TABLE 31

KUDZU GRAZED CONTINUOUSLY

Grazing Period: April 26 to November 1, 1939

PASTURE	Number Steers Grazed	Average Initial Weight	Average Final Weight	Average Gain per Steer	Average Livewight Gain per Acre
		Lbs.	Lbs.	Lbs.	Lbs.
3 Acres, Kudzu	3	435	667	232	232

TABLE 32

KUDZU GRAZED CONTINUOUSLY

Seven-Year Average, 1933 to 1939, Inclusive

PASTURE	Av. No. Steers Grazed	Average Initial Weight	Average Final Weight	Average Gain per Steer	Average Liveweight Gain per Acre
		Lbs.	Lbs.	Lbs.	Lbs.
3 Acres, Kudzu	3.2	488	726	238	245

ANIMAL HUSBANDRY

The livestock investigations can be grouped under two large heads; namely, breeding investigations and feeding investigations. Since the livestock work was started eight years ago attempts have been made to work on problems that appear most pressing from the farmers point of view. Feeding work has been largely with feeds that are produced abundantly in the Coastal Plain area.

Breeding investigations have sought development of superior strains of animals within certain breeds and also the breeding up of native animals on Georgia farms by the use of purebred sires. Studies have been carried on to determine the most practical methods of producing beef cattle. Various methods of wintering breeding herds have been studied. Numerous feeding tests have been carried on trying to determine the best combination of home grown feeds for fattening steers. Studies have been made to determine the economy of creep feeding for calves both when the calves are sold at an age of approximately five months and also when they are sold at an approximate age of eight months.

In feeding work with swine, attempts have been made to develop a year-round hogging off program whereby grain crops will be available for hogging-off as many months in the year as possible. It is thought that the most economical swine production in the Coastal Plain area of the State can be had from this system rather than from feeding the harvested crop by hand.

In the breeding work with beef cattle, dairy cattle and swine, progress is being made in developing superior strains of animals. These animals will be used for the future breeding work at the Station. When available, animals from these superior strains are sold to farmers in the State at a nominal cost, the farmer thereby getting advantage of any progress made in animal breeding at the Station.

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

BEEF CATTLE

Three herds of beef cattle are maintained by the Station; namely, purebred Polled Hereford, grade Hereford and native cows. Studies have been made to determine the best systems for managing these herds. Data relative to management and wintering of the cattle appear in the following pages. The data are for the year 1939 and the winter 1939-40.

The purebred Polled Hereford cattle are maintained for the production of purebred sires to be used in the various breeding tests at the Station. Grade Hereford cattle are used for making various studies in herd management including wintering. Offspring from this herd are used in the pasture and feeding tests. The native herd of cattle is used for the same purpose as the grade herd. Various methods of calf production are also studied with this herd. The offspring are usually disposed of either as veal calves or fat calves. Information relative to this will be found on the following pages.

MANAGEMENT OF BREEDING HERDS AND CALVES

Purebred Polled Hereford Herd: Purebred Polled Hereford cows and their calves were carried on 20 acres of green oats from March 29 to April 5, on which latter date the herd was placed on a 48-acre permanent pasture containing carpet grass, Dallis grass, lespedeza and white clover. The fertilizer test conducted on this pasture consists of 20 acres receiving 200 pounds of 43 per cent triple super-phosphate per acre per year; 20 acres receiving 100 pounds of the same phosphate, and 8 acres receiving no fertilizer.

During the 226-day grazing period the cows made an average daily gain of .451 pound. No dry feed was fed to the cows during the period. Most of the calves were dropped during late January, February and March, before the cows were placed on permanent pasture. Twenty-five calves in the herd had an average birth weight of 74 pounds and an average weaned weight on October 11 of 482 pounds. Information concerning these calves will be found under the discussion "Calf Production."

At weaning, heifer and bull calves of this herd were separated. Two bull calves were castrated and used together with two heifer calves in Record-of-Performance tests. The two groups of prospective breeding cattle were wintered on a grain and hay ration and were kept in good growing condition.

The Polled Hereford cows were pasture bred from May 3 to July 3. The Polled Hereford herd has been permanently divided into two groups for

breeding, thereby making it possible to develop two definite strains or families of cattle. Wintering of this herd will be discussed under "Wintering Cattle." A mineral mixture was kept before the cattle during the period they were on pasture.

Grade Hereford Herd—For Production of Feeder Calves: Fifty-one grade Hereford cows and unbred heifers together with twenty-five suckling calves, were placed on permanent pasture March 16. Seventy-six animals were placed on approximately 50 acres of improved pasture and 250 acres of unimproved pasture. The improved pasture was composed of carpet grass, Bermuda grass and lespedeza. The 25 calves dropped in the herd in 1939 had an average birth weight of 74 pounds. The calves were weaned October 4 at an average weight of 375.48 pounds. The calves made an average gain of 1.4 pounds while on pasture (March 16 to October 4). The calves were not creep fed. During the 240-day grazing period the cows made an average daily gain of .398 pound. The bull calves were castrated March 30.

The cows were pasture bred from May 4 to July 3 to purebred Polled Hereford bulls produced in the purebred herd.

The herd was taken off permanent pasture on November 17, which date is some two weeks later than cattle are ordinarily carried on permanent pasture at this Station. Very little rain fell during November and for that reason the Bermuda killed by frost cured out into excellent feed for the cattle for a period after frost. For records on wintering this herd see "Wintering Cattle."

Calves weaned in this herd on October 4, were used in the temporary winter pasture test of 1939-40 and will be used in the temporary pasture test for the summer of 1940 and also in the permanent pasture test of 1940. The grade herd will be used to prove bulls produced in the Polled Hereford herd. Ten or more calves sired by one bull, will be fed for 150 days and the feed requirements for a pound of gain on these calves will be compared with feed requirements for a pound of gain from calves sired by other bulls.

Native Herd: The native herd (grade Jersey and native cattle and a few first-cross heifers) was placed on approximately 100 acres of permanent pasture on March 15, 1939. The permanent pasture was composed of carpet, Dallis, Bermuda and centipede grass and some lespedeza. The 39 cows in this herd dropped 33 calves in the spring of 1939. Records on these calves are discussed under "Calf Production." During the 238-day grazing period the cows made an average daily gain of .413 pound.

Cows in the native herd were pasture bred from May 3 to July 3. Bulls from the purebred Polled Hereford herd were used in breeding these cows.

A mineral mixture was kept before the cattle at all times.

Calf Production in Native and Grade Herds: For the four years 1935, 1936, 1937 and 1938, first-cross calves from the native herd were sold as veal calves when they reached an average weight of approximately 250 pounds. Results of these tests can be found in the Station annual reports for those years. In 1939 the calves were carried until they reached the age of approximately 8 months and were sold as fat calves. The calves were out of the native cows and a few first-cross heifers. They were dropped in February