ANIMAL HUSBANDRY

Feeding and breeding studies with beef cattle, dairy cattle and swine have been carried on at the Station for a number of years. During the past few years investigations have been initiated in regard to swine parasites. More recently, problems related to range grazing and timber production are being studied. Due to the increased interest in livestock production on the part of the farmers of the Coastal Plain the Station has tried to center its research around the problems being confronted by the farmer in his expanding program.

This report gives the results of investigations made in 1943 on these problems and should be regarded as a progress report since the results of a single year cannot be accepted as conclusive.

The Bureau of Animal Industry, United States Department of Agriculture, is cooperating in the beef cattle and swine studies.

Purebred Polled Herefords on new Bahia grass pasture

BEEF CATTLE INVESTIGATIONS

In general, the beef cattle studies are a continuation of the experiments that have been in progress for the past several years, which includes Record-of-Performance with Polled Herefords, wintering studies, calf production, fattening in dry lot, and fattening on pasture. During the year an outstanding foundation herd of Aberdeen-Angus cattle has been added.

In addition to the two purebred herds of beef cattle, a herd of grade Herefords is maintained. This herd has been graded up over a period of twenty years from native cows. The offspring from this herd is used in pasture and feeding tests and to prove or test Polled Hereford bulls produced in the purebred herd.

The herd of native cattle was sold after the 1943 calves were marketed in the fall. A fat-calf-production test was carried on with this herd for four years and the results were outstanding examples of what can be accomplished by using good bulls on grade and native cattle and what can be gained by creep-feeding suckling calves.

Management of Breeding Herds

When the breeding herds are not on some special test they are maintained on a simple, economical basis. They are carried from about April 1 to November 10 on permanent lowland and permanent upland pastures and are wintered on various combinations of feed. Usually the cows are on some sort of wintering test. It has been noted that the way the cows are wintered influences to a great extent the condition the cows reach and maintain during the summer and it also affects the calf crop the following year. The chief reason for relatively low percentage calf crops is that the cows suckling calves are not in good enough condition in the spring and early summer to become bred. For breeding studies, groups of about 20 cows each are pasture-bred for a period of from 60 to 90 days, usually from about April 15 to July 1. This causes the cows to drop calves only during the late winter and early spring.

The calves in some of the herds are creep-fed. When calves are creep-fed, the creep should be located in the part of the pasture that cows frequent most often. The opening in the creep or pen should be just wide enough for the calves to slip through but too narrow for the cows.

The carrying capacity of the various permanent pastures varies from one to three acres per cow, depending upon the pasture mixture, fertilizers, and the natural fertility of the soil.

A mineral mixture is kept before the cows at all times. The mixture that has been used at the Station for the past years was composed of equal parts, by weight, of salt, steamed bone meal, and calcium carbonate or marble dust. A good mineral mixture for cattle where there is no deficiency in calcium is one composed of equal parts, by weight, of salt and steamed bone meal or one part salt and two parts bone meal. Disodium phosphate or de-fluorinated super or rock phosphate may be substituted for bone meal. When feeding a superphosphate or rock phosphate it should not contain more than .2 per cent fluorine.

The results of creep-feeding calves during the summer, and wintering cows through the winter, are discussed under following subheads.

Calf Production

CREEP-FEEDING VS. NON-CREEP-FEEDING FIRST- AND SECOND-CROSS CALVES: This report is the result of two years' experiments. The cow-herd in which these calves were grown was composed of natives (predominately Jersey blood)

TABLE 27.

CREEP-FEEDING VS. NON-CREEP-FEEDING FIRST- AND SECOND-CROSS CALVES—1942-1943

	Creep-Fed Group		*Non-Creep-Fed Group*	
	1942	*1943*	*1942*	*1943*
Number of calves	17	10	15	12
Date dropped	Feb. 2 to March 18	Feb. 1 to March 27	Jan. 26 to April 13	Feb. 4 April 23
Date off test	Sept. 21	Sept. 21	Sept. 21	Sept. 21
Date creep-feeding started	April 30	April 15	----	----
Number days creep-fed	144	159	----	----
Average birth weight (lbs.)	70.53	75.50	68.47	76.75
Average weight at end of period (lbs.)	482.94	471.50	404.33	404.17
Average gain per calf (lbs.)	412.41	396.00	335.86	327.42
Average daily gain per calf (lbs.)	1.91	1.94	1.56	1.56
Average daily feed consumption (lbs.)	4.06	3.979	----	----
Ground snapped corn (lbs.)	3.48	3.41	----	----
Peanut meal (lbs.)	.58	.569	----	----
Feed consumed per calf (lbs.)	585.0	633.0	----	----
Ground snapped corn (lbs.)	501.0	542.6	----	----
Peanut meal (lbs.)	84.0	90.4	----	----
Feed consumed per 100 lbs. gain (lbs.)	141.77	159.8	----	----
Ground snapped corn (lbs.)	121.52	137.0	----	----
Peanut meal (lbs.)	20.25	22.8	----	----
Selling price per 100 lbs. (dollars)	12.75	13.35	10.75	11.65
Average slaughter weight (lbs.)	468.24	461.00	394.67	391.25
Average value per calf (dollars)	59.70	61.54	42.43	45.58
Total value of calves at end of period:				
7960 lbs. @ $12.75 per 100 lbs.	1014.90	----	----	----
4610 lbs. @ $13.35 per 100 lbs.	----	615.43	----	----
5920 lbs. @ $10.75 per 100 lbs.	----	----	636.40	----
4695 lbs. @ $11.65 per 100 lbs.	----	----	----	546.97
Difference in pounds of gain due to creep-feeding (lbs.)	76.55	68.58	----	----
Increased value per calf due to creep-feeding (dollars)	17.27	15.96	----	----
Cost of feed consumed per calf* (dollars)	6.69	12.70	----	----
Net value per calf due to creep-feeding (dollars)	10.58	3.26	----	----

*Feed valued at:	1942	1943
Corn	1c per lb.	2c per lb.
Peanut Meal	2c per lb.	2.05c per lb.