Average replacement age for cows is 9 years, the average length of service for bulls 7 years, and heifers are first bred at 24 months

of age. This breeding program has resulted in 90 percent or better calf crops. Eighty-five percent of the calves are born in January and February and the remaining 15 percent in March and April. When marketed in November calves have consistently averaged 550 pounds over the last 15 years and, in exceptional years, have averaged over 600 pounds.

This is the story of one rancher's accomplishments. We cannot give you the man's name because, like many other good ranchers, he is modest about his achievements. He admits that he has learned a lot, but he says there is still so much that he does not know that he refuses to pose as an expert. However, he has agreed to let us tell his story.

This rancher is a firm believer in the old adage that "the eye of the master fattens the cattle." He regularly sees each animal almost daily, checking on condition, noting distribution, watching for new calves, sickness or injuries. Much of this checking can be done in connection with the supplemental feeding schedule, but in any event the rancher feels it is a primary job. To make the job easier a system of jeep roads has been developed covering the entire ranch.

Supplemental Feeding

The ranch is managed to provide ample forage year round with supplemental feeding as needed to make up nutritional deficiencies. Supplemental feeding is somewhat heavier than some ranchers practice, partly because the cattle are purebreds and are sold at a premium price and partly because the area is a grass range with very little browse to provide year-long green forage. The kind and amount of supplemental feeding needed

was determined by forage analyses over a 5-year period during which checks were made during the different months of the year. Based on these analyses, the cows are fed an average of 2 pounds of cottonseed cake daily from about January 1 to April 15, with the dates varied as necessary according to winter and spring moisture and growth. During periods of lowest forage value the supplement is fed as salt-meal; regulating the mixture so that the animals take more than enough to meet their minimum requirements.

Chemical analyses of forage and soil and years of experience have indicated that the feeding of trace minerals is beneficial, so they are provided in block form. Vitamin A concentrates are also fed. This strong emphasis on adequate nutrition and proper mineral balance is more than repaid, according to the rancher, in the general well-being and disease resistance of the cattle. For instance, he feels that such a program has been reflected in decreased susceptibility to pink-eye.

Disease and Parasite Control

Disease and parasites are not a serious problem but certain routine precautionary measures are taken. The cattle are all vaccinated against blackleg. Registered animals to be shipped are given 300,000 units of penicillin for protection against shipping fever. Other animals to be shipped are inoculated with shipping fever serum a couple of days prior to shipping in order to give time for the normal reaction to wear off.

Herd bulls are occasionally sprayed for horn flies for the comfort of the animals. Cows and calves are not sprayed since they are so thrifty parasites are no problem.

Range Management

The primary objectives of the range-management program are: (1) to establish and maintain adequate ground cover in order to minimize loss of water by runoff and loss of soil by erosion, (2) to provide adequate year-round forage, thereby insuring better con-

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dition of the cattle and reducing the amount of needed supplemental feeding, and (3) to distribute grazing use to prevent the development of "sore spots" and to eliminate areas of nonuse.

In order to obtain the objectives above, the first step taken was to fence the ranch against outside livestock. Then, over a period of years, the range has been divided into 11 pastures. Each pasture has at least two watering places, usually one well and one or more ponds. During the rainy season additional water is available in numerous small catchment basins. The size of the pastures has been determined somewhat by topography and other natural barriers and also by the objective of having each pasture carry about 50 cows.

The present rate of stocking is 20 surface acres per cow yearlong. This rate normally leaves at least half the herbage for range improvement and maintenance. Deferral of use during the growing season has also promoted improvement of the perennial grasses. On some pastures each year grazing is not permitted until the forage species have set seed, then the cattle are turned in. In this way the grasses have periodic opportunities to make a seed crop to perpetuate themselves. Meanwhile, the parent plants are grazed lightly enough so that maximum longevity



Rolling hills, abundant perennial grass, fat purebred Herefords and a few trees combine to make this one of the most attractive ranches in the West.

is offered at least as far as grazing pressure is concerned. The only exceptions to this procedure are during years of severe drought. In order to hold utilization to a safe level in drought years all pastures are grazed yearlong. The extra forage provided by no deferments helps maintain the breeding herd without excessive use of the range. With purebred operation this is important. It has never been necessary, in over 25 years of this rancher's experience, to remove cattle from the range for lack of forage. The years of good management on this ranch have promoted the establishment of good ground cover so that moisture effectiveness has been increased and less drought effect is felt here than on com-

panion areas receiving an equal amount of rain.

What Combined Range and Animal Husbandry Practices Have Done

One of the benefits that has been achieved by good range management practices on this ranch is the establishment of an excellent stand of a wide variety of perennial grasses. The percentage of tall grasses or bunchgrasses has increased at the expense of such short grasses as curlymesquite and blue grama. There is some question in the rancher's mind as to whether the shift from short to tall grasses is entirely desirable—in fact, he is concerned about the apparent dominance of the taller species.

In an effort to reverse the composition trend toward tall grass dominance, the rancher is experimenting with periodic heavier-than-usual utilization. He hopes to discourage the tall grasses without losing over-all grass density. This experiment has been underway only a short time and results are not yet apparent. Regardless of the kind of grass present, it is certainly evident that the ranch provides adequate herbage for livestock at all times.

Overall Benefits

The results of 30 years of study and practice on the range are clearly evident. Some of the things



Good plant cover right to the water's edge on this stock tank gives striking evidence of the good care this range has received.

which do not show so plainly, perhaps, but have a profound influence on the ranching business are that with the good grass cover very little moisture is lost by runoff, and the droughts don't seem to hit so hard as on ranges that are not so well managed. The short-grasses no longer predominate but are still present in a healthy mixture. Sore spots around permanent waters are small and the soil is staying in place.

It is only right that we should list some of the problems that bother the owner of this ranch and which make him reluctant to pose as an expert. For one thing, he would like to know more about the grazing habits and preferences of cattle, what and when they graze, and especially why. The rancher feels that too little is known of the grazing habits of cattle, their seasonal likes and dislikes in response

to their physiological needs. He feels that were more known of these needs, range management practices would be more assured of successful application, as well as obtaining greater livestock returns.

In other words, it would be a more natural arrangement whereas he feels that too often we try to impose an artificial one and thereby doom our efforts to failure.