

Cattle Feeding In Arizona

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The Increasing Productivity of Tillable Areas in Arizona, the Growing Necessity for Further Diversity in Farming Operations, and the Establishment of an Outlet for Fat Cattle Into California, Are Factors Tending Towards the Stabilization of Arizona Cattle Feeding

THE fattening of cattle in Arizona for market is not a major enterprise, nor is it likely to approach the extent and scope of the production of feeder and stocker cattle. It is becoming, however, a necessary link in a system of diversified farming, and a beneficial adjunct to the range cattle business.

Cattle feeding has been indulged in for several years by enterprising stockmen and farmers in the Salt River, Gila and Yuma valleys, but not without considerable risk. There is more or less chance to cattle feeding in any section, but the "more" has outweighed the "less" in years gone by. Lack of a satisfactory market outlet, long distance to market, and high feed costs, have hampered the business and are hazards confronting the Arizona feeder today, but to a less extent, because of the increased productivity of our farms, and a more ready outlet for fat cattle in California.

During the past winter season the Animal Husbandry Section of the University continued its cattle feeding investigations to study the effect of age, and its economic phase in fattening cattle. The experiment also included comparisons of the relative feeding values of corn silage, and hegari silage, and of the fattening qualities of yearling steers, and yearling heifers.

Animals Used

Seventy head of cattle divided into seven groups of ten head each were used in the test. The age comparison was made between one lot each of yearlings, twos and three-year-old horned Hereford steers. One lot each of dehorned Shorthorn yearling steers, and heifers, and one lot of horned Hereford yearling heifers were used in the steers versus heifers comparison, and two lots of Shorthorn yearling steers afforded a comparison of hegari silage and corn silage. The cattle were all high grade stock from the herds of H. G. Boice and H. C. Cavness, who maintain two of the best range herds of Hereford and Shorthorn cattle respectively in the West.



Shorthorn yearling steers at the close of the experiment, fattened on a ration of alfalfa hay, corn silage, cotton-seed meal and cracked hegari.

Feeds Used

All lots received a ration of alfalfa hay, hegari silage or corn silage, cotton seed meal, and cracked hegari. The alfalfa hay was allowed free will, while it was necessary to limit the allowance of silage. The cotton seed meal was limited according to the respective ages, and so was the cracked hegari, which was fed only during the last 30 days of the test. Hegari silage was fed to the three lots used in the age comparison and to the lot used as a check against corn silage. Corn silage was fed to the two lots of heifers and the check lot of steers.

The experiment proper was started November 20, 1924, and concluded March 20, 1925, covering a period of 120 days. No trouble was experienced in placing the cattle on feed, and they continued in good, thrifty condition throughout the experiment.

Age Comparison

There was no marked variation in the average daily gains made by the yearlings, twos and three-year-old steers. The yearlings, with a final average weight of 889 pounds, made an average daily gain per head of

2.35 pounds, as compared with the twos, weighing 965 pounds, which gained 2.24 pounds per head daily, and the three-year-old steers, with an average final weight of 1252 pounds, which gained at the rate of 2.4 pounds per head daily. The rate of gain made by the three-year-old steers was affected by the poor showing of two of the animals that remained wild and could not become accustomed to the domestic surroundings.

A more economical use of feed was made by the youngest steers, this efficiency diminishing as the age increased. In terms of total dry matter in feed consumed, the yearlings required 846 pounds, the twos 966 pounds, and the threes 1,119 pounds to produce 100 pounds of gain. The feed cost to produce this gain was \$9.06 for the yearlings, \$10.47 for the twos, and \$12.44 for the threes.

The necessary margin to "break even" also increased with the age of the steers, the yearlings requiring \$1.12 per cwt., the twos \$1.54, and the threes \$1.72.

All the groups returned a substantial profit, but in the reverse order

to the economy of gains. The more efficient gains made by the younger steers were more than offset by the wider margin on which the older steers were sold. The initial cost per cwt. of the twos and threes was 47c and 58c less respectively than the cost of the yearlings. The twos sold for the same price as the yearlings, while a premium of 20c per cwt. was paid for the big steers. Selling on a margin of \$2.25 per cwt., the yearlings gave a net return per head of \$10.41, while the twos sold on a margin of \$2.72, realizing a profit of \$11.42 per head, and the threes sold on a \$3.00 margin, returning a profit of \$16.40 per head.

Heifers vs. Steers

The yearling heifers, compared with the yearling steers, made a smaller daily gain, used more feed for the production of 100 pounds gain, and required a greater necessary margin. The differences in these various points, however, were not great. The steers, with an average final weight of 918 pounds, made an average daily gain of 2.51 pounds per head daily, required 758 pounds of feed (dry matter) for 100 pounds gain, sold on a margin of \$2.41 per cwt., and realized a profit per head of \$12.17. The heifers, weighing 876 pounds at the close of the test, made an average gain per head of 2.34 pounds, required 792 pounds of feed (dry matter) to produce a hundred pounds of gain, sold on a margin of \$2.62 per cwt., and gave a net return per head of \$9.19.

According to the slaughter data obtained from the packing house, four of the heifers were with calf.

The average dressing per cent of the entire lot was 55.2%, as compared with the steers which dressed 57.8%. The buyer, C. H. Davis, of the Newmarket Co., Los Angeles, in commenting on the dressed carcasses, expressed the opinion that the heifers carried a nicer covering and had a more even distribution of fat than the steers.

Corn Silage vs. Hegari Silage

The two lots of yearling steers used to compare the relative feeding value of corn silage and hegari silage made the same average daily gain, and the cost of one hundred pounds of gain was the same for both lots. The hegari silage used in the experiment, however, was slightly superior, pound for pound, than the corn silage. Although both were grown under identical conditions, the hegari thrives better and produces more grain than the corn. Similar



Prof. B. Stanley explaining results of cattle feeding test at the Third Annual Cattle Feeders' Day, Mesa Experiment Farm. Two Hereford yearling steers in foreground.

results have been obtained in previous experiments at the same station, and it may be concluded that the crop best adapted to the particular farming conditions will determine the choice to make, in that there is apparently very little difference between the two feeds.

Horned versus Dehorned

Although an actual comparison was not made between the effects of fattening horned and dehorned cattle in the experiment, it was very apparent that the horned cattle were at a disadvantage in feeding as compared with the dehorned cattle used in the test. The dehorned stock fed quieter, manifested no uneasiness, and every steer in the pen stood together at the mangers. On the contrary, the horned cattle were restless, worrying one another, and the timid animals were fought away from feed. It was plainly evident that the slightly better results made by the dehorned cattle were attributable to this factor.

From the results of our feeding experiments carried on at the Experiment Farm at Mesa, it has been found that a combination of alfalfa hay, corn silage, or hegari silage, and cotton seed meal, constitutes a satisfactory fattening ration for cattle. A limited allowance of ground hegari may be added during the latter part of the feeding period on a rising market, but generally the feeding of grain to cattle is not profitable in Arizona. A \$2.00 margin is necessary to protect feeders from a loss. A narrower spread will sometimes prove profitable, but it is safer to plan on at least a \$2.00 margin. Long yearlings or two-year-old steers

will be the most profitable age to fatten, unless a premium is paid for big cattle, as was the case in this experiment. The big steers are rapidly decreasing, and Arizona feeders who prefer to handle big stock on a quicker turnover will find it more difficult to secure big cattle.

Successful cattle feeding in Arizona will depend upon the efficient utilization of the roughage feeds from the farm and the cotton mill—alfalfa hay, silage, cotton seed hulls, pasture—supplemented with cotton seed meal; and the further development of a market outlet for good fat cattle in California and Arizona.

VALENCIAS DAMAGED BY MAGGOT

An infestation of onion maggot is causing the farmers of Greenlee County considerable loss this spring, according to County Agent Miller. All methods of control are being resorted to in an effort to check an alarming spread of this pest.

It seems, says County Agent Miller, that the adult is a small fly which enters the onions at the seedling stage, and, working down the sheath of the plant, deposits its eggs near the crown. When the larvae, or maggots, emerge, their action within the plant causes a rot to set in. Once a field is infested, eradication is impossible.

At present, the farmers are using hygienic measures, such as burning crop residues, infested plants and trash, in an endeavor to check a spread of the maggot. Next fall's plantings will be closely watched, and sprayed with a poison bait when the adult appears.