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STUDIES IN ANIMAL NUTRITION

I. Changes in Form and Weight on Different Planes of Nutrition.

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STUDIES IN ANIMAL NUTRITION

I. Changes in Form and Weight on Different Planes of Nutrition.

C. ROBERT MOULTON, P. F. TROWBRIDGE,* L. D. HAIGH

ACKNOWLEDGMENT

Since the spring of 1907, there has been in progress at the Missouri Agricultural Experiment Station an extensive experiment known as the "Use of Food Experiment." To H. J. Waters belongs the credit for the conception of this investigation which during the winter of 1906-7 he outlined as "A proposed inquiry into the composition of the carcasses of cattle at different ages, different stages of development and in different conditions of fatness, or an attempt to ascertain to what uses steers of different ages, on different rations and in different conditions of fatness put their food."

He stated that "the primary object of this experiment is to ascertain the rate of growth during each period of the life of a steer, when the period of most rapid growth ends, and to measure the effect of the rate of growth upon the ability of the animal to fatten."

With minor changes the experiment has been conducted as originally outlined by Waters who severed active connection with the experiment in 1909. J. M. Evvard was originally in charge of the Animal Husbandry side of the experiment, P. F. Trowbridge taking charge of the animals when they were ready for slaughtering. The histological work was in charge of E. T. Bell. The responsibility for the continuation of the work has rested upon the Department of Agricultural Chemistry since October 1909. To Turner R. H. Wright, Turner Haden and F. G. King is given credit for their valuable services in the care of the animals. Also F. B. Mumford, E. A. Trowbridge, H. O. Allison and A. H. Rhys have been frequently consulted as to the condition of the animals in the groups, and their judgment largely determined the changes made in the feed required to keep the animals on the proper planes of nutrition.

Swift and Company of Kansas City have contributed largely

*Resigned September, 1918.

to the value of the data in furnishing experts to do the slaughtering of the animals and to cut up the carcasses.

In the laboratories C. R. Moulton and L. D. Haigh were associated with P. F. Trowbridge from 1907 until the latter's resignation. They assumed a large share of the responsibility for the execution of that portion of the work. The preparation of the material for publication has been largely in the hands of C. R. Moulton who is responsible for the interpretation and presentation of results.

For a greater or less period of time the following men have also been associated with the work in the laboratory: Norman Hendrickson, L. F. Shackell, F. W. Woodman, C. K. Francis, A. A. Jones, F. G. Allison, D. M. Nelson, L. E. Morgan, O. C. Smith, E. E. Vanatta, C. E. Mangels, B. E. Sive, W. E. Thrun and D. J. Griswold.

Acknowledgment is hereby made to all of these men, who have been associated in this experiment, for their hearty cooperation and painstaking care. Credit belongs to all jointly for it is only through the collaboration of a group of men that such an experiment can be brought to a successful conclusion.

For preliminary studies associated with this general study see Research Bulletins 18, 28, 30, and 38 of the University of Missouri, College of Agriculture, Agricultural Experiment Station.

GENERAL DESCRIPTION OF EXPERIMENT

Preliminary and Experimental Treatment.—The 59 animals comprising the main Use of Food group were not all purchased at once. In the spring of 1907 twenty-three calves were purchased, delivered at different times and put on the experiment at ages varying from 7 to 89 days. Most of the animals were less than one month old. In the meantime they had run with their mothers. After being received they were fed whole milk until they were from 3 to 7 months old, the amount of milk and the length of time fed being adapted to the needs of the animal. The calves were all fed liberally until 4 to 6 months old before they were divided into the experimental groups.

In the fall of 1907 seven more calves were purchased. The general treatment was the same as above. They were all weaned at the age of 7 months and were put into the experimental groups when 3 to 5 months old.

Four animals were added in the fall of 1908. They were weaned at the age of 4 to 5 months and put into the experimental groups when about 2 months old.

In the spring of 1909 thirteen calves were added. These calves were 4 to 5 months old when weaned and between 2 and 3 months old when put into the experimental groups.

A final group of 13 calves was added in the spring of 1912. They were all within a month old when received. They were weaned at 5 months, unless slaughtered at an earlier age. They were put into the experimental groups at the very start when the average age was about 20 days. Three of this group were fed on the experimental ration until they over 3 years old. Steers 549 and 551 were fed as Group III and Steer 559 as Group II. Steer 549 was put on pasture on April 6, 1916, and no further records were taken until the time of slaughter. Steer 551 was fed out beginning August 26, 1915, and Steer 559 was fed out beginning July 27, 1915.

Animal 529 assigned to Group I was fed so as to give rather slow growth until May 5, 1908. It was then kept at practically body weight maintenance until November 25, 1908. At this time its ration was increased as rapidly as possible until it was fully on a Group I ration.

Steers 521 and 522 were alternately on maintenance and full feed (Group I). On August 4, 1907, Steer 522 was placed on maintenance while Steer 521 remained on full feed. On March 7, 1908, Steer 521 was placed on maintenance and Steer 522 on full feed. The plane of nutrition for both animals was reversed again on November 3, 1908 and again on June 7, 1909. This last date was shortly before the animals were discarded from the experiment.

Steers 506, 508, 510, 511, 516, 517, 518, 519, 520, 530 and 553 died while on the experiment. The others not slaughtered were discarded owing to a lack of sufficient funds to carry them on.

Ration.—The milk used in the ration was chiefly from Holstein cows and was kept at a butterfat content of about 3.25 percent. The feeding was done as soon as possible after milking. Grain and hay feeding was begun within a week or two after the calves were received. Various proportions were used at first, careful record being kept of the amounts fed to each animal. In a short time the following ration was fixed as the continuous ration

for the animals: Grain; six parts corn chop, three parts whole oats, one part linseed meal. Hay; one-half as much alfalfa hay as grain. The young calves were started on timothy hay and gradually changed over to alfalfa hay.

The milk for each feed for the entire lot of calves was thoroughly mixed and sampled. The samples of milk were preserved and composited for ten days and then sent to the laboratory for analysis. Every lot of corn, oats, linseed and alfalfa was carefully sampled and analyzed. All feed refused was weighed each day, saved, and composited for analysis at the end of 30 or 60 days.

Plane of Nutrition.—Group I animals were fed all they would eat of the ration. They were not considered full fed unless at least twice in ten days some of the feed was refused.

Group II animals were fed to secure maximum growth without the storage of surplus fat. This condition was determined by the opinion of the men of the animal husbandry department. For younger animals (under 2 years) a gain of about one pound per day seemed to give this condition. These animals refused practically no feed.

Group III animals were to have the growth distinctly retarded. They were to be in a condition in which one would expect to find cattle that were not being properly cared for. An average gain of one-half pound per day was judged to keep animals in about the desired condition. Animals under 18 months required to gain a little more than this or they became extremely thin. Animals over 3 years old began to improve in condition if allowed to gain continuously the one-half pound per day.

The progress of the experiment showed that considerable mortality must be expected with the Group III animals. They always suffered more severely from indigestion, pink eye, or any other ailment to which the animals were subject.

Quarters and General Treatment.—The animals were kept in a shed which had individual stalls opening into small paddocks of about one-fourth acre. One to five animals of the same group and age were kept in each paddock. Salt boxes were kept in each paddock and a record was kept of the salt consumed. During the day the animals had free access to good fresh well water. Each calf or steer had a neck strap with brass tag giving its number.

The steers were fed hay and grain at night and grain in the

morning. After they had eaten the morning feed they were weighed and turned into the lot. They were fed at the same hour each night and morning and were weighed at the same hour each day.

Feed and Weight Records.—Daily records of feeds offered and refused and of the weights of the animals were kept. Notes were also kept concerning any matter such as the health of the animals or any peculiar behavior.

Measurements.—In addition to feed and weight records the animals were measured about once a month. The instruments used have been shown in the Bulletins referred to above. More than 30 measurements were taken of the animals. Of these 18 have been selected for presentation in the published work, the others being but unessential variations of those shown.

General Description of Animals.—The data concerning the breed of the sire and dam, the dates of birth, slaughter, and beginning and end of feeding records, and the group are given for each of the 59 animals in Table I. Some data are missing. The breed in general was known as the Hereford-Shorthorn type of beef cattle and the animals were all unsexed males.

FOOD CONSUMED AND WEIGHT GAINED

The daily feed and weight records of the animals comprise too great a mass of data to be published in detail. Likewise the total or average ten-day records are too voluminous. The data will be shown in periods of 30 days. The total consumption of grain, hay and milk or of the various nutrients in the feed are given together with the average weight for the 30 days and the weight at the beginning of each 30-day period and at the close of the experiment. The weight of animal for a particular day has been calculated as the average of ten weights, i. e., the weights on the five days preceding that day, the weight on that day and the weights on the four following days. The weight at the beginning was generally the average of the first five weights and weight at the end was always the average of the last five weights.

The general data are shown in the appendix in Tables 1 to 22. The consumption of the various nutrients, total organic matter, and total dry matter is shown in Tables 23 to 43.

For convenience in studying, the average data for the three groups of steers are brought together in Tables II, III and IV adjacent to their discussion in the text. In getting at the average

TABLE I—BREED, AGE AND GROUP OF EXPERIMENTAL STEERS.

Animal No.	Breed of sire	Breed of dam	Date of birth	Group	Date put on experiment	Date put on group	Date weaned	Date of slaughter	Date left experiment
500	H-reg.	S-H	3- 2-07	3	4- 3-07	8- 4-07	9-19-07	2-28-11	.....
501	H-reg.	H-grade	3-28-07	1	4- 7-07	8- 4-07	10-13-07	2-28-11	.....
502	H-reg.	S-H	3-23-07	2	4- 7-07	8- 4-07	10- 8-07	12-12-10	.....
503	H-grade	H-grade	3-14-07	2	4- 6-07	8- 4-07	10- 1-07	2-25-08	.....
504	H-grade	H-grade	3-16-07	1	4- 6-07	8- 4-07	7-12-07	12-12-08	.....
505	H-grade	H-grade	3-16-07	1	4- 6-07	8- 4-07	10- 2-07	2- 3-08	.....
506	H-grade	H-common	3-20-07	2	4- 4-07	8- 4-07	10- 5-07	.....	10-27-07
507	H-reg.	S-common	3-18-07	2	4- 6-07	8- 4-07	10- 3-07	1- 3-10	.....
508	H-grade	H-grade	3-20-07	2	4- 4-07	8- 4-07	6-24-07	.....	11-20-08
509	H-grade	H-common	3-20-07	3	4- 4-07	8- 4-07	10- 5-07	12-12-10	.....
510	H-grade	H-common	3- 7-07	3	4- 4-07	8- 4-07	6-29-07	.....	7-24-07
511	H-grade	H-common	3- 7-07	3	4- 4-07	8- 4-07	7- 7-07	.....	8-18-07
512	H-grade	H-common	3- 7-07	2	4- 4-07	8- 4-07	9-22-07	2-28-11	.....
513	H-grade	H-grade	3-26-07	1	4- 9-07	8- 4-07	10-11-07	12-12-10	.....
515	H-reg.	S	3-15-07	1	4- 3-07	8- 4-07	6-29-07	1- 3-10	.....
516	H-reg.	S	3-12-07	3	4- 3-07	8- 4-07	7-12-07	.....	8-18-07
517	H-reg.	S-H	3-10-07	2	4- 3-07	8- 4-07	9-25-07	.....	10-27-07
518	H-reg.	H-grade	2-10-07	2	4- 2-07	8- 4-07	9- 9-07	.....	8- 2-08
519	H-reg.	H-grade	2-21-07	2	3-22-07	8- 4-07	6-14-07	.....	6-14-07
520	H-reg.	H-grade	3- 1-07	1	3-22-07	8- 4-07	9-18-07	.....	10-27-07
521	J	J	2- 5-07	Sp ^c 1 ¹	3-31-07	.....	9- 4-07	.....	7-30-09
522	J	J	1- 1-07	Sp ^c 1 ¹	3-31-07	.....	9- 1-07	.....	7-30-09
523	H-reg.	H-S	9- 2-07	2	9-25-07	1-31-08	4- 7-08	11- 8-09	.....
524	H-reg.	An-S	9-10-07	3	9-29-07	1-31-08	4-14-08	1-23-11	.....
525	H-reg.	H	8-31-07	3	10- 6-07	1-31-08	4- 4-08	11- 8-09	.....
526	H-reg.	3H-S	9-24-07	2	11- 4-07	1-31-08	4-28-08	1-23-11	.....
527	H-reg.	S	10- 8-07	1	11- 4-07	1-31-08	5-12-08	1-23-11	.....
528	H-reg.	S-grade	10-22-07	2	11-17-07	1-31-08	5-27-08	.....	11- 2-08
529	H-reg.	S-grade	11- 2-07	1 ²	12-11-07	.....	7- 2-08	1-23-11	.....
530	H-reg.	Pol.Durham	Fall 08	3	11- 9-08	11-26-08	1- 7-08	.....	1- 8-09
531	H-reg.	S	9- 9-08	3	11-21-08	11-26-08	2-23-09	3-21-10	.....
532	High grade	S	10- 1-08	1	11-24-08	11-26-08	2-23-09	3-21-10	.....
533	S-reg.	S-reg.	9-25-08	3	12- 3-08	11-26-08	2-23-09	.....	9-11-09
534	H-reg.	S-grade	3-16-09	2 ³	3-25-09	5-25-09	8- 7-09	.....	9-11-09
535	H-reg.	H-grade	3- 8-09	2	3-25-09	5-25-09	8- 7-09	.....	9-11-09
536	H-reg.	S	3-27-09	3 ³	4-10-09	5-25-09	8- 8-09	.....	9-11-09
537	S-reg.	S	3-23-09	3 ³	4-12-09	5-25-09	8- 7-09	.....	9-11-09
538	H	H-S	3-19-09	2	4-13-09	5-25-09	8- 7-09	2-14-10	.....
539	H	S-grade	3-17-09	1	4-13-09	5-25-09	8- 7-09	.....	9-11-09
540	H-reg.	H-grade	3-12-09	3	4-13-09	5-25-09	8- 7-09	2-14-10	.....
541	H	H	3-23-09	1	4-12-09	5-25-09	8- 7-09	2-14-10	.....
542	S-reg.	S-reg.	3- 1-09	1	4-20-09	5-25-09	8- 7-09	.....	9-11-09
543	.....	.....	2- 1-09*	3	4-26-09	5-25-09	5-14-09	.....	9-11-09
544	.....	.....	4- 1-09*	2	4-27-09	5-25-09	8- 7-09	.....	9-11-09
545	.....	.....	3- 1-09*	3	5- 1-09	5-25-09	8- 7-09	.....	9-11-09
546	.....	.....	3- 1-09	2 ³	5- 4-09	5-25-09	8- 7-09	.....	9-11-09
547	H	H-grade	4-29-12	1	5-11-12	5-11-12	9-19-12	1- 4-13	.....
548	S-reg.	S-reg.	4-21-12	3	5-11-12	5-11-12	9-19-12	9-30-12	.....
549	S-reg.	S-reg.	4-23-12	3	5-11-12	.....	.....	11-28-16	.....
550	H-reg.	H-grade	4-20-12	2	5-11-12	5-11-12	9-19-12	1- 4-13	.....
551	S-reg.	S-grade	4-20-12	3 ⁴	5-11-12	5-11-12	9-19-12	7-18-16	.....
552	H-reg.	S-grade	4-23-12	2	5-11-12	5-11-12	9-19-12	9-30-12	.....
553	H-grade	H-grade	4-27-12	3	5-11-12	5-11-12	6-19-12	.....	6-10-12
554	S-grade	S-grade	4-23-12	2	5-11-12	5-11-12	7-21-12	7-22-12	.....
555	S-reg.	S-reg.	4-20-12	3	5-11-12	5-11-12	7-21-12	7-22-12	.....
556	H-S	H-S reg.	4-22-12	1	5-11-12	5-11-12	7-21-12	7-22-12	.....
557	H-S reg.	H-S grade	4-13-12	1	5- 6-12	5- 6-12	9-19-12	9-30-12	.....
558	H-S reg.	H-S reg.	4-23-12	3	5- 6-12	5- 6-12	9-19-12	1- 4-13	.....
559	S-reg.	S-grade	4-17-12	2 ⁴	5- 6-12	5- 6-12	9-19-12	7-18-16	.....

¹Alternate maintenance and full feed. ²Maintenance one year then full feed. ⁴Fed out on full feed near end.

³Placed as shown on account of measurements. Their weights would make 534 and 546 belong to Group III, and 536 and 537 to Group II.

*Estimated from weight when received.

figures this situation was encountered. The animals were born on different days and did not differ from each other in age by even multiples of 30 days. Consequently at the beginning of any 30-day period the ages of the animals would vary by 12 or 13 days more or less than the age indicated by the period. The ages of the different animals for each group at the beginning of a 30-day period were then arranged in columns according to the nearest even 30 days. These were then averaged. The Group I animals when nearest 60 days old varied in age from 51 to 74 days but averaged 60 days. The Group II animals averaged 54 days and the Group III animals averaged 57 days. For simplicity the average age was taken as 60 days in all cases. At the beginning of periods above and below this the age was taken as an even number of 30 days more or less than this age. The average weight of the group at the beginning of any period was the average of all the average weights of the animals for that day. The method of obtaining the weight of an animal for a given day is given in the foregoing paragraph. It was always an average of the observed weights on ten consecutive days. The average consumption of dry matter consumed to attain this average weight was the average of the total consumption of dry matter for the steers for the preceding 30 days. The average total consumption of dry matter at the beginning of any period can be obtained by adding the average consumption for all periods up to and including the period in question.

From the description of the preliminary treatment of the animals it is seen that the age at weaning and the age when placed upon the restricted rations of Group II and Group III varied considerably. Early weaning has a disturbing effect upon the animal's rate of growth. Variations in performance of the individuals no doubt resulted from the variations in treatment. There were, however, just as great variations noted which were not caused by early subsection to a low plane of nutrition. Poor performance did not strictly follow poor conditions. Those animals put upon low planes of nutrition at a very early age were the ones slaughtered young. Their data will therefore tend to give a smaller average performance during the early months of the groups. They will not, however, affect the later performance or the final result. The grouping of some few of the animals in Table I had to be determined by their performance since the data concerning the group in which they were supposed to be was lacking or did not agree with their performance. For these reasons, then, all

the animals in each group were used in obtaining the group average. Exceptions were made of a few animals, including those three that were subjected to a maintenance period.

Table II shows that the Group I animals gained 1.3 pounds daily at the beginning at a cost of 1.5 pounds of dry matter per pound of gain. The rate of gain increased to an average of 2.4 pounds per day at the age of about a year. The cost had mounted to about 7 pounds of dry matter. The rate of gain gradually declined while the cost increased. The smallest gain in weight was a daily average of 0.28 pounds for the 60 days from 1200 to 1260 days. The cost was consequently very large, 65.9 pounds of dry matter per pound of gain.

The Group II animals (Table III) at the start gained 0.9 pounds daily at a cost of 1.8 pounds of dry matter. The rate of gain increased somewhat irregularly and was 1.6 pounds daily at 360 days. The cost was then 5 to 8 pounds of dry matter per pound of gain. The rate of gain near 900 days was 0.3 to 0.5 pounds per day and at 1000 days was practically nothing. The cost per pound of gain amounted to 419.3 pounds of dry matter. This group was considered to be ahead of the desired condition at this time and the feed was held about constant to allow the condition to return to the desired lower level. The gains then became more rapid but were very irregular. At 1230 days the rate of gain was 2.8 pounds per day and the cost but 4.2 pounds of dry matter per pound of gain. The following period showed a gain of a pound a day at a cost of 11.5 pounds of dry matter per pound of gain.

The Group III animals (Table IV) gained at the start 0.6 pounds per day at a cost of 2.4 pounds of dry matter per pound of gain. The rate of gain soon averaged a pound a day and then decreased to about 0.6 pounds per day at about 1½ years. The gains then became irregular and varied from 0.2 pounds to 1.8 pounds per day. Some smaller gains are also shown and at a great cost in pounds of dry matter.

The average gains over longer periods of time show more regularity and serve to give a better picture of the performance of the groups. Table V gives the summarized data. During the first year Group I averaged 1.83 pounds gain daily, Group II averaged 1.24 pounds, and Group III averaged 0.73 pounds. The cost per pound of gain was 5.08, 4.71, and 5.24 pounds of dry matter respectively. During the second year Group I gained 1.56

TABLE II—GROUP I.

AVERAGE DAILY GAIN IN WEIGHT AND DRY MATTER PER POUND OF GAIN, POUNDS.

Age in da ys	Average weight of animal	Gain in weight	Daily gain in weight	Dry matter eaten	Dry matter eaten daily	Dry matter per lb. gain
30	139.1			42.896	1.430	
60	178.6	39.5	1.3	59.926	1.998	1.517
90	217.2	38.6	1.3	92.940	3.098	2.408
120	269.3	52.1	1.7	137.545	4.585	2.640
150	328.6	59.3	2.0	207.803	6.927	3.504
180	385.1	56.5	1.9	245.409	8.180	4.344
210	446.6	61.5	2.1	271.667	9.056	4.417
240	502.2	55.6	1.9	303.789	10.126	5.464
270	556.9	54.7	1.8	376.469	12.549	6.882
300	621.3	64.4	2.1	423.950	14.132	6.583
330	687.1	65.8	2.2	463.736	15.458	7.048
360	744.4	57.3	1.9	491.805	16.394	8.583
390	817.2	72.8	2.4	513.042	17.101	7.047
420	879.8	62.6	2.1	519.142	17.305	8.293
450	941.7	61.9	2.1	548.136	18.271	8.855
480	1000.6	58.9	2.0	590.371	19.679	10.023
510	1045.3	44.7	1.5	567.147	18.905	12.688
540	1092.7	47.4	1.6	549.077	18.303	11.584
570	1125.1	32.4	1.1	522.165	17.406	16.116
600	1155.1	30.0	1.0	493.119	16.437	16.437
630	1191.5	36.4	1.2	482.552	16.085	13.257
660	1241.9	50.4	1.7	501.366	16.712	9.948
690	1265.8	23.9	0.8	504.181	16.806	21.095
720	1305.1	39.3	1.3	523.737	17.458	13.327
750	1355.6	50.5	1.7	532.116	17.737	10.537
780	1398.6	43.0	1.4	563.595	18.787	13.107
810	1432.5	33.9	1.1	554.190	18.473	16.348
840	1464.8	32.3	1.1	555.834	18.528	17.208
870	1502.8	38.0	1.3	566.143	18.871	14.899
900	1532.5	29.7	1.0	557.204	18.573	18.761
930	1566.3	33.8	1.1	556.892	18.563	16.476
960	1594.5	28.2	0.9	564.699	18.823	20.025
990	1620.5	26.0	0.9	557.855	18.595	21.456
1020	1651.7	31.2	1.0	560.094	18.670	17.952
1050	1676.7	25.0	0.8	545.604	18.187	21.824
1080	1695.9	19.2	0.6	538.700	17.957	28.057
1110	1715.3	19.4	0.6	514.664	17.155	26.529
1140	1741.2	25.9	0.9	518.143	17.271	20.006
1170	1767.3	26.1	0.9	556.966	18.566	21.340
1200	1798.6	31.3	1.0	550.279	18.343	17.581
1230	1781.4	Loss				
1260	1815.1	16.5	0.28	1087.256	18.121	65.894
1290	1837.6	22.5	0.8	529.565	17.652	23.536
1320	1872.4	34.8	1.2	557.714	18.590	16.026
1350	1912.3	39.9	1.3	594.952	19.832	14.911
1380	1939.9	27.6	0.9	583.673	19.456	21.148
1410	1951.7	11.8	0.4	554.187	18.473	46.965
1440	1964.8	13.1	0.4			

TABLE III.—GROUP II.
AVERAGE DAILY GAIN IN WEIGHT AND DRY MATTER PER POUNDS OF GAIN, POUNDS.

Age in days	Average weight of animal	Gain in weight	Daily gain in weight	Dry matter eaten	Dry matter eaten daily	Dry matter per lb. gain
30	126.6					
60	154.4	27.8	0.9	51.364	1.712	1.848
90	185.4	31.0	1.0	74.519	2.434	2.404
120	217.8	32.4	1.1	95.881	3.196	2.959
150	254.6	36.8	1.2	136.199	4.540	3.701
180	293.9	39.3	1.3	172.897	5.763	4.399
210	348.9	55.0	1.8	194.785	6.493	3.542
240	379.2	30.3	1.0	188.928	6.298	6.235
270	405.1	25.9	0.9	217.665	7.256	8.404
300	448.6	43.5	1.5	246.467	8.216	5.666
330	488.6	40.0	1.3	272.646	9.088	6.816
360	536.3	47.7	1.6	278.163	9.272	5.832
390	565.9	29.6	1.0	284.308	9.477	9.605
420	598.3	32.4	1.1	287.261	9.575	8.866
450	632.4	34.1	1.1	289.681	9.656	8.495
480	654.8	22.4	0.7	288.512	9.617	12.880
510	683.2	28.4	0.9	292.003	9.733	10.282
540	707.2	24.0	0.8	290.661	9.689	12.111
570	730.9	23.7	0.8	302.704	10.090	12.772
600	757.9	27.0	0.9	308.113	10.270	11.412
630	785.2	27.3	0.9	315.390	10.513	11.553
660	818.9	33.7	1.1	323.303	10.777	9.594
690	838.5	19.6	0.7	319.142	10.638	16.283
720	857.1	18.6	0.6	318.160	10.605	17.105
750	877.0	19.9	0.7	319.386	10.646	16.050
780	896.0	19.0	0.6	312.753	10.425	16.461
810	914.8	18.8	0.6	302.356	10.079	16.083
840	926.1	11.3	0.4	299.029	9.968	26.463
870	936.0	9.9	0.3	300.351	10.012	30.338
900	950.1	14.1	0.5	298.989	9.966	21.205
930	957.7	7.6	0.3	290.744	9.691	38.256
960	967.6	9.9	0.3	287.492	9.583	29.040
990	968.3	0.7	0.02	293.491	9.783	419.273
1020	969.6	1.3	0.04	298.491	9.950	229.608
1050	978.8	9.2	0.3	306.748	10.225	33.342
1080	984.0	5.2	0.2	319.560	10.652	61.454
1110	1004.7	20.7	0.7	322.365	10.746	15.573
1140	1016.3	11.6	0.4	325.863	10.862	28.092
1170	1024.6	8.3	0.3	328.436	10.948	39.571
1200	1034.2	9.6	0.3	345.213	11.507	35.960
1230	1117.6	83.4	2.8	353.475	11.783	4.238
1260	1148.5	30.9	1.0	356.808	11.894	11.547
1290	1170.9	22.4	0.7	363.500	12.117	16.228
1320	1188.6	17.7	0.6	363.500	12.117	20.537
1350	1196.8	8.2	0.3	363.910	12.130	44.379
1380	1250.6	53.8	1.8	391.671	13.056	7.280
1410	1231.9	Loss				
1440	1254.6	4.0	0.07	745.087	12.418	186.272

TABLE IV—GROUP III.

AVERAGE DAILY GAIN IN WEIGHT AND DRY MATTER PER POUND OF GAIN, POUNDS.

Age in days	Average weight of animal	Gain in weight	Daily gain in weight	Dry matter eaten	Dry matter eaten daily	Dry matter per lb. gain
30	133.3					
60	152.1	18.8	0.6	44.733	1.491	2.379
90	175.6	23.5	0.8	63.467	2.116	2.701
120	198.4	22.8	0.8	84.041	2.801	3.686
150	224.6	26.2	0.9	106.298	3.543	4.057
180	256.0	31.4	1.0	118.904	3.963	3.787
210	287.7	31.7	1.1	117.249	3.908	3.699
240	295.7	8.0	0.3	119.669	3.989	14.959
270	312.5	16.8	0.6	137.862	4.595	8.206
300	335.9	23.4	0.8	148.140	4.938	6.331
330	358.5	22.6	0.8	151.274	5.042	6.694
360	376.9	18.4	0.6	173.328	5.778	9.420
390	418.0	41.1	1.4	173.355	5.779	4.218
420	430.2	12.2	0.4	173.766	5.792	14.243
450	447.0	16.8	0.6	177.091	5.903	10.541
480	464.3	17.3	0.6	182.906	6.097	10.573
510	486.8	22.5	0.8	191.573	6.386	8.514
540	498.4	11.6	0.4	194.300	6.477	16.750
570	516.2	17.8	0.6	193.958	6.465	10.897
600	541.2	25.0	0.8	208.725	6.958	8.349
630	562.8	21.6	0.7	288.073	7.602	10.559
660	582.1	19.3	0.6	233.130	7.771	12.079
690	599.1	17.0	0.6	231.676	7.723	13.628
720	612.5	13.4	0.4	231.580	7.719	17.282
750	632.6	20.1	0.7	232.301	7.743	11.557
780	642.3	9.7	0.3	229.851	7.662	23.696
810	658.8	16.5	0.6	232.530	7.751	14.093
840	668.0	9.2	0.3	231.062	7.702	25.115
870	653.8	Loss				
900	672.8	4.8	0.08	462.716	7.712	96.399
930	700.0	27.2	0.9	251.062	8.369	9.230
960	702.5	2.5	0.1	246.228	8.208	98.491
990	713.1	10.6	0.4	218.774	7.292	20.639
1020	710.3	Loss				
1050	724.0	10.9	0.18	461.762	7.696	42.363
1080	733.7	9.7	0.3	245.409	8.180	25.300
1110	754.7	21.0	0.7	247.151	8.238	11.769
1140	772.0	17.3	0.6	247.516	8.251	14.307
1170	783.7	11.7	0.4	247.769	8.259	21.177
1200	789.3	5.6	0.2	246.688	8.223	44.051
1230	811.2	21.9	0.7	266.860	8.895	12.185
1260	866.2	55.0	1.8	287.281	9.576	5.223
1290	876.9	10.7	0.4	312.764	10.425	29.230
1320	900.5	23.6	0.8	289.931	9.664	12.285
1350	899.5	Loss				
1380	916.7	16.2	0.27	678.390	11.307	41.876
1410	899.7	Loss				
1440	1044.9	128.2	2.14	737.982	12.300	5.756

pounds daily, Group II 0.89 pounds and Group III 0.65. The cost per pound of gain was 11.26, 11.28, and 10.27 pounds of dry matter respectively. During the third year the daily gains were but 1.09, 0.35, and 0.34 pounds and the cost 17.02, 28.60, and 23.20 pounds of dry matter per pound of gain. The gains during the fourth year were about the same for all groups, i. e., 0.75, 0.75, and 0.86 pounds daily. The cost was 23.45, 15.74, and 11.45, pounds of dry matter. For the entire four years Group I gained 1.30 pounds daily, Group II 0.80 pounds and Group III 0.65 pounds. The cost per pound of gain was 12.24 pounds of dry matter for Group I, 11.91 pounds for Group II, and 11.03 pounds for Group III. The Group making the slowest gains was the cheapest group and the group making the most rapid gains was the most costly group. This does not take into account the value of the product. The Group I animals were prime or even overdone and would have commanded a good price. The Group II cattle were underdone and graded on the average as No. 3 carcasses while the Group III cattle were classed as canners. One or two of this latter Group gave No. 3 carcasses.

The changes in weight and consumption of dry matter are shown graphically in Figure 1. The scale for the dry matter eaten

TABLE V.—AVERAGE YEARLY GAINS, POUNDS.

Period.		Group I	Group II	Group III
30 to 360 Days	Weight gained	605.3	409.7	241.6
	Dry matter eaten, lbs.	3075.0	1929.5	1265.0
	Daily gain	1.83	1.24	0.73
	Dry matter per lb. gain	5.08	4.71	5.24
360 to 720 Days	Weight gained	560.7	320.8	235.6
	Dry matter eaten, lbs.	6314.1	3619.3	2420.1
	Daily gain	1.56	0.89	0.65
	Dry matter per lb. gain	11.26	11.28	10.27
720 to 1080 Days	Weight gained	390.8	126.9	121.2
	Dry matter eaten, lbs.	6652.9	3629.3	2811.7
	Daily gain	1.09	0.35	0.34
	Dry matter per lb. gain	17.02	28.60	23.20
1080 to 1440 Days	Weight gained	268.9	270.6	311.2
	Dry matter eaten, lbs.	6304.6	4259.9	3562.3
	Daily gain	0.75	0.75	0.86
	Dry matter per lb. gain	23.45	15.74	11.45
30 to 1440 Days	Weight gained	1825.7	1128.0	911.6
	Dry matter eaten, lbs.	22346.6	13438.0	10059.1
	Daily gain	1.30	0.80	0.65
	Dry matter per lb. gain	12.24	11.91	11.03

is one-tenth that for the weight of animal. Therefore the point where the dry matter curve crosses the weight of animal curve for a given group is the point at which the dry matter consumed is just ten times the weight gained. In other words up to that point the cost of a pound of gain has averaged ten pounds of dry matter per pound of gain. The relative inclination of the two lines indicates relative economy of gain. When the inclination of the body weight line is steeper than that for the dry matter eaten the gains are becoming more economical. When the lines are

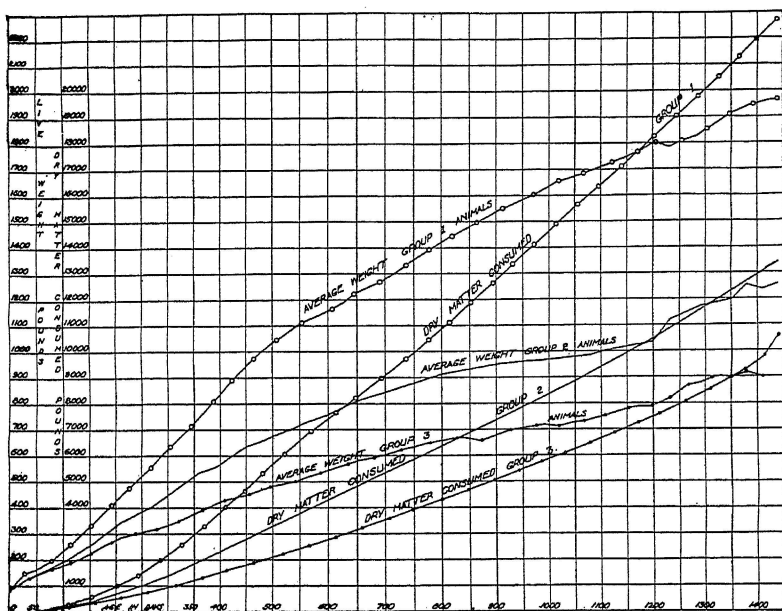


Fig. 1.—Changes in weight and consumption of food during life; group averages.

parallel the economy is constant, and when the inclination of the body weight line is smaller than the inclination of the dry matter eaten the economy of gain is decreasing.

As shown in Research Bulletin 38 the average weight of Hereford calves at birth is 80 pounds. This point has been placed on Figure 1. When fed all it will eat of a well balanced ration such a calf will weigh 400 pounds at 6 months, over 700 pounds at one year, and 1300 at 2 years. At 3 years of age it will weigh 1000 pounds and at 4 years it will weigh nearly 2000 pounds.

EFFECT OF PLANE OF NUTRITION ON GROWTH

The detailed measurements of the cattle are shown in Tables 44 to 57 in the appendix.

The measurements were taken on certain days. The ages of the animals on these days were easily calculated. The following method was used in obtaining the average age and average measurement. In Group I animals 547, 541 and 539 were measured at 36, 21, and 27 days old respectively. The average age was 28 days and the average height at withers for the three animals was 74.9 centimeters. In the same Group animals 556, 542, 541, 539, 532 and 527 were measured at 53, 50, 49, 54, and 41 days.

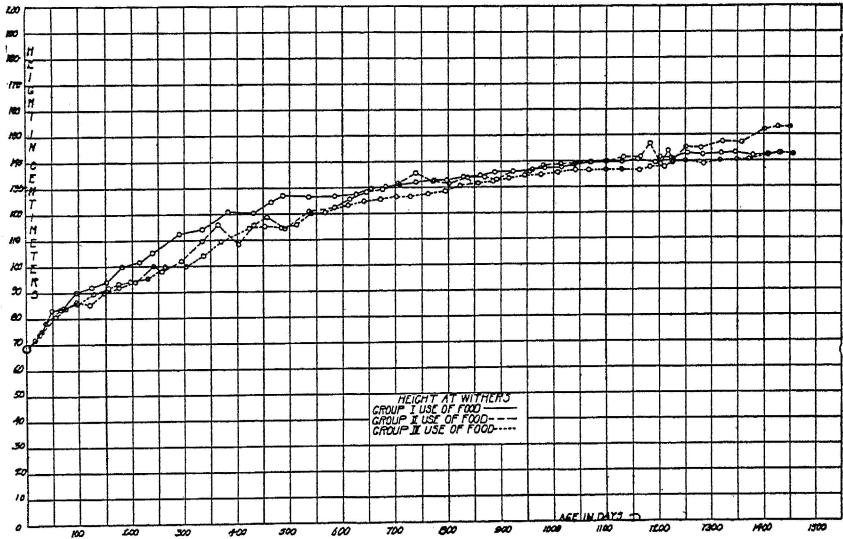


Fig. 2.—Height at withers; group averages.

The average age was 48 days and the average height at withers was 83.1 centimeters. The following points on this curve and the points on other curves were obtained in a similar manner.

Height at Withers.—Figure 2 shows the growth in height at withers from a first measurement at 16 to 28 days on to a last measurement at 1430 to 1456 days. It is seen that the heavier ration gave a somewhat more rapid growth during the first year or 18 months. After the age of two years there is practically no difference in the height at withers. At the end of four years all groups have practically the same height. This last measurement

GROWTH OF STEERS

**MEDIUM
RATION**

**FULL
RATION**

**SCANT
RATION**

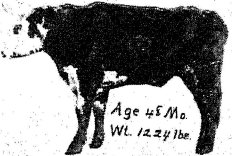
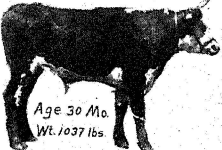


PLATE 1.—GROWTH OF STEERS ON MEDIUM, FULL AND SCANT RATIONS.

was from one animal only in each group since all others had previously been slaughtered. The Group II animal was naturally taller than the other two.

This is an excellent measure of skeletal growth, there being but little flesh and fat between the hide and the spinal processes in this region. The plane of nutrition superimposed after a few months of normal growth seems to have had no effect on this measurement other than a slightly more rapid growth during the first 500 days.

Projecting the curves back to the zero line, or birth line, the value of 68 centimeters was found as the height at withers at

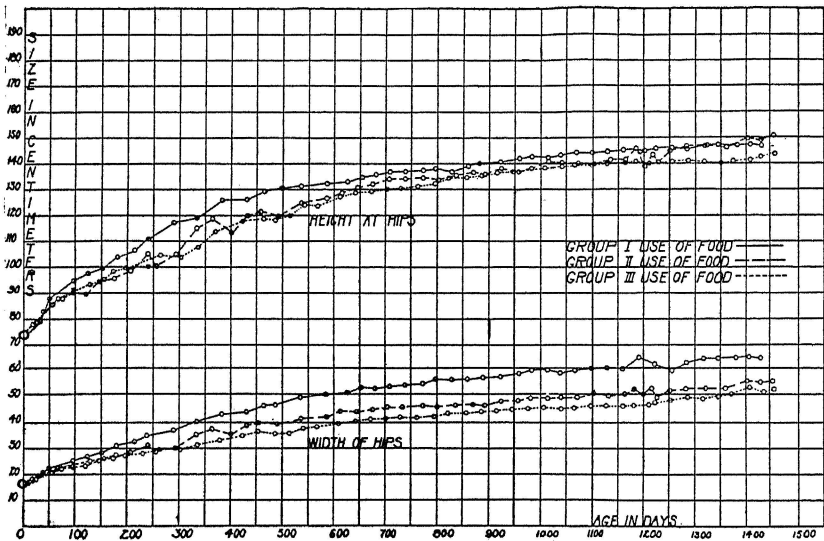


Fig. 3.—Height and width at hips; group averages.

birth. This is, of course, not an observed value but has been used in this study as the probable size at birth and as the base for calculating rate of gain after birth. The height attained at 4 years is 140 to 150 centimeters.

Height at Hips.—The height at hips is shown in Figure 3. The Group I animals seem to have a slight advantage over the other two Groups during most of the four years, but the difference in height is small, generally within an inch and the ultimate height attained is about the same in all groups. The curve is essentially that shown by the height at withers.

The height at hips at birth was estimated to be 74 centi-

meters. The final height attained lies between 140 and 150 centimeters.

Width of Hips.—Figure 3 also shows the width of hips from birth to 4 years of age. The growth at this point varies as the plane of nutrition. The Group I animals forged ahead and remained ahead throughout the four years. They attained 8 to 10 centimeters more width than did the Group II animals and these in turn were about 2 to 3 centimeters ahead of the Group III animals. The width at birth was estimated at 16 centimeters. The width at 4 years was 65 centimeters for Group I, 56 centimeters for Group II and 53 centimeters for Group III.

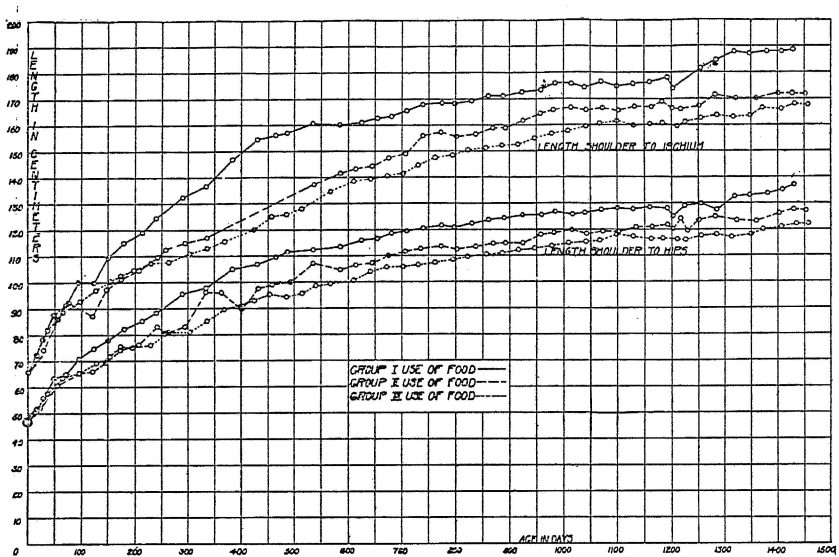


Fig. 4.—Length of body; group averages.

This measurement is more than a criterion of skeletal growth. The condition of fatness affects it also. The lower planes of nutrition have prevented full growth at this region.

Length of Body.—The measurements for the length of the body are shown in Figure 4. Two sets of measurements are shown, one for the length from the top point of the shoulder to the top point of the hips and the other from the top point of the shoulder to the rear end of the ischium. The difference is roughly the length of the pelvic bone. Either will serve as a measure of the length of the trunk of the animal. They should show the

relative lengths of the spinal column between the points taken within the limits of accuracy in always selecting the same points. It is seen that for the first two and one half months there is no difference between the groups. Then the Group I animals gain quite rapidly while the other two groups remain fairly close together. The greatest difference in the longer measurement is 30 centimeters at 450 days. At 4 years the difference is about 20 centimeters. The plane of nutrition directly affects the length of the body.

At birth the length from shoulder to hips was estimated at 46 centimeters and from the shoulders to the rear of the ischium

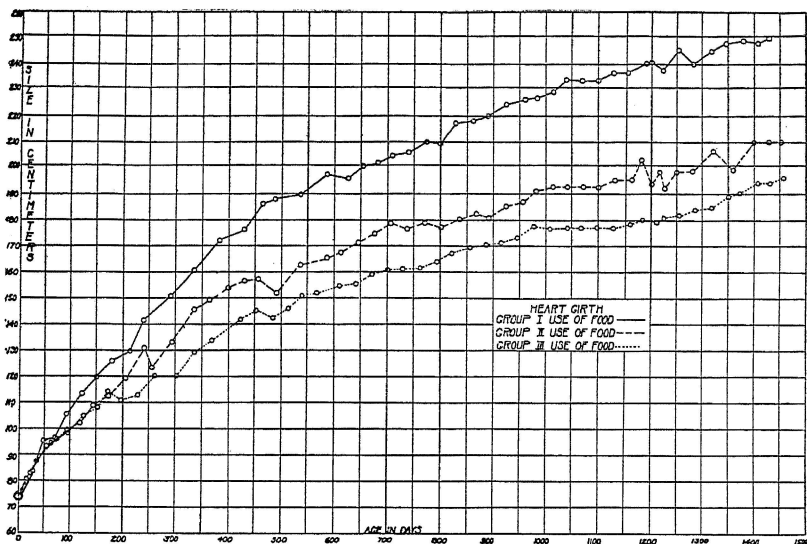


Fig. 5.—Heart girth; group averages.

at 66 centimeters. The size attained at 4 years was 187.5 centimeters for Group I, 171.5 centimeters for Group II, and 167.5 centimeters for Group III for the length from shoulder to ischium.

Heart Girth.—Figure 5 shows the size of the circumference of the chest just back of the elbow joint. This is called the heart girth, or girth at the region of the heart.

Growth is rather rapid for all groups. The Group I animals soon outgrow the others and attain a size 40 to 50 centimeters greater than the others. The difference between Groups I and II is always much greater than that between Groups II and III. The size at birth was estimated at 74 centimeters. At four years it

was 250 centimeters for Group I, 210 centimeters for Group II, and 196 centimeters for Group III.

Rate of Growth.—The foregoing figures show the changes in size as the animals grew. They do not show the rate of growth nor which part of the animal made the greatest relative growth. Figures 6, 7, 8 and 9 show the rate of growth for each of the above measurements. The rate is expressed in terms of percent of increase over the estimated size at birth. The earliest observations concerning these measurements were made at about the age of

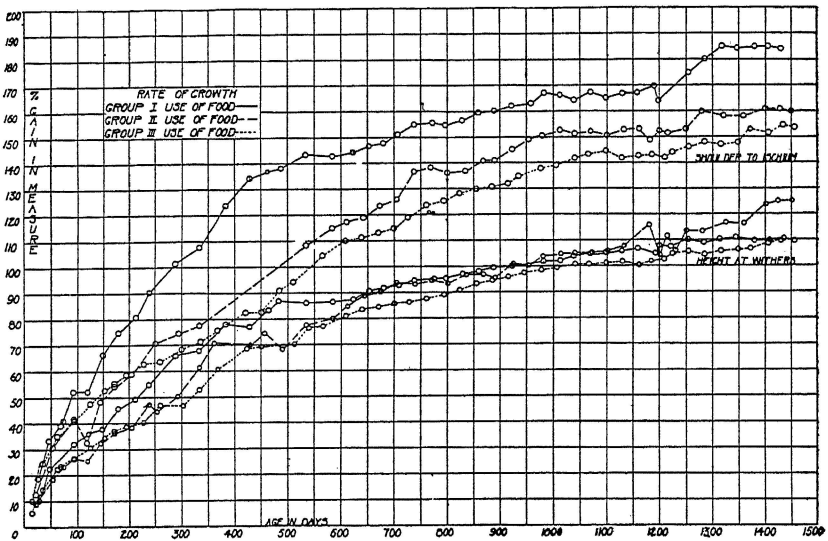


Fig. 6.—Rate of growth in height at withers and length shoulder to ischium; group averages.

10 to 15 days. It is believed that small errors at the most can be due to the method of estimation.

Height at Withers.—Figure 6 shows that the steers added 50 percent to their height in 200 to 300 days and that it took about 900 to 1000 days to double the height. At 1450 days the height had been increased 110 to 120 percent over the estimated birth size.

Height at Hips.—Figure 7 shows the rate of growth in height at the hips. The rate is much the same as for the height at withers. The steers added 50 percent to their height in 250 to 350 days and it took the entire 1450 days to double the height at the

hips. In this connection it must be remembered that the height at hips at birth exceeded that at the withers by 6 centimeters while the final height attained was the same.

Length of Body.—The rate of growth from shoulder to ischium is shown in Figure 6 and the rate from shoulder to hips in Figure 8. All animals added 50 percent to the length from should-

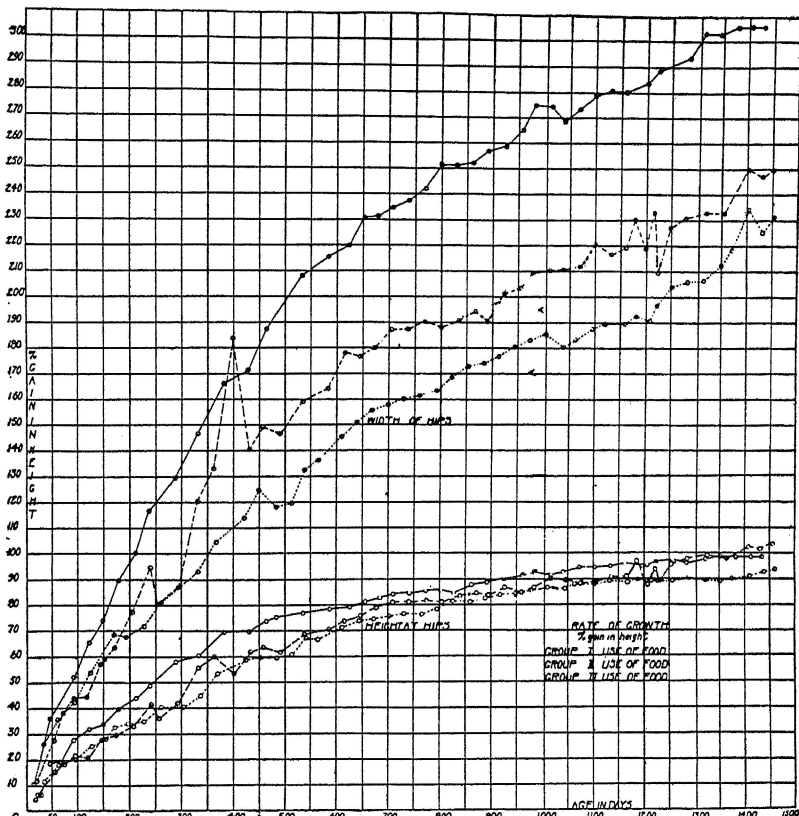


Fig. 7.—Rate of growth in height and width at hips; group averages.

er to ischium (Figure 6) in 100 to 150 days. The Group I animals doubled this length in 300 days and increased it to two and one-half times the size at the start in 700 days. During the remaining 750 days but one-third of the original length was added. This Group was not quite three times as long at the end as at birth. The other groups gained more slowly. It took 500 to 550

days to double their length and in 1450 days the size was only about two and one-half times that at the start.

In the rate of gain from shoulder to the top point of the hips (Figure 8) there was more uniformity. In general the rate of gain was much as for the preceding measurement. The Group I steers had trebled this length in 1450 days.

Width of Hips.—Figure 7 shows the rate of gain in width of hips. The rate is rather rapid and uniform at first. The animals added 50 percent to their width at the hip in about 100 days. The Group I steers doubled their width in 200 days. In 500 days they

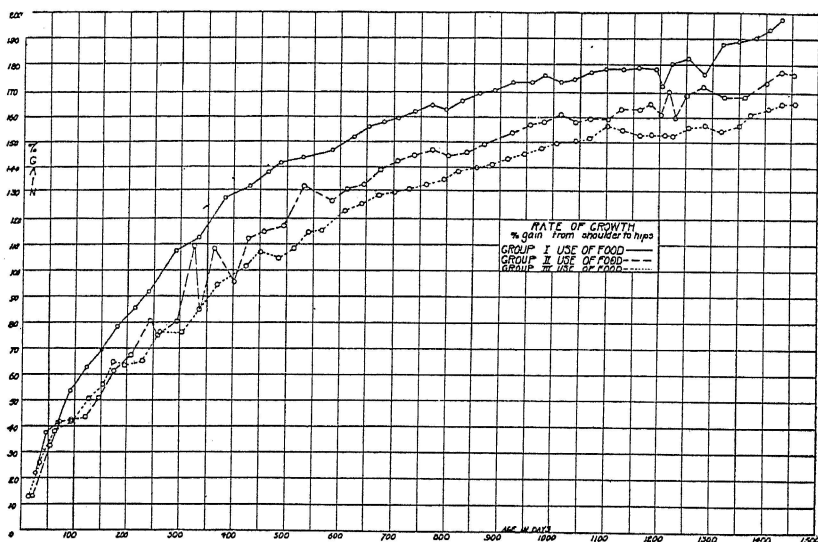


Fig. 8.—Rate of growth in length from shoulder to hips; group averages.

had trebled it and in 1300 days they had attained a size four times as great as at the start. This measurement exhibited the greatest rate of growth. The greatest difference between groups is shown by this measurement.

It would seem, then, that the width of the hips is a sensitive measure of growth and indicates differences in plane of nutrition better than the height at the withers. Eckles* has shown that the height at withers can be used as safe criterion of growth with dairy cattle. This is not true of beef cattle for the three groups

*C. H. Eckles and W. W. Swett, Some Factors Influencing the Growth of Dairy Heifers, Mo. Agr. Experiment Station, Research Bulletin 31, p. 9.

gained uniformly in height while showing big differences in growth in length of body and width of hips. One disadvantage in using the width of hips as a measure of growth is that it measures fat and muscle growth as well as skeletal growth. Another is that the measurement shows fairly small absolute differences while the relative differences are great.

Heart Girth.—Figure 9 shows the rate of growth in circumference of the chest. The rate is greater than that of all other measurements excepting width of hips. The animals added 50

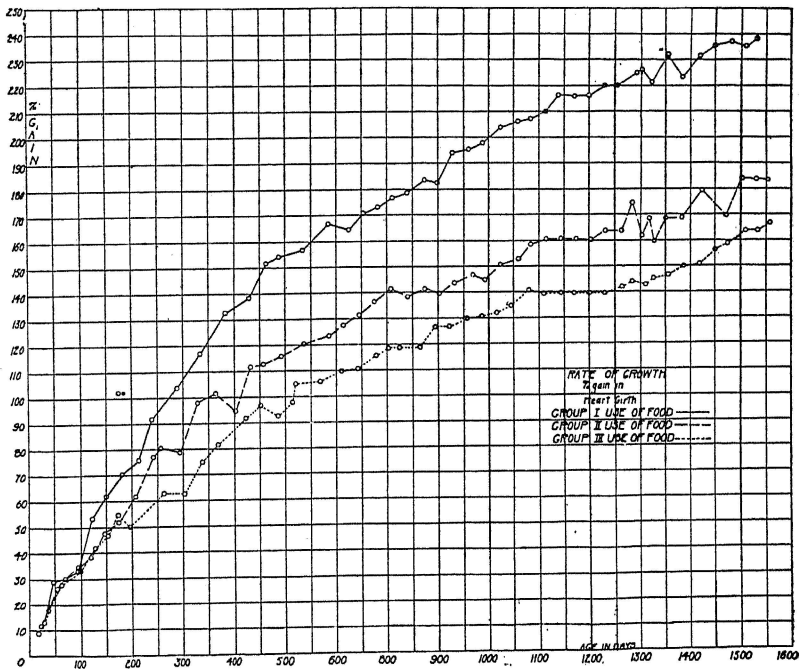


Fig. 9.—Rate of growth in heart girth; group averages.

percent to the heart girth in 150 days. Group I doubled it in 275 days, Group II in 350 days and Group III in over 500 days. Group I had trebled the heart girth in 1000 days and in 1450 days reached a size three and one-half times that shown at birth. The other two groups attained a size only about two and three-fourths times that at birth.

CROSS SECTIONS OF THE BODY

Accurate cross section outlines of all the animals were taken at the region of the heart, paunch and flank. In addition the

outline of the body over the back from hip to hip was taken. These measurements can not all be presented. They could not be averaged excepting by the system of composite photographing. Consequently several selected outlines from a typical animal in each group are shown.

Cross-section at Heart.—Figure 10 shows the cross-section at

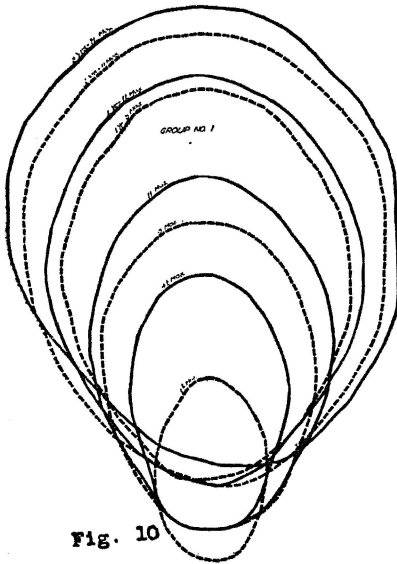


FIG. 10

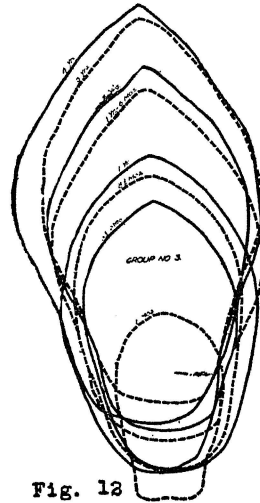


FIG. 12

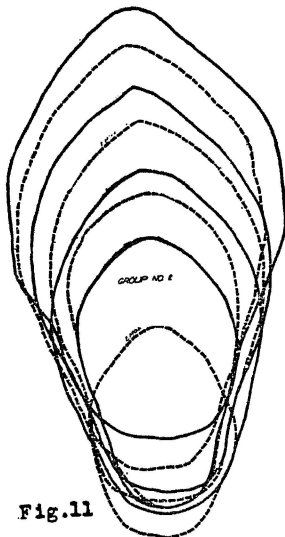


Fig. 11

Fig. 10.—Outline at region of the heart—Group I. 1½, 4½, 8, 11, 17, 23, 35, and 47 months.

Fig. 11.—Outline at region of the heart—Group II. 2, 5, 8½, 12, 18, 24, 36, and 48 months.

Fig. 12.—Outline at region of the heart—Group III. 1, 5½, 8½, 12, 18, 24, 36, and 48 months.

the region of the heart of a typical Group I animal from one month to 4 years old. The outline is elliptical and tends to become more nearly round as the animal grows older. The outline is smooth and regular.

Figure 11 shows the same outline for a typical Group II animal. The outline for this Group remains elongated with a tend-

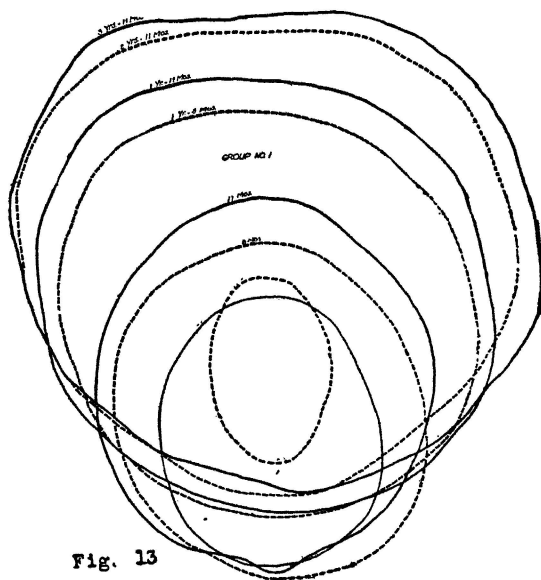


Fig. 13

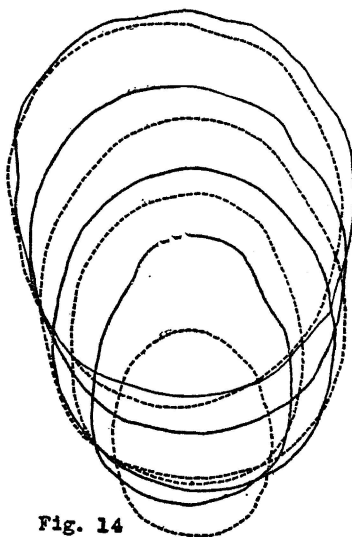


Fig. 14

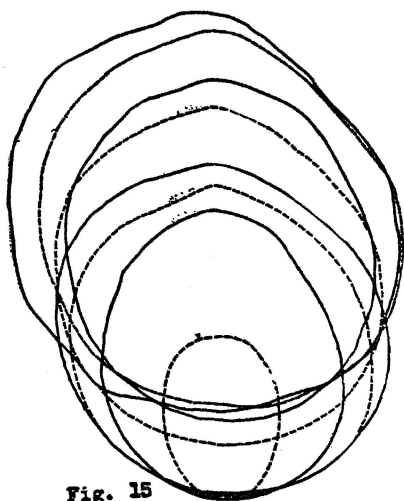


Fig. 15

Fig. 13.—Outline of paunch—Group I. $1\frac{1}{2}$, $4\frac{1}{2}$, 8, 11, 17, 23, 35, and 47 months.

Fig. 14.—Outline of paunch—Group II. 2, 5, $8\frac{1}{2}$, 12, 18, 24, 36, and 48 months.

Fig. 15.—Outline of paunch—Group III. 1, $5\frac{1}{2}$, $8\frac{1}{2}$, 12, 18, 24, 36, and 48 months.

ency for a ridge at the region of the back bone and a flattening of the walls of the chest below the middle of the cross-section. The area is considerably smaller than for the Group I animal.

Figure 12 shows the outline for the Group III animal. The outline is even more elongated than in the case of the Group II animal. The ridge at the back bone is quite noticeable. The outline is somewhat irregular and a flattening of the walls of the chest below the middle is seen. The area is somewhat less than in the case of the Group II animal.

Cross-section at Paunch.—The cross-section at the region of the paunch is shown for the Group I animal in Figure 13. The first cross-section has been moved upwards 0.72 times its greatest diameter in order to permit its being placed on the original tracing cloth. It should extend a bit below the lowest outline on this chart. The striking features of this cross-section are the great area and rotundity. The slight irregularities in the outline probably were caused by bloat or patches of fat on the carcass.

The paunch cross-section for Group II is shown in Figure 14. Here the outlines are not so round and the area only as 3 to 5 compared with the area of the Group I animal at 4 years.

This cross-section for Group III (Figure 15) is in practically all respects like that for Group II. The area is about the same if not a little greater.

Cross-section at Flank.—The flank girth of a typical Group I animal is shown in Figure 16. The outline is rather regular tending to flatness across the top and down the sides. Irregularities appear in the outline as the animal becomes very fat. These are due to rolls of fat on the carcass or to bloating.

For Group II (Figure 17) a ridge appears at the region of the back bone in a few of the outlines. The area is considerably smaller than for the Group I animal. The outline is more regular.

Figure 18 shows this outline for a Group III animal. In one or two cases there is a tendency for back bone to appear. In general the outline is regular. The area is smaller than for Group II. The thinness of the animal is not shown so forcibly by these charts as is the decreasing size with lowered plane of nutrition.

Outline at Rump.—The outline of the body at the region of the rump starting at the point of greatest width of the hips and running up over the back is shown for Group I in Figure 19. The

outlines are placed on a common base line. A peak at the back bone remains for even this well fed animal until about 2 years old. The outline for later periods is nearly a semicircle.

For the Group II animal (Figure 20) the outline remains peaked and the sides slope away rather flatly until about two-thirds of the way to the side where they drop down more sharply.

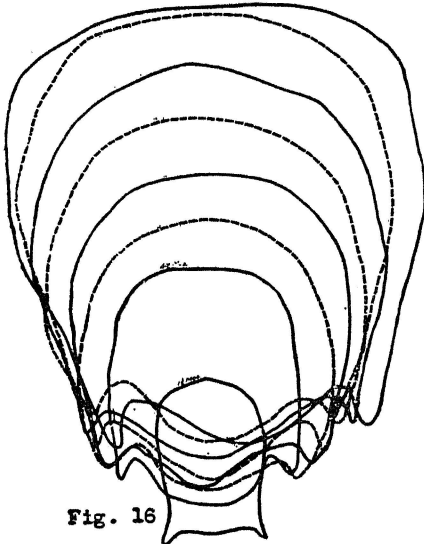


Fig. 16

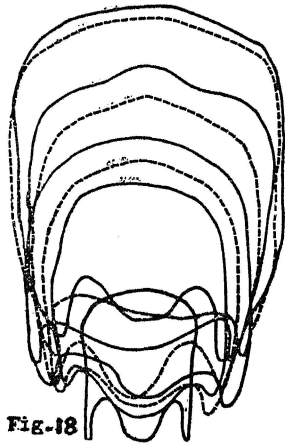


Fig-18

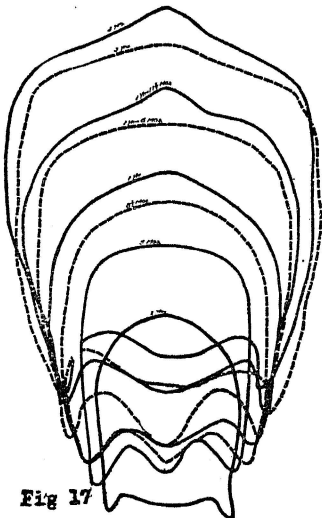


Fig 17

Fig. 16.—Outline at flank—Group I. 1½, 4½, 8, 11, 17, 23, 35, and 47 months.

Fig. 17.—Outline at flank—Group II. 2, 5, 8½, 12, 18, 24, 36, and 48 months.

Fig. 18.—Outline at flank—Group III. 1, 5½, 8½, 12, 18, 24, 36, and 48 months.

There is considerable similarity between the Group III and Group II animals. During the earlier months the outline for the Group III Steer (Figure 21) shows a thinner animal, but later there is little difference. Growth is slower, however, and the size at 11 months and 2 years is behind that of the Group II Steer.

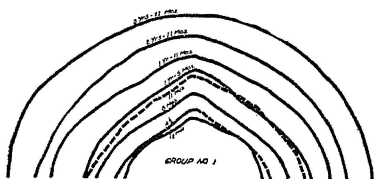


Fig. 19



Fig. 20



Fig. 21

Fig. 19.—Outline over rump—Group I. 1½, 4½, 8, 11, 17, 23, 35, and 47 months.

Fig. 20.—Outline over rump—Group II. 2, 5, 8½, 12, 18, 24, 36, and 48 months.

Fig. 21.—Outline over rump—Group III. 1, 5½, 8½, 12, 18, 24, 36, and 48 months.

EARLY STUNTING

The preceding discussion is based on data obtained from animals that for the most part got a fairly good start in life before being subjected to a low plane of nutrition. There were two groups of steers in this main division that were subjected to somewhat different treatment. Three animals were subjected to alternate maintenance periods while being full fed the remainder of the time. A group of three others were put upon the low planes of nutrition at the very start and were kept there for over three years. The data for the first special group will now be presented.

The Effect of Alternate Maintenance and Full Feed.—Figure 22 shows the live weight and dry matter consumed for Steers 521, 522, and 529. For comparison the Group I performance is also shown. The maintenance periods of the animals are rather clearly shown by the horizontal portions of the live weight lines. Steer 522 was on body weight maintenance from about 250 to 400 days old and again from 670 to 880 days old. The gains during the full fed periods were very rapid but the final full fed period ended too early to show whether the animal could have caught up with the Group I animals.

Steer 521 was on maintenance from the time it was 390 days old until 630 days old. The final maintenance period was too short to be worth considering. Up to that time this animal had been subjected to 240 days of maintenance after one year of full growth. It weighed but 165 pounds more than Steer 522 which had gone through 360 days of maintenance the first part of which began when the steer was 8 months old. At the rate 522 was gaining at the end it would have made up this difference in 75 days. When they were discarded from the experiment the two animals were about 500 pounds behind the Group I animals.

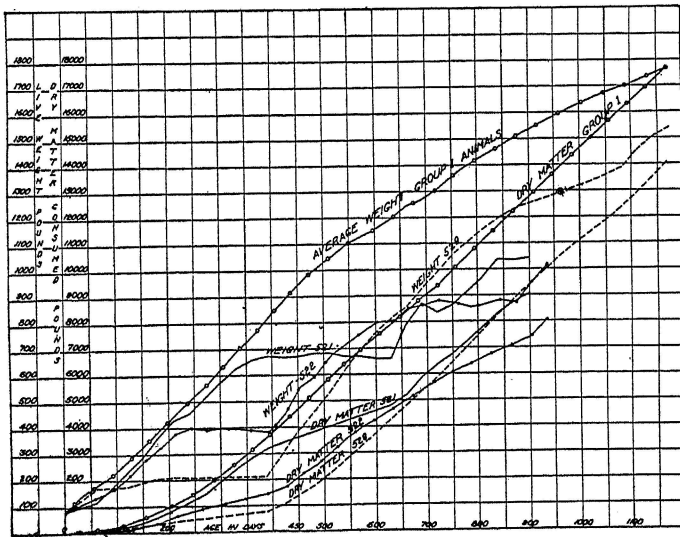


Fig. 22.—Changes in weight and consumption of food; Steers 521, 522, and 529.

Steer 529 had been allowed to grow slowly until 180 days old when it was kept at practically body weight maintenance until 390 days old. During the following 450 days of full feed it gained very rapidly. At the time 521 and 522 were discarded Steer 529 was over 200 pounds ahead of them and about 290 pounds behind Group 1. When slaughtered at 1170 days this steer was still 215 pounds behind the Group I animals at that age.

It is to be regretted that these three animals were not full fed at the end for a sufficiently long period to determine if they would have caught up in weight with the Group I steers.

The changes in measurements of these steers are of more interest, perhaps, than the changes in weight. Figure 23 shows the height at withers, length from shoulder to hips and width of hips of the animals with Group I added for comparison.

Steer 521 was hardly affected in height at withers. The growth line follows very closely the Group I line and the height when discarded is practically identical with the Group I animals. Steer 522 dropped behind in height especially during the first maintenance period. But it soon caught up with the Group I animals and had the same height when discarded. Steer 529 shows the greatest retarding. At the end of its maintenance per-

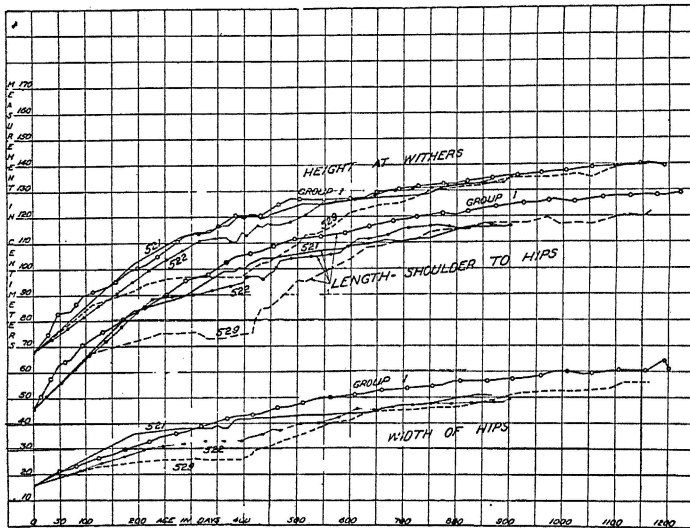


Fig. 23.—Height, length and width; Steers 521, 522, and 529.

iod it was about 25 centimeters, or 10 inches, behind the Group I animals in height. When a 2-year-old it had about caught up in height and the end of its growth curve is practically identical with the Group I animals. In spite of the difference in method of handling and the resulting differences in live weight these steers all obtained the same height as the full grown Group I animals.

In width of hips, however, all three steers fell behind the Group I animals during their maintenance periods. During the following full fed periods they failed to catch up. Steers 521 and 522 were 7 centimeters behind the Group I animals and 529 remained about 6 centimeters behind.

The length of the body shows the same performance as the width of hips. The animals put on maintenance were all retarded. In length from shoulder to hips they remained 6 to 8 centimeters behind the Group I animals.

It must be remembered that these animals had at least a 4 months start on a good plane of nutrition.

The cross-section outline at the region of the heart of Steer 529 is shown in Figure 24. The animal remained practically con-

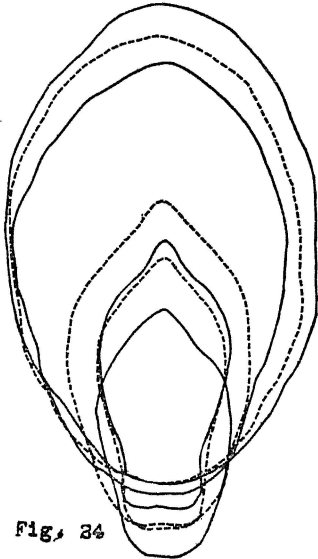


Fig. 24

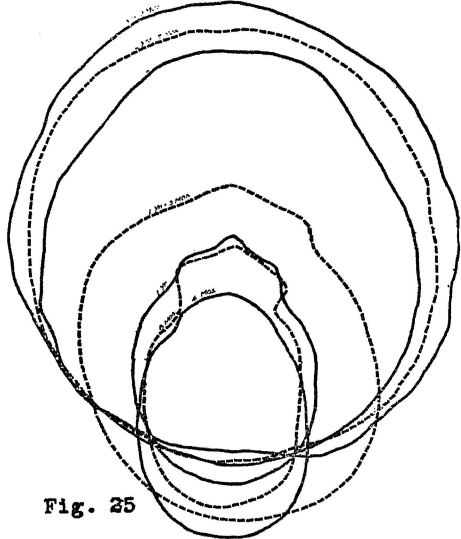


Fig. 25

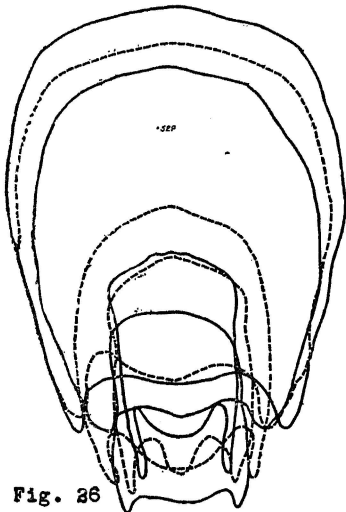


Fig. 26



Fig. 27

Fig. 24.—Outline at region of the heart—Steer 529. 4, 8, 12, 15, 24, 31, and 39 months.

Fig. 25.—Outline of paunch—Steer 529. 4, 8, 12, 15, 24, 31, and 39 months.

Fig. 26.—Outline at flank—Steer 529. 4, 8, 12, 15, 24, 31, and 39 months.

Fig. 27.—Outline over rump—Steer 529. 12, 15, 24, 31, and 39 months.

stant in size till one year old. The character of the outline changed and showed the animal to be more thinly fleshed at this region. Considerable increase in area is noted between one year and one year and three months. The following nine months showed a great increase in area and the elliptical shape of a Group I animal. Thereafter there was but a small increase in size the animal remaining considerably smaller. This amounted to nearly 6 inches in width and about 1 inch in height.

At the region of the paunch (Figure 25) the cross-section shows very strikingly the thinness of Steer 529 up to the age of one year. The following rapid growth is plainly shown. The ultimate size is but little over two-thirds as large as the Group I animal.

Figure 26 shows the cross-section of the animal at the region of the flank. Note how flat the sides of the animal are at one year. After fattening the animal soon assumes the outline of a Group I steer but the area remains considerably smaller.

The outline at the region of the rump is shown in Figure 27. This outline shows at one year an animal scarcely larger in width than a Group I steer at four months. The height is greater, however. Subsequent full feeding tends to round out this outline, although the tendency for a peak at the back bone does not entirely disappear. The outline at 3 years and 3 months is nearly semicircular but the Group I steer shows a much greater area.

In general, then, the effect of the early maintenance period followed by more than two years of full feed is to give an animal of the same conformation as a Group I animal but smaller in all respects but height.

The Effect of a Low Plane of Nutrition Imposed Within the First Month.—Figure 28 shows the live weight and dry matter consumption of Steers 549, 551 and 559 compared with Group I. These animals were put upon their lower planes of nutrition at the start of the experiment when they were less than one month old. Steer 559 was on a Group II ration and the other two on a Group III ration.

Steer 559, the Group II animal, was 45 pounds behind the Group II average weight at 6 months, 75 pounds behind at 1 year, 95 pounds at 2 years and 140 pounds behind at 3 years. At the age of 1200 days when weighing 885 pounds it was fattened out and when 1560 days old it weighed 1375 pounds. This was a gain of 490 pounds in 360 days.

Steers 549 and 551 were 75 pounds behind the Group III steers average weight at 6 months, 95 pounds behind at 1 year, 135 pounds behind at 2 years and again at 3 years. At 4 years Steer 549 was 115 pounds behind the Group III average. At the age of 1230 days when weighing 685 pounds Steer 551 was fattened out and when 1555 days old weighed 1110 pounds. This was a gain of 425 pounds in 325 days.

The effect upon the height at withers and width of hips of these three animals is shown in Figure 29. They all three fall be-

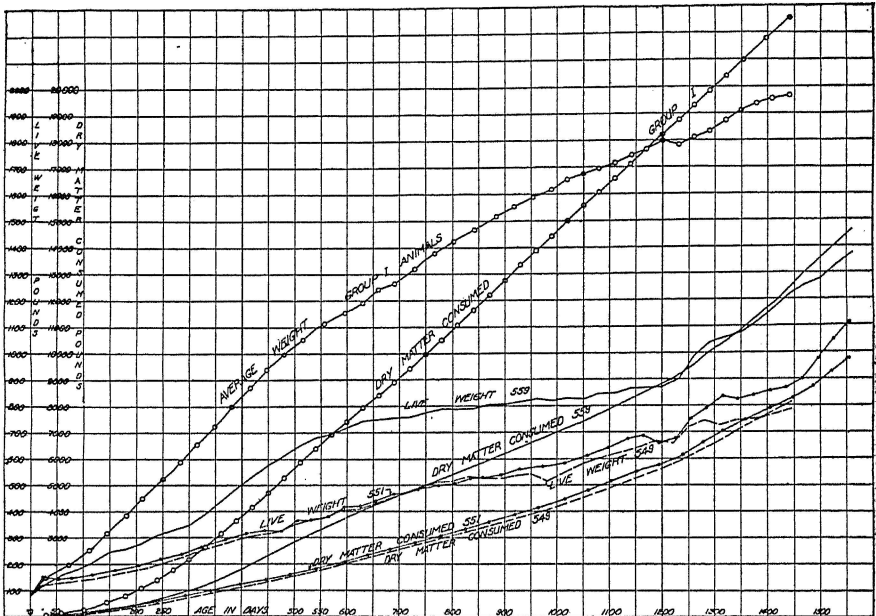


Fig. 28.—Changes in weight and consumption of food; Steers 549, 551, and 559.

hind the Group I animals rather early in life and remain behind up to the 1200th day. At this point Steers 551 and 559 were fattened out and soon began to gain in height at withers. The Group I animals had been constant in height during the last 200 days at about 142 centimeters. When Steers 551 and 559 were killed at an age 100 days older than the last Group I animal their heights were respectively 140 and 141 centimeters. From the growth chart there is no doubt that they would have soon completely caught up with the Group I animals. It seems clearly proven

then that none of the planes of nutrition or methods of treatment used has affected the height other than retarding it somewhat and prolonging the period of growth, the ultimate height obtained being the same.

In width of hips these three steers grew considerably more slowly than the Group I animals but followed closely Groups II and III. Feeding out the two steers after 1200 days does not seem to affect the width of the hips as the charts continue to follow those of Figure 3 for the same groups. The two steers might have caught up with the Group I animals ultimately if carried on until six years old. That is, however, conjecture.

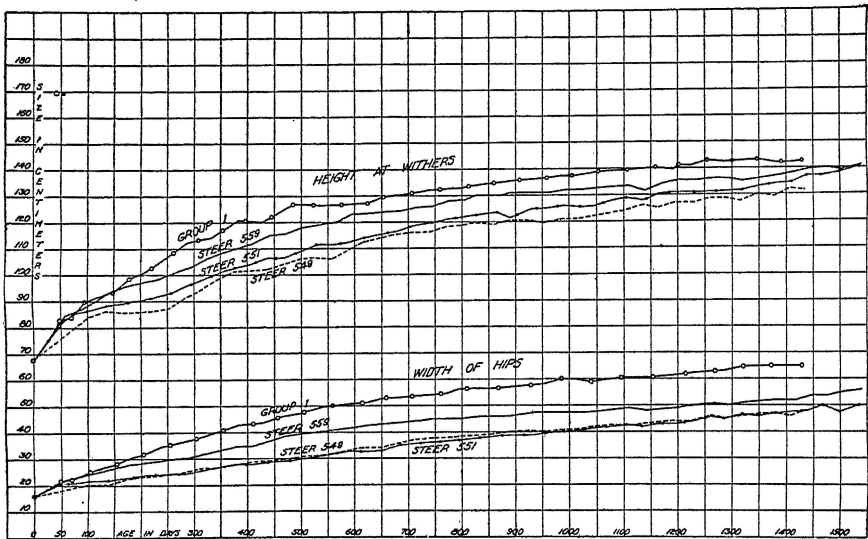


Fig. 29.—Height at withers and width of hips; Steers 549, 551, and 559.

The length of the body is not shown on the chart. A study of the length from shoulder to ischium shows that at 1200 days 549 and 551 were 13 and 15 centimeters behind the Group III steers and 559 was 8 centimeters behind the Group II steers. When discarded Steer 549 was still 9 centimeters behind the Group III steers, and it had gained only 2 centimeters of the difference between it and Group I. When killed at about 1540 days Steer 551, which had been fed out, was only 3 centimeters behind Group II and had reduced by one-third the gap between it and Group I. At the same time Steer 559 had passed the Group II Steers and

had reduced by one-third the gap between it and the Group I Steers. At this age then these animals still retained the power to grow and might have obtained the same length as the Group I animals if fed longer.

THE EFFECT OF WEIGHT OF ANIMAL UPON THE STRENGTH OF THE BONES

Certain bones were selected from the left half of the carcasses of many of the animals used in this experiment. They were freed from muscular and fatty tissue by means of a knife and were tagged and put aside for a later determination of the breaking strength. In some cases the tendons running along the back of

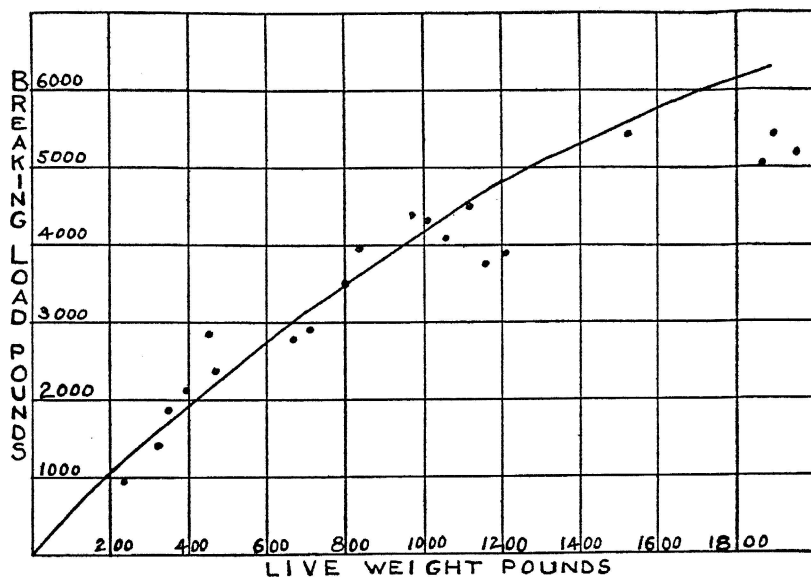


Fig. 30.—Breaking load of bones.

a bone, the metacarpus for example, were removed with the knife, but in other cases they were allowed to remain. Since all the bones were dry and hardened by prolonged exposure to the air the presence or absence of these tendons caused variations in the breaking strength of the bones that would not have otherwise occurred.

In breaking the bones a machine was employed such as is ordinarily used in mechanical laboratories for determining the crushing or bending load for materials of construction. Each bone was

TABLE VI.—BREAKING STRENGTH OF BONES.

Group	Animal	Live weight pounds	Bone	Average diameter inches	Breaking load pounds
III	500	1009	m. carpal	1.41	4140
			m. tarsal	1.41	4450
I	501	1948	m. carpal	1.47	4040
			m. tarsal	1.47	6320
II	502	1118	m. carpal	1.50	5000
			m. tarsal	1.47	3980
II	503	597	m. carpal	1.27	2000
I	504	1160	m. carpal	1.53	3720
			m. tarsal	1.50	3720
			R. and U.	1.81	4000
I	505	691	m. carpal	1.22	2570
			R. and U.	1.52	2000
			Humerus	1.59	1700
II	507	1008	m. carpal	1.38	4000
III	509	970	m. carpal	1.34	4300
			m. tarsal	1.41	4450
II	512	1208	m. carpal	1.47	4470
			m. tarsal	1.53	3260
I	513	1884	m. carpal	1.38	6620
			m. tarsal	1.56	4200
I	515	1639	m. carpal	1.50	5500
II	523	840	m. carpal	1.44	4220
			m. tarsal	1.35	3660
			R. and U.	1.60	4000
III	524	799	m. carpal	1.28	3500
			m. tarsal	1.35	3500
			R. and U.	1.44	1620
			Humerus	1.44	2040
III	525	673	m. carpal	1.38	2300
			m. tarsal	1.25	3240
II	526	1058	m. carpal	1.44	4800
			m. tarsal	1.44	3540
I	527	1859	m. carpal	1.50	5500
			m. tarsal	1.56	4600
I	529	1523	m. carpal	1.19	5840
			m. tarsal	1.50	5000
III	531	468	m. carpal	1.06	2200
			m. tarsal	1.09	2530

TABLE VI.—BREAKING STRENGTH OF BONES—Concluded.

Group	Animal	Live weight pounds	Bone	Average diameter inches	Breaking load pounds
I	532	1163	m. tarsal	1.35	3050
II	538	399	m. carpal	1.03	2220
			m. tarsal	1.06	2000
III	540	349	m. carpal	1.03	1640
			m. tarsal	0.97	2050
I	541	714	m. carpal	1.25	2000
			m. tarsal	1.25	3740
I	547	455	m. carpal	1.22	2390
			m. tarsal	1.09	3250
II	550	325	m. carpal	1.03	1280
			m. tarsal	0.94	1510
III	558	239	m. carpal	1.03	800
			m. tarsal	0.94	1070

supported horizontally on fulcrums two and seven-eighths inches apart and the load was applied midway between these points. Table VI shows the data obtained.

In the case of the metacarpals and metatarsals sometimes the former and sometimes the latter showed the greater strength. The men making the tests were not well acquainted with the anatomy of the beef steer and so may have confused these bones. In order to neutralize the effect of this probable error on the results the breaking strength of the two bones were averaged for use in Figure 30. The figure shows the breaking load as ordinates and the live weight of the animal at slaughter as abscissae. It is seen that the breaking strength does not vary directly as the weight to be supported, but that it becomes smaller in proportion as the weight increases. The curve in general presents the appearance of a logarithmic function curve. The formula is approximately $L=16.5 W^{0.8}$, where L is the load in pounds that caused the bone to break and W is the live weight of the animal. This law holds generally within 12 percent of the observed value of L , for all the animals excepting 501, 513, and 527, the three fat Group I animals weighing over 1800 pounds, and 558 the lightest animal used. In the case of these the value of L calculated is greatly above the observed value.

No difference in the breaking load due to the plane of nutrition is observable other than that due to an increased weight. The ration evidently provided sufficient mineral matter in all cases. With the animals here studied the breaking load was simply a function of the body weight.

The data concerning the radius and ulna and the humerus are so limited that no general conclusion can be drawn.

SUMMARY

About 60 Hereford-Shorthorn beef steers were fed from a few weeks of age on milk, alfalfa hay and a grain ration consisting of 6 parts corn chop, 3 parts whole oats and one part old process linseed meal. The ratio of grain to hay was 2 to 1. The animals were weaned at ages varying from 2 to 7 months.

Three planes of nutrition were used. I. Full fed from birth. II. Fed for maximum growth without appreciable fattening. III. Fed for scanty and retarded growth. The length of the feeding period varied from a few weeks to four years.

The average daily gain for the four years was 1.30 pounds for Group I, 0.80 pounds for Group II, and 0.65 pounds for Group III. The cost per pound of gain was 12.24 pounds of dry matter for Group I, 11.91 pounds for Group II and 11.03 pounds for Group III.

The growth of the Group I animals as shown by height, width and length measurements is considered as representing normal growth for this type of cattle. Growth is more rapid at the earlier ages and becomes much slower at the later ages.

At four years the normal beef steer should be 140 to 150 centimeters high at the withers and at the hips, about 65 centimeters wide at the hips and 187 centimeters long from shoulder to rear of ischium. The heart girth should be about 250 centimeters.

The scantily fed cattle grew less rapidly in all respects. But in height they reached at four years the same height as that obtained by the full fed group. The age at weaning or at which they were put on poorer rations seems to have had no effect upon the ultimate height. Even a long maintenance period during the first year had no effect.

In length, width and circumference of body and in body weight the poorer rations brought about a material decrease. Attempts made to regain these losses were not successful although persisted

in for a year. The animal kept at body weight maintenance for a greater part of a year failed to catch up in these respects even after three years. Longer feeding out periods might have brought about recovery.

The rations fed seem to have had no effect upon the breaking strength of the bones other than what was due to increased weight. For all three groups the breaking strength was a function of the live weight. The formula is approximately $L=16.5 W^{0.8}$, where L is the breaking load and W is the live weight. For the old, very fat Group I cattle this gives results much higher than the observed breaking load.

TABLE I.—FOOD CONSUMED AND WEIGHT OF ANIMAL.

Period	Weight at start	Average weight	Grain consumed	Hay consumed	Milk consumed
	lbs.	lbs.	lbs.	lbs.	lbs.
STEER 500					
4-3 to 4-5-07.....		118.50	0.50	0.50	17.00
4-6 to 5-5.....	119.08	131.15		4.25	301.50
5-6 to 6-4.....	151.00	144.00	7.25	30.00	424.00
6-5 to 7-4.....	202.04	228.01	29.88	29.25	464.00
7-5 to 8-3.....	253.05	280.16	77.63	52.75	442.50
8-4 to 9-2.....	305.30	331.10	95.50	60.00	407.50
9-3 to 10-2.....	354.07	368.66	90.00	60.00	238.00
10-3 to 11-1.....	374.05	373.97	105.00	61.25	
11-2 to 12-1.....	380.02	397.10	147.25	73.75	
12-2 to 12-31.....	423.30	428.83	158.50	79.50	
1-1 to 1-30-08.....	440.20	463.13	180.00	90.00	
1-31 to 2-29.....	476.10	489.23	180.00	90.00	
3-1 to 3-30.....	504.60	518.96	180.00	90.00	
3-31 to 4-29.....	533.80	541.26	180.00	90.00	
4-30 to 5-29.....	552.30	564.26	180.00	90.00	
5-30 to 6-28.....	578.50	588.63	180.00	90.00	
6-29 to 7-28.....	598.10	603.40	180.00	90.00	
7-29 to 8-27.....	613.10	616.43	183.51	91.82	
8-28 to 9-26.....	631.80	639.98	187.76	93.88	
9-27 to 10-26.....	651.10	652.70	183.68	92.86	
10-27 to 11-25.....	657.60	675.90	191.50	96.75	
11-26 to 12-25.....	673.40	681.80	206.26	103.13	
12-26 to 1-24-09.....	691.90	694.53	207.25	103.75	
1-25 to 2-23.....	708.40	703.20	208.13	103.90	
2-24 to 3-25.....	711.50	719.03	212.81	106.44	
3-26 to 4-24.....	731.10	746.50	221.50	110.75	
4-25 to 5-24.....	764.60	784.57	224.00	112.00	
5-25 to 6-23.....	803.00	816.77	217.50	108.75	
6-24 to 7-23.....	809.10	751.50	167.36	87.24	
7-24 to 8-22.....	722.00	748.07	240.00	120.01	
8-23 to 9-21.....	770.40	798.70	277.50	138.75	
9-22 to 10-21.....	827.30	845.63	268.85	134.39	
10-22 to 11-20.....	859.80	870.87	204.00	102.00	
11-21 to 12-20.....	865.40	846.87	183.50	91.75	
12-21 to 1-19-10.....	834.70	839.67	210.88	105.25	
1-20 to 2-18.....	852.40	865.10	217.50	108.75	
2-19 to 3-20.....	865.00	888.93	217.50	108.75	
3-21 to 4-19.....	908.10	918.97	214.25	107.12	
4-20 to 5-19.....	912.80	912.17	210.00	105.00	
5-20 to 6-18.....	915.80	914.77	210.00	105.00	
6-19 to 7-18.....	917.00	918.50	210.00	105.00	
7-19 to 8-17.....	922.70	926.17	212.50	106.22	
8-18 to 9-16.....	932.10	942.70	219.78	109.86	
9-17 to 10-16.....	954.20	955.80	223.80	111.90	
10-17 to 11-15.....	972.30	968.93	237.50	119.00	
11-16 to 12-15.....	966.30	974.17	261.20	130.75	
12-16 to 1-14-11.....	986.50	990.93	297.25	149.00	
1-15 to 2-13.....	1021.60	1033.67	327.75	164.00	
2-14 to 2-27.....	1044.90	1037.30	154.00	77.00	
	1061.80				
STEER 510					
4-4 to 4-5-07.....		135.0	0.25	1.00	8.00
4-6 to 5-5.....	138.0	138.8	0.75	9.28	238.50
5-6 to 6-4.....	143.7	148.1	10.00	19.00	273.00
6-5 to 7-4.....	152.8	160.2	32.25	28.13	227.75
7-5 to 7-24.....	162.6	166.4	48.50	33.50	
	171.6				

TABLE 2.—FOOD CONSUMED AND WEIGHT OF ANIMAL.

Period	Weight at start	Average weight	Grain consumed	Hay consumed	Milk consumed
	lbs.	lbs.	lbs.	lbs.	lbs.
STEER 501					
4- 7 P.M. to 5- 5-07.....	98.00	110.30	.....	5.13	283.50
5- 6 to 6- 4.....	128.60	149.50	3.25	18.38	399.50
6- 5 to 7- 4.....	176.90	198.60	19.53	28.26	474.75
7- 5 to 8- 3.....	222.50	261.90	79.26	55.88	534.50
8- 4 to 9- 2.....	311.90	350.20	121.75	85.75	645.00
9- 3 to 10- 2.....	391.20	438.00	143.00	90.00	657.00
10- 3 to 11- 1.....	486.80	516.80	210.00	109.50	242.00
11- 2 to 12- 1.....	550.80	579.90	307.75	151.25	.....
12- 2 to 12-31.....	610.70	637.10	305.50	156.25	.....
1- 1 to 1-30-08.....	665.00	697.60	329.00	165.00	.....
1-31 to 2-29.....	727.40	754.70	340.50	170.00	.....
3- 1 to 3-30.....	782.50	814.20	360.00	180.00	.....
3-31 to 4-29.....	836.80	852.00	305.50	159.25	.....
4-30 to 5-29.....	884.30	911.20	362.50	177.25	.....
5-30 to 6-28.....	927.20	967.60	406.50	204.05	.....
6-29 to 7-28.....	1004.00	1022.60	424.94	217.79	.....
7-29 to 8-27.....	1037.40	1063.40	394.25	199.05	.....
8-28 to 9-26.....	1083.10	1102.00	396.59	195.72	.....
9-27 to 10-26.....	1119.40	1141.50	366.92	184.89	.....
10-27 to 11-25.....	1153.40	1167.90	341.53	170.05	.....
11-26 to 12-25.....	1177.30	1204.60	363.55	181.27	.....
12-26 to 1-24-09.....	1235.20	1262.30	432.18	206.72	.....
1-25 to 2-23.....	1298.90	1304.20	440.97	246.00	.....
2-24 to 3-25.....	1319.70	1344.50	456.69	215.01	.....
3-26 to 4-24.....	1364.30	1385.60	438.56	220.34	.....
4-25 to 5-24.....	1413.50	1433.20	445.39	222.16	.....
5-25 to 6-23.....	1445.00	1456.50	436.90	217.48	.....
6-24 to 7-23.....	1475.40	1484.90	426.08	226.17	.....
7-24 to 8-22.....	1488.40	1497.90	398.23	216.41	.....
8-23 to 9-21.....	1509.60	1516.30	401.62	199.02	.....
9-22 to 10-21.....	1530.80	1548.40	402.99	211.85	.....
10-22 to 11-20.....	1558.50	1567.50	399.37	186.49	.....
11-21 to 12-20.....	1580.00	1599.50	409.30	172.94	.....
12-21 to 1-19-10.....	1613.70	1629.40	429.42	211.30	.....
1-20 to 2-18.....	1652.10	1672.50	432.92	223.15	.....
2-19 to 3-20.....	1684.30	1697.20	410.50	213.48	.....
3-21 to 4-19.....	1709.10	1724.30	406.65	222.16	.....
4-20 to 5-19.....	1740.70	1750.00	403.49	218.75	.....
5-20 to 6-18.....	1766.40	1770.70	434.74	214.25	.....
6-19 to 7-18.....	1775.00	1789.70	410.00	221.00	.....
7-19 to 8-17.....	1811.80	1815.90	426.64	209.62	.....
8-18 to 9-16.....	1822.40	1833.00	428.01	221.20	.....
9-17 to 10-16.....	1851.60	1851.10	410.65	212.25	.....
10-17 to 11-15.....	1873.40	1873.40	413.06	212.70	.....
11-16 to 12-15.....	1894.50	1913.20	437.00	230.60	.....
12-16 to 1-14-11.....	1926.20	1934.00	435.00	218.25	.....
1-15 to 2-13.....	1939.90	1941.40	402.00	218.00	.....
2-14 to 2-27.....	1951.70	1961.30	187.00	100.75	.....
	1964.80				
STEER 506					
4- 4 to 4- 5-07.....	.....	84.8	.....	1.00	7.00
4- 6 to 5- 5.....	84.7	97.9	0.50	6.21	302.50
5- 6 to 6- 4.....	118.4	143.9	5.50	18.63	424.50
6- 5 to 7- 4.....	171.2	192.7	16.29	28.39	480.00
7- 5 to 8- 3.....	214.3	247.4	66.13	51.38	492.50
8- 4 to 9- 2.....	282.3	315.0	98.25	63.25	525.00
9- 3 to 10- 2.....	350.0	385.3	105.00	75.00	537.50
10- 3 to 10-27.....	418.4	420.8	101.00	67.00	18.00
	430.0				

TABLE 3.—FOOD CONSUMED AND WEIGHT OF ANIMAL.

Period	Weight at	Average	Grain	Hay	Milk
	start	weight	consumed	consumed	consumed
	lbs.	lbs.	lbs.	lbs.	lbs.
STEER 502					
4- 7 P.M. to 5- 5-07.....	110.60	122.50		6.71	297.70
5- 6 to 6- 4.....	142.60	166.60	3.25	27.88	424.50
6- 5 to 7- 4.....	190.90	216.60	28.88	30.00	480.00
7- 5 to 8- 3.....	240.50	271.50	68.35	47.38	456.50
8- 4 to 9- 2.....	292.10	324.60	96.00	57.05	474.00
9- 3 to 10- 2.....	358.90	396.20	105.00	75.00	537.50
10- 3 to 11- 1.....	432.80	438.20	117.50	75.00	108.00
11- 2 to 12- 1.....	443.30	450.50	156.00	78.00	
12- 2 to 12-31.....	472.30	490.30	189.50	95.00	
1- 1 to 1-30-08.....	505.50	526.60	210.00	105.00	
1-31 to 2-29.....	543.90	563.80	210.00	105.00	
3- 1 to 3-30.....	584.10	603.20	214.25	107.25	
3-31 to 4-29.....	624.90	641.20	225.00	112.50	
4-30 to 5-29.....	559.90	676.90	225.00	112.50	
5-30 to 6-28.....	698.90	710.80	225.00	112.50	
6-29 to 7-28.....	723.60	744.30	235.90	116.95	
7-29 to 8-27.....	758.40	774.80	232.66	116.28	
8-28 to 9-26.....	793.10	800.20	230.21	115.07	
9-27 to 10-26.....	815.10	826.10	233.62	116.79	
10-27 to 11-25.....	833.80	847.20	241.76	121.38	
11-26 to 12-25.....	866.70	876.00	256.37	127.69	
12-26 to 1-24-09.....	891.80	905.60	247.88	123.94	
1-25 to 2-23.....	918.00	922.10	247.50	123.75	
2-24 to 3-25.....	936.60	937.70	247.50	123.75	
3-26 to 4-24.....	941.70	962.70	247.50	123.75	
4-25 to 5-24.....	983.10	987.20	235.62	117.82	
5-25 to 6-23.....	988.90	993.60	217.75	108.87	
6-24 to 7-23.....	989.90	990.00	213.75	106.88	
7-24 to 8-22.....	993.60	995.50	211.75	105.87	
8-23 to 9-21.....	997.10	990.80	198.75	99.37	
9-22 to 10-21.....	986.20	991.00	198.75	99.40	
10-22 to 11-20.....	994.60	994.40	211.00	105.50	
11-21 to 12-20.....	997.30	996.10	225.00	112.50	
12-21 to 1-19-10.....	998.70	1003.50	241.25	120.50	
1-20 to 2-18.....	1015.80	1027.50	247.50	123.75	
2-19 to 3-20.....	1031.30	1045.00	247.50	123.75	
3-21 to 4-19.....	1054.60	1066.10	247.50	123.75	
4-20 to 5-19.....	1067.10	1069.00	247.50	123.75	
5-20 to 6-18.....	1071.80	1072.70	247.50	123.75	
6-19 to 7-18.....	1063.70	1081.30	247.50	123.75	
7-19 to 8-17.....	1084.00	1090.00	250.00	125.00	
8-18 to 9-16.....	1101.70	1107.20	255.00	127.50	
9-17 to 10-16.....	1121.50	1134.30	255.00	127.50	
10-17 to 11-15.....	1145.10	1148.90	253.75	126.75	
11-16 to 12-11.....	1153.30	1138.60	208.00	104.00	
	1138.60				
STEER 503					
4- 6 P.M. to 5- 5-07.....	158.6	172.10	1.00	13.68	289.50
5- 6 to 6- 4.....	189.9	210.50	7.25	29.00	424.50
6- 5 to 7- 4.....	234.0	256.20	31.00	41.25	480.00
7- 5 to 8- 3.....	279.3	302.90	77.80	68.50	492.50
8- 4 to 9- 2.....	324.60	348.50	101.50	74.50	498.00
9- 3 to 10- 2.....	374.60	399.00	105.00	75.00	501.50
10- 3 to 11- 1.....	412.40	416.00	127.75	77.50	
11- 2 to 12- 1.....	419.90	433.10	171.25	85.75	
12- 2 to 12-31.....	461.00	482.60	219.50	110.00	
1- 1 to 1-30-08.....	503.30	536.00	246.00	121.00	
1-31 to 2-24.....	570.00	593.40	217.25	109.75	
	608.40				

TABLE 4.—FOOD CONSUMED AND WEIGHT OF ANIMAL.

Period	Weight at start	Average weight	Grain consumed	Hay consumed	Milk consumed
	lbs.	lbs.	lbs.	lbs.	lbs.
STEER 504					
4- 6 P.M. to 5- 5-07.....	147.70	150.00	0.75	5.27	237.50
5- 6 to 6- 4.....	157.30	162.70	9.75	22.79	270.25
6- 5 to 7- 4.....	168.30	180.20	32.25	29.00	265.75
7- 5 to 8- 3.....	189.20	196.00	88.30	59.00	78.75
8- 4 to 9- 2.....	214.20	228.90	141.80	83.25	.....
9- 3 to 10- 2.....	250.30	269.90	158.05	90.00	.....
10- 3 to 11- 1.....	296.10	334.10	232.00	103.75	.....
11- 2 to 12- 1.....	380.70	422.90	329.25	106.25	.....
12- 2 to 12-31.....	462.50	495.20	338.50	136.50	.....
1- 1 to 1-30-08.....	533.50	578.20	359.50	164.75	.....
1-31 to 2-29.....	625.10	658.30	368.75	184.25	.....
3- 1 to 3-30.....	696.40	736.80	390.00	194.00	.....
3-31 to 4-29.....	774.40	808.70	389.25	191.50	.....
4-30 to 5-29.....	844.60	876.30	396.25	198.30	.....
5-30 to 6-28.....	906.30	946.30	478.00	224.50	.....
6-29 to 7-28.....	977.30	1010.90	448.03	180.53	.....
7-29 to 8-27.....	1029.70	1049.90	381.04	190.90	.....
8-28 to 9-26.....	1077.50	1105.10	398.36	197.78	.....
9-27 to 10-26.....	1127.10	1148.80	389.78	172.24	.....
10-27 to 11-25.....	1152.70	1159.20	309.85	138.04	.....
11-26 to 12-11.....	1163.50	1166.00	178.36	86.84	.....
	1170.00				
STEER 505					
4- 6 to 5- 5-07.....	127.10	142.70	1.00	12.95	304.00
5- 6 to 6- 4.....	169.50	189.90	7.25	29.90	424.50
6- 5 to 7- 4.....	209.80	230.40	27.00	29.63	480.00
7- 5 to 8- 3.....	248.60	278.30	83.10	56.25	521.00
8- 4 to 9- 2.....	310.10	336.90	112.50	74.00	508.00
9- 3 to 10- 2.....	369.80	406.70	143.00	90.00	519.50
10- 3 to 11- 1.....	436.50	356.30	210.00	108.00	.....
11- 2 to 12- 1.....	493.20	528.30	309.50	151.75	.....
12- 2 to 12-31.....	563.00	598.30	340.50	160.25	.....
1- 1 to 1-30-08.....	629.90	661.60	360.00	174.25	.....
1-31 to 2- 2.....	688.40	690.70	36.00	18.00	.....
	690.60				
STEER 508					
4- 4 to 4- 5-07.....	.....	117.8	2.00	0.50	7.00
4- 6 to 5- 5.....	118.7	112.9	.50	1.91	207.50
5- 6 to 6- 4.....	108.6	110.1	6.25	5.65	236.00
6- 5 to 7- 4.....	108.6	109.1	15.88	15.54	141.00
7- 5 to 8- 3.....	112.0	122.3	76.00	50.64	.....
8- 4 to 9- 2.....	128.8	142.7	94.25	61.25	.....
9- 3 to 10- 2.....	159.5	179.9	105.00	75.00	.....
10- 3 to 11- 1.....	196.9	215.4	120.00	75.00	.....
11- 2 to 12- 1.....	233.0	254.4	157.00	78.75	.....
12- 2 to 12-31.....	281.2	306.4	189.50	94.50	.....
1- 1 to 1-30-08.....	334.8	364.4	216.00	107.25	.....
1-31 to 2-29.....	392.2	416.4	234.00	117.00	.....
3- 1 to 3-30.....	442.7	472.0	233.50	116.50	.....
3-31 to 4-29.....	492.9	508.5	210.00	105.00	.....
4-30 to 5-29.....	524.1	541.9	210.00	105.00	.....
5-30 to 6-28.....	559.4	571.5	210.00	105.00	.....
6-29 to 7-28.....	582.2	599.9	224.50	112.25	.....
7-29 to 8-27.....	615.9	631.9	225.00	112.50	.....
8-28 to 9-26.....	654.2	661.9	220.52	110.20	.....
9-27 to 10-26.....	665.7	676.3	224.36	109.52	.....
10-27 to 11-20.....	674.0	691.1	192.80	96.43	.....
	701.0				

TABLE 5.—FOOD CONSUMED AND WEIGHT OF ANIMAL.

Period	Weight at start	Average weight	Grain consumed	Hay consumed	Milk consumed
	lbs.	lbs.	lbs.	lbs.	lbs.
STEER 507					
4- 6 to 5- 5-07.....	93.2	108.4	0.25	6.79	376.50
5- 6 to 6- 4.....	128.8	153.0	6.00	17.75	424.50
6- 5 to 7- 4.....	179.5	206.1	29.25	28.75	480.00
7- 5 to 8- 3.....	234.2	268.1	77.00	51.00	492.50
8- 4 to 9- 2.....	304.8	337.7	102.25	58.50	525.00
9- 3 to 10- 2.....	371.2	405.0	105.00	75.00	537.50
10- 3 to 11- 1.....	435.2	440.8	120.50	75.75	18.00
11- 2 to 12- 1.....	447.5	458.3	165.75	83.00	.....
12- 2 to 12-31.....	480.2	497.6	139.50	95.00	.....
1- 1 to 1-30-08.....	522.1	544.3	210.00	105.00	.....
1-31 to 2-29.....	565.1	581.1	210.00	105.00	.....
3- 1 to 3-30.....	596.9	612.6	210.00	105.00	.....
3-31 to 4-29.....	633.7	650.6	210.00	105.00	.....
4-30 to 5-29.....	661.1	685.8	210.00	105.00	.....
5-30 to 6-28.....	706.8	716.8	210.00	105.00	.....
6-29 to 7-28.....	726.7	739.4	220.90	110.45	.....
7-29 to 8-27.....	755.4	766.6	213.50	106.73	.....
8-28 to 9-26.....	778.2	788.6	217.53	108.68	.....
9-27 to 10-26.....	797.4	810.4	221.30	111.11	.....
10-27 to 11-25.....	816.4	822.8	231.00	115.50	.....
11-26 to 12-25.....	835.3	844.3	243.74	121.87	.....
12-26 to 1-24-09.....	853.9	865.9	243.75	121.89	.....
1-25 to 2-23.....	874.4	879.3	232.24	120.13	.....
2-24 to 3-25.....	888.9	898.3	243.75	121.88	.....
3-26 to 4-24.....	909.6	925.2	243.75	121.90	.....
4-25 to 5-24.....	939.3	958.3	241.38	120.69	.....
5-25 to 6-23.....	970.3	983.2	240.00	120.00	.....
6-24 to 7-23.....	1002.5	991.9	240.00	120.00	.....
7-24 to 8-22.....	994.6	1015.0	238.00	119.00	.....
8-23 to 9-21.....	1019.1	1018.5	221.75	110.75	.....
9-22 to 10-21.....	1019.8	1016.9	208.50	105.00	.....
10-22 to 11-20.....	1017.9	1019.9	215.94	107.97	.....
11-21 to 12-20.....	1010.6	1007.7	217.50	108.75	.....
12-21 to 1- 2-10.....	1003.3	1007.8	100.81	50.31	.....
	1014.4				
STEER 518					
4- 2 to 4- 5-07.....	.....	202.1	2.00	2.00	40.00
4- 6 to 5- 5.....	208.2	234.9	4.00	17.80	330.50
5- 6 to 6- 4.....	262.5	291.9	10.75	43.75	485.50
6- 5 to 7- 4.....	323.5	342.2	38.75	44.88	540.00
7- 5 to 8- 3.....	359.6	384.3	85.25	72.50	542.50
8- 4 to 9- 2.....	415.2	438.8	126.00	94.25	457.00
9- 3 to 10- 2.....	462.0	471.6	122.25	90.00	112.00
10- 3 to 11- 1.....	483.6	497.2	144.50	87.50	.....
11- 2 to 12- 1.....	509.2	523.8	177.25	88.75	.....
12- 2 to 12-31.....	543.0	553.1	188.50	94.50	.....
1- 1 to 1-30-08.....	568.7	587.1	210.00	105.00	.....
1-31 to 2-29.....	602.4	621.3	210.00	105.00	.....
3- 1 to 3-30.....	634.7	653.1	205.75	102.75	.....
3-31 to 4-29.....	668.6	680.2	188.50	93.75	.....
4-30 to 5-29.....	683.5	690.5	174.50	87.00	.....
5-30 to 6-28.....	694.1	695.4	165.00	82.50	.....
6-29 to 7-28.....	698.9	705.0	165.00	82.50	.....
7-29 to 8- 2.....	704.9	699.6	27.50	13.75	.....
	698.6				

TABLE 6.—FOOD CONSUMED AND WEIGHT OF ANIMAL.

Period	Weight at start	Average weight	Grain consumed	Hay consumed	Milk consumed
	lbs.	lbs.	lbs.	lbs.	lbs.
STEER 509					
4- 4 to 4- 5-07.....		107.80			7.00
4- 6 to 5- 5.....	109.70	124.50	0.25	5.63	302.50
5- 6 to 6- 4.....	143.60	167.60	6.50	14.80	425.00
6- 5 to 7- 4.....	194.00	217.90	22.75	29.00	480.00
7- 5 to 8- 3.....	241.40	270.60	76.75	53.50	442.50
8- 4 to 9- 2.....	299.40	328.00	128.75	60.00	407.50
9- 3 to 10- 2.....	352.50	382.90	90.00	60.00	418.00
10- 3 to 11- 1.....	409.80	398.80	83.00	50.50	42.00
11- 2 to 12- 1.....	393.80	398.00	117.25	58.75	
12- 2 to 12-31.....	408.00	418.60	154.75	78.50	
1- 1 to 1-30-08.....	433.30	456.10	180.00	90.00	
1-31 to 2-29.....	470.60	484.70	179.25	90.00	
3- 1 to 3-30.....	503.80	520.30	180.00	90.00	
3-31 to 4-29.....	536.40	546.20	180.00	177.00	
4-30 to 5-29.....	554.70	570.40	180.00	90.00	
5-30 to 6-28.....	584.60	591.80	180.00	90.00	
6-29 to 7-28.....	596.60	604.80	180.00	90.00	
7-29 to 8-27.....	615.50	618.10	180.00	90.00	
8-28 to 9-26.....	629.70	642.80	180.00	90.00	
9-27 to 10-26.....	647.40	656.20	180.00	90.00	
10-27 to 11-25.....	657.50	662.10	188.75	97.70	
11-26 to 12-25.....	669.50	681.70	204.20	101.00	
12-26 to 1-24-09.....	692.70	698.70	205.75	103.13	
1-25 to 2-23.....	707.80	710.20	208.00	103.94	
2-24 to 3-25.....	720.40	731.70	212.81	106.47	
3-26 to 4-24.....	747.40	760.70	217.50	108.75	
4-25 to 5-24.....	778.60	785.40	217.50	108.75	
5-25 to 6-23.....	794.90	804.30	217.50	108.75	
6-24 to 7-23.....	818.20	809.00	207.69	108.75	
7-24 to 8-22.....	813.20	821.10	217.50	108.75	
8-23 to 9-21.....	828.40	841.20	217.50	108.75	
9-22 to 10-21.....	848.30	852.00	217.50	108.75	
10-22 to 11-20.....	855.20	859.90	195.77	97.88	
11-21 to 12-20.....	856.90	844.80	183.50	91.75	
12-21 to 1-19-10.....	837.40	835.40	201.19	100.50	
1-20 to 2-18.....	846.30	850.50	210.00	105.00	
2-19 to 3-20.....	845.10	861.20	211.98	106.02	
3-21 to 4-19.....	873.00	879.80	213.60	106.80	
4-20 to 5-19.....	881.00	879.60	213.60	106.80	
5-20 to 6-18.....	891.00	896.20	216.66	108.36	
6-19 to 7-18.....	909.70	915.60	217.50	108.75	
7-19 to 8-17.....	917.70	920.90	222.50	111.28	
8-18 to 9-16.....	922.50	934.10	236.88	118.56	
9-17 to 10-16.....	951.70	960.20	240.00	120.00	
10-17 to 11-15.....	985.70	981.13	246.25	123.25	
11-16 to 12-11.....	984.60	990.60	225.20	112.75	
	1004.20				
STEER 511					
4- 4 to 4- 5-07.....		155.3	0.75	1.50	
4- 6 to 5- 5.....	149.2	173.3	3.00	21.89	304.00
5- 6 to 6- 4.....	193.8	192.6	4.25	8.96	464.25
6- 5 to 7- 4.....	192.5	192.1	14.02	19.14	421.50
7- 5 to 8- 3.....	196.3	190.6	74.50	48.50	35.00
8- 4 to 8-21.....	201.4	208.2	53.75	31.75	
	200.6				

TABLE 7.—FOOD CONSUMED AND WEIGHT OF ANIMAL.

Period	Weight at start	Average weight	Grain consumed	Hay consumed	Milk consumed
	lbs.	lbs.	lbs.	lbs.	lbs.
STEER 512					
4- 4 to 4- 5-07.....	168.5	168.5	0.75	0.75	8.00
4- 6 to 5- 5.....	170.0	181.5	2.88	16.71	312.50
5- 6 to 6- 4.....	197.9	216.4	2.75	28.79	482.50
6- 5 to 7- 4.....	240.6	249.9	11.39	36.63	486.75
7- 5 to 8- 3.....	254.8	278.6	76.60	53.50	492.50
8- 4 to 9- 2.....	307.7	334.9	102.30	63.25	525.00
9- 3 to 10- 2.....	365.7	388.5	105.00	75.00	357.00
10- 3 to 11- 1.....	394.7	404.5	125.50	78.50	.....
11- 2 to 12- 1.....	417.3	430.0	174.25	87.50	.....
12- 2 to 12-31.....	456.3	480.1	219.50	110.00	.....
1- 1 to 1-30-08.....	505.9	527.9	246.00	123.00	.....
1-31 to 2-29.....	551.3	569.3	262.50	130.75	.....
3- 1 to 3-30.....	586.8	616.3	270.00	135.00	.....
3-31 to 4-29.....	640.2	654.5	270.00	135.00	.....
4-30 to 5-29.....	672.6	693.8	265.50	132.80	.....
6-30 to 6-28.....	710.0	720.6	255.00	127.50	.....
5-29 to 7-28.....	731.5	751.6	265.90	132.95	.....
7-29 to 8-27.....	776.6	779.5	254.50	133.00	.....
8-28 to 9-26.....	789.3	804.9	262.58	131.24	.....
9-27 to 10-26.....	817.7	834.6	263.83	132.00	.....
10-27 to 11-25.....	842.5	854.2	271.38	135.69	.....
11-26 to 12-25.....	871.2	880.1	285.00	142.50	.....
12-26 to 1-24-09.....	893.8	897.1	285.00	142.50	.....
1-25 to 2-23.....	910.3	917.0	285.00	142.50	.....
2-24 to 3-25.....	927.1	935.7	281.12	140.50	.....
3-26 to 4-24.....	942.4	952.3	277.50	138.75	.....
4-25 to 5-24.....	967.2	975.3	263.25	131.62	.....
5-25 to 6-23.....	980.3	986.7	255.00	127.50	.....
6-24 to 7-23.....	990.3	989.7	255.00	127.50	.....
7-24 to 8-22.....	996.7	1006.6	255.00	127.50	.....
8-23 to 9-21.....	1013.8	1027.2	255.00	127.50	.....
9-22 to 10-21.....	1032.2	1033.1	255.00	127.50	.....
10-22 to 11-20.....	1037.7	1047.7	258.50	129.18	.....
11-21 to 12-20.....	1056.9	1050.6	262.50	131.10	.....
12-21 to 1-19-10.....	1043.8	1048.6	271.63	135.74	.....
1-20 to 2-18.....	1054.3	1060.4	277.50	138.75	.....
2-19 to 3-20.....	1055.5	1070.3	281.63	140.87	.....
3-21 to 4-19.....	1085.8	1096.3	285.00	142.50	.....
4-20 to 5-19.....	1104.9	1105.6	285.00	142.50	.....
5-20 to 6-18.....	1114.7	1117.4	285.00	142.50	.....
6-19 to 7-18.....	1121.1	1131.1	285.00	142.50	.....
7-19 to 8-17.....	1151.2	1164.1	287.50	143.78	.....
8-18 to 9-16.....	1195.3	1196.3	292.50	146.40	.....
9-17 to 10-16.....	1220.3	1222.0	292.50	146.40	.....
10-17 to 11-15.....	1232.1	1238.2	292.50	146.40	.....
11-16 to 12-15.....	1240.2	1247.9	292.50	146.40	.....
12-16 to 1-14-11.....	1250.6	1241.9	273.37	136.52	.....
1-15 to 2-13.....	1231.9	1237.4	282.55	141.50	.....
2-14 to 2-27.....	1254.6	1245.1	142.50	71.50	.....
	1250.4				
STEER 516					
4- 3 to 4- 5-07.....	118.5	118.5	0.25	0.50	25.00
4- 6 to 5- 5.....	119.8	116.9	.....	3.27	190.25
5- 6 to 6- 4.....	120.8	127.1	7.00	15.63	261.50
6- 5 to 7- 4.....	132.4	141.1	28.01	21.64	292.50
7- 5 to 8- 3.....	153.9	161.0	76.75	51.63	76.00
8- 4 to 8-19.....	171.9	178.7	50.00	31.75	.....
	181.8				

TABLE 8.—FOOD CONSUMED AND WEIGHT OF ANIMAL.

Period	Weight at start	Average weight	Grain consumed	Hay consumed	Milk consumed
	lbs.	lbs.	lbs.	lbs.	lbs.
STEER 513					
4-9 to 5-5-07.....	106.70	119.30	.....	6.00	265.00
5-6 to 6-4.....	139.00	163.20	7.25	17.50	425.00
6-5 to 7-4.....	191.40	217.10	29.13	29.38	480.00
7-5 to 8-3.....	240.30	274.40	87.90	58.75	534.50
8-4 to 9-2.....	320.30	253.00	127.43	81.25	634.50
9-3 to 10-2.....	390.30	433.80	141.75	90.00	657.00
10-3 to 11-1.....	475.70	499.80	202.75	105.50	198.00
11-2 to 12-1.....	537.50	571.80	292.75	147.25	.....
12-2 to 12-31.....	604.50	627.80	291.75	146.75	.....
1-1 to 1-30-08.....	649.20	674.50	286.50	148.50	.....
1-31 to 2-29.....	697.90	717.80	293.00	150.00	.....
3-1 to 3-30.....	740.70	770.30	319.50	160.00	.....
3-31 to 4-29.....	799.10	828.20	365.25	183.25	.....
4-30 to 5-29.....	855.50	878.90	352.25	185.00	.....
5-30 to 6-28.....	910.40	929.40	354.00	178.75	.....
6-29 to 7-28.....	947.50	975.20	375.43	188.75	.....
7-29 to 8-27.....	1002.20	1021.70	335.66	181.37	.....
8-28 to 9-26.....	1034.40	1057.00	351.11	179.18	.....
9-27 to 10-26.....	1071.10	1086.90	332.09	169.12	.....
10-27 to 11-25.....	1099.70	1114.70	330.72	167.94	.....
11-26 to 12-25.....	1121.60	1136.40	333.46	172.71	.....
12-26 to 1-24-09.....	1161.20	1182.70	359.08	173.87	.....
1-25 to 2-23.....	1201.30	1192.20	351.27	165.00	.....
2-24 to 3-25.....	1198.60	1217.80	385.59	174.50	.....
3-26 to 4-24.....	1237.40	1260.20	400.13	180.00	.....
4-25 to 5-24.....	1287.80	1308.50	404.26	180.00	.....
5-25 to 6-23.....	1337.40	1364.60	409.21	195.00	.....
6-24 to 7-23.....	1386.90	1398.10	407.91	224.81	.....
7-24 to 8-22.....	1410.40	1430.60	397.02	225.00	.....
8-23 to 9-21.....	1452.00	1477.20	410.15	225.00	.....
9-22 to 10-21.....	1503.70	1526.10	413.80	225.00	.....
10-22 to 11-20.....	1545.90	1569.30	440.10	209.25	.....
11-21 to 12-20.....	1578.00	1597.60	471.41	208.00	.....
12-21 to 1-19-10.....	1611.00	1628.80	467.99	253.00	.....
1-20 to 2-18.....	1633.80	1625.50	341.55	285.25	.....
2-19 to 3-20.....	1622.80	1628.00	352.56	281.36	.....
3-21 to 4-19.....	1636.50	1642.00	339.12	245.49	.....
4-20 to 5-19.....	1651.40	1666.90	383.07	206.37	.....
5-20 to 6-18.....	1678.20	1693.00	393.63	210.00	.....
6-19 to 7-18.....	1698.90	1713.50	360.77	210.00	.....
7-19 to 8-17.....	1724.40	1732.50	362.88	201.87	.....
8-18 to 9-16.....	1740.40	1759.10	399.57	207.70	.....
9-17 to 10-16.....	1778.50	1782.80	372.59	201.20	.....
10-17 to 11-15.....	1801.70	1826.80	417.22	214.25	.....
11-16 to 12-11.....	1850.20	1874.70	406.83	210.14	.....
.....	1898.40	.....	.....	.....	.....
STEER 517					
4-3 to 4-5-07.....	.....	102.3	0.50	0.50	40.00
4-6 to 5-5.....	105.8	120.8	.....	8.02	320.50
5-6 to 6-4.....	140.3	160.5	7.25	19.00	425.00
6-5 to 7-4.....	184.6	208.5	27.39	29.39	480.00
7-5 to 8-3.....	230.1	260.9	76.50	53.00	450.50
8-4 to 9-2.....	289.4	316.9	95.50	60.00	408.50
9-3 to 10-2.....	340.3	363.9	90.00	60.00	320.00
10-3 to 10-27.....	371.8	373.2	82.50	50.00	.....
.....	376.0	.....	.....	.....	.....

TABLE 9.—FOOD CONSUMED AND WEIGHT OF ANIMAL.

Period	Weight at start	Average weight	Grain consumed	Hay consumed	Milk consumed
	lbs.	lbs.	lbs.	lbs.	lbs.
STEER 515					
4-3 to 4-5-07.....		114.0	0.25	0.50	18.00
4-6 to 5-5.....	117.3	126.3	0.25	7.15	247.50
5-6 to 6-4.....	134.8	140.2	7.25	17.75	259.50
6-5 to 7-4.....	146.5	150.9	27.02	25.64	235.75
7-5 to 8-3.....	152.7	167.4	71.00	46.18	
8-4 to 9-2.....	174.5	195.3	104.50	62.50	
9-3 to 10-2.....	216.0	243.5	143.00	90.00	
10-3 to 11-1.....	265.2	261.2	75.50	47.50	
11-2 to 12-1.....	269.2	281.2	115.00	58.00	
12-2 to 12-31.....	299.5	333.5	179.50	90.00	
1-1 to 1-30-08.....	370.3	408.1	244.50	123.00	
1-31 to 2-29.....	449.1	494.9	301.00	151.50	
3-1 to 3-30.....	540.4	587.0	355.50	179.00	
3-31 to 4-29.....	632.6	668.7	355.25	175.00	
4-30 to 5-29.....	705.1	740.1	361.25	180.75	
5-30 to 6-28.....	781.3	825.5	444.50	220.75	
6-29 to 7-28.....	864.2	903.0	472.88	223.99	
7-29 to 8-27.....	942.6	972.7	446.28	226.67	
8-28 to 9-26.....	1005.7	1042.7	437.86	219.11	
9-27 to 10-26.....	1064.4	1092.6	382.57	188.56	
10-27 to 11-25.....	1102.8	1131.7	346.52	171.68	
11-26 to 12-25.....	1147.3	1162.1	340.65	166.10	
12-26 to 1-24-09.....	1188.4	1208.0	350.72	168.70	
1-25 to 2-23.....	1234.8	1244.5	353.33	190.89	
2-24 to 3-25.....	1256.5	1281.1	348.97	191.91	
3-26 to 4-24.....	1316.4	1335.8	378.68	191.22	
4-25 to 5-24.....	1355.9	1374.6	382.01	193.93	
5-25 to 6-23.....	1401.4	1422.3	368.27	192.98	
6-24 to 7-23.....	1439.0	1460.0	393.10	193.92	
7-24 to 8-22.....	1474.8	1492.4	392.86	195.00	
8-23 to 9-21.....	1499.2	1509.5	392.04	195.00	
9-22 to 10-21.....	1528.7	1536.5	371.43	225.00	
10-22 to 11-20.....	1550.8	1565.7	367.97	183.75	
11-21 to 12-20.....	1567.1	1584.8	375.73	179.00	
12-21 to 1-2-10.....	1606.8	1610.7	172.12	89.75	
	1632.2				
STEER 519					
3-22 to 4-5-07.....	157.2	161.6		2.50	201.00
4-6 to 5-5.....	166.5	182.7	2.25	19.26	330.00
5-6 to 6-4.....	199.6	210.2	10.75	40.18	483.50
6-5 to 6-14.....	224.9	229.9	13.00	13.88	176.00
	233.0				
STEER 528					
11-19 to 12-1-07.....	134.8	140.5		7.75	143.50
12-2 to 12-31.....	150.4	164.8	3.50	26.75	386.00
1-1 to 1-30-08.....	179.4	206.8	35.25	30.00	491.00
1-31 to 2-29.....	236.0	262.5	56.00	32.25	557.00
3-1 to 3-30.....	289.8	322.8	78.00	39.25	556.00
3-31 to 4-29.....	356.5	391.9	112.75	57.00	585.00
4-30 to 5-29.....	433.5	471.1	151.00	75.75	490.50
5-30 to 6-28.....	493.5	521.8	232.75	120.00	
6-29 to 7-28.....	549.1	575.6	252.40	137.00	
7-29 to 8-27.....	598.2	616.8	242.80	118.97	
8-28 to 9-26.....	627.4	643.1	209.46	114.01	
9-27 to 10-26.....	650.8	657.1	199.91	115.50	
10-27 to 11-2.....	653.1	645.9	32.99	21.00	
	643.4				

TABLE 10.—FOOD CONSUMED AND WEIGHT OF ANIMAL.

Period	Weight at start	Average weight	Grain consumed	Hay consumed	Milk consumed
	lbs.	lbs.	lbs.	lbs.	lbs.
STEER 520					
3-22 to 4-5-07.....	161.0	168.9	1.75	2.00	209.50
4-6 to 5-5.....	183.3	214.7	5.00	20.41	494.00
5-6 to 6-4.....	246.7	278.8	11.00	43.38	585.00
6-5 to 7-4.....	308.9	332.1	37.75	35.38	550.00
7-5 to 8-3.....	357.7	387.4	85.25	71.75	608.50
8-4 to 9-2.....	426.5	464.1	147.50	100.25	634.50
9-3 to 10-2.....	500.7	533.4	158.00	105.00	349.00
10-3 to 10-27.....	551.4	576.2	181.50	98.75	.....
	608.0				
STEER 521					
3-31 to 4-5-07.....	110.5	111.1	1.50	2.75	88.00
4-6 to 5-5.....	114.8	141.5	4.75	22.50	489.50
5-6 to 6-4.....	170.8	200.8	11.00	36.71	585.00
6-5 to 7-4.....	233.1	260.3	38.75	41.02	600.00
7-5 to 8-3.....	288.4	324.7	87.75	71.25	608.50
8-4 to 9-2.....	365.1	397.0	144.75	94.00	645.00
9-3 to 10-2.....	429.7	441.9	158.00	105.00	44.00
10-3 to 11-1.....	455.9	479.0	232.00	120.25	.....
11-2 to 12-1.....	510.4	541.8	337.50	169.00	.....
12-2 to 12-31.....	573.7	600.6	347.00	160.00	.....
1-1 to 1-30-08.....	625.6	644.0	332.25	141.25	.....
1-31 to 2-29.....	658.8	668.2	269.50	132.75	.....
3-1 to 3-30.....	673.3	667.9	156.50	77.50	.....
3-31 to 4-29.....	669.1	668.5	139.75	73.50	.....
4-30 to 5-29.....	669.8	671.7	150.00	75.00	.....
5-30 to 6-28.....	681.8	677.2	150.00	75.00	.....
6-29 to 7-23.....	681.1	678.9	146.76	73.32	.....
7-29 to 8-27.....	669.4	667.4	140.82	70.38	.....
8-28 to 9-26.....	668.1	662.0	141.15	70.00	.....
9-27 to 10-26.....	659.7	668.3	148.37	73.99	.....
10-27 to 11-25.....	659.7	715.5	306.69	153.50	.....
11-26 to 12-25.....	790.3	834.0	496.54	228.04	.....
12-26 to 1-24-09.....	870.2	849.1	352.41	168.32	.....
1-25 to 2-23.....	838.6	838.9	272.10	174.30	.....
2-24 to 3-25.....	863.5	890.1	354.92	178.67	.....
3-26 to 4-24.....	917.2	947.1	369.28	186.56	.....
4-25 to 5-24.....	969.5	1006.2	388.62	194.75	.....
5-25 to 6-23.....	1038.7	1047.6	319.50	159.75	.....
6-24 to 7-23.....	1034.5	1042.2	242.25	121.13	.....
7-24 to 7-30.....	1042.7	1047.7	49.50	24.75	.....
	1051.6				
STEER 530					
11-10 to 11-25-08.....	165.2	169.6	.....	13.25	196.19
11-26 to 12-25.....	172.0	173.9	22.59	29.45	249.50
12-26 to 1-8-09.....	186.2	192.1	27.88	13.88	132.50
	195.2				
STEER 534					
3-26 to 4-24-09.....	91.3	94.5	2.68	1.37	212.50
4-25 to 5-24.....	94.7	100.3	13.60	10.12	212.50
5-25 to 6-23.....	105.5	110.9	22.58	14.42	219.00
6-24 to 7-23.....	118.4	132.0	59.46	25.80	177.50
7-24 to 8-22.....	144.9	158.6	114.75	57.40	85.00
8-23 to 9-11.....	172.5	189.5	102.50	51.26	.....
	201.6				

TABLE 11.—FOOD CONSUMED AND WEIGHT OF ANIMAL.

Period	Weight at start	Average weight	Grain consumed	Hay consumed	Milk consumed
STEER 522	lbs.	lbs.	lbs.	lbs.	lbs.
3-31 to 4- 5-07.....	160.3	160.9	2.00	3.50	88.00
4- 6 to 5- 5.....	166.0	193.3	5.25	32.75	490.50
5- 6 to 6- 4.....	219.3	247.0	11.00	45.00	585.00
6- 5 to 7- 4.....	277.3	301.9	38.25	42.63	599.25
7- 5 to 8- 3.....	325.1	355.6	83.25	71.25	576.00
8- 4 to 9- 2.....	381.1	397.1	84.25	69.25	398.00
9- 3 to 10- 2.....	400.9	394.0	82.50	67.50	.....
10- 3 to 11- 1.....	391.8	395.8	81.00	67.50	.....
11- 2 to 12- 1.....	398.1	391.4	87.00	54.00	.....
12- 2 to 12-31.....	395.1	397.6	94.50	49.50	.....
1- 1 to 1-30-08.....	387.4	383.8	90.00	45.00	.....
1-31 to 2-29.....	383.1	408.7	164.00	83.00	.....
3- 1 to 3-30.....	453.0	513.8	341.00	168.75	.....
3-31 to 4-29.....	555.0	568.8	296.10	127.00	.....
4-30 to 5-29.....	594.9	635.8	359.50	179.50	.....
5-30 to 6-28.....	676.4	704.7	399.75	184.00	.....
6-29 to 7-28.....	717.4	740.7	414.74	148.45	.....
7-29 to 8-27.....	762.8	778.3	272.16	155.73	.....
8-28 to 9-26.....	800.2	812.6	246.67	170.54	.....
9-27 to 10-26.....	805.4	824.5	272.70	135.38	.....
10-27 to 11-25.....	853.1	857.3	274.13	134.64	.....
11-26 to 12-25.....	864.6	868.3	253.13	126.60	.....
12-26 to 1-24-09.....	881.6	877.9	224.69	114.31	.....
1-25 to 2-23.....	873.6	861.6	194.43	99.43	.....
2-24 to 3-25.....	855.9	860.4	201.50	100.75	.....
3-26 to 4-24.....	865.8	870.0	197.63	99.81	.....
4-25 to 5-24.....	883.9	886.8	162.25	80.31	.....
5-25 to 6-23.....	873.5	882.5	212.50	105.62	.....
6-24 to 7-23.....	949.3	985.2	480.12	235.06	.....
7-24 to 8-30.....	1017.1	1019.1	98.80	49.62	.....
	1018.8				
STEER 523					
9-25 P.M. to 10-2-07.....	132.20	135.30	.....	1.50	70.00
10- 3 to 11- 1.....	141.00	156.70	.....	4.75	427.50
11- 2 to 12- 1.....	177.80	197.70	6.25	21.50	480.00
12- 2 to 12-31.....	219.70	237.20	15.00	30.00	480.00
1- 1 to 1-30-08.....	252.20	275.10	29.50	30.00	487.00
1-31 to 2-29.....	296.70	319.20	49.25	30.00	540.00
3- 1 to 3-30.....	340.60	371.00	69.75	37.00	531.00
3-31 to 4-29.....	395.90	406.20	118.50	57.50	126.00
4-30 to 5-29.....	424.40	434.80	135.00	67.50	.....
5-30 to 6-28.....	443.60	455.30	135.00	67.50	.....
6-29 to 7-28.....	460.10	475.80	149.50	74.75	.....
7-29 to 8-27.....	488.50	520.00	153.51	76.82	.....
8-28 to 9-26.....	527.60	534.70	157.76	78.88	.....
9-27 to 10-26.....	546.70	563.60	166.13	83.13	.....
10-27 to 11-25.....	570.30	582.40	174.24	87.13	.....
11-26 to 12-25.....	599.40	604.40	183.74	91.87	.....
12-26 to 1-24-09.....	616.90	615.20	188.75	94.38	.....
1-25 to 2-23.....	626.90	633.80	195.00	97.50	.....
2-24 to 3-25.....	644.30	658.40	196.75	98.37	.....
3-26 to 4-24.....	672.00	698.50	206.50	103.25	.....
4-25 to 5-24.....	725.70	736.30	211.13	105.57	.....
5-25 to 6-23.....	744.90	762.00	226.50	113.25	.....
6-24 to 7-23.....	772.60	781.10	221.00	116.25	.....
7-24 to 8-22.....	789.00	806.10	232.50	116.25	.....
8-23 to 9-21.....	817.90	830.90	232.50	116.25	.....
9-22 to 10-21.....	845.50	848.40	232.50	116.25	.....
10-22 to 11- 7.....	857.10	864.70	119.22	59.61	.....
	864.20				

TABLE 12.—FOOD CONSUMED AND WEIGHT OF ANIMAL.

Period	Weight at start	Average weight	Grain consumed	Hay consumed	Milk consumed
	lbs.	lbs.	lbs.	lbs.	lbs.
STEER 524					
9-29 P.M. to 10-2-07.....		145.40		1.00	26.50
10- 3 to 11- 1.....	148.10	155.10		2.75	359.00
11- 2 to 12- 1.....	167.90	178.60	6.25	22.25	397.00
12- 2 to 12-31.....	197.90	216.10	15.00	29.75	480.00
1- 1 to 1-30-08.....	226.20	247.10	29.50	30.00	480.00
1-31 to 2-29.....	264.60	286.40	57.00	30.00	480.00
3- 1 to 3-30.....	306.40	326.30	60.00	30.00	480.00
3-31 to 4-29.....	346.40	356.20	79.00	39.75	240.00
4-30 to 5-29.....	361.80	371.40	109.75	54.75	
5-30 to 6-28.....	378.40	381.80	107.75	53.75	
6-29 to 7-28.....	388.40	402.80	127.00	63.50	
7-29 to 8-27.....	409.60	413.20	121.68	60.87	
8-28 to 9-26.....	422.90	430.20	123.60	61.80	
9-27 to 10-26.....	438.50	443.50	123.66	61.83	
10-27 to 11-25.....	443.40	454.20	126.50	63.22	
11-26 to 12-25.....	456.10	466.10	131.18	65.63	
12-26 to 1-24-09.....	470.60	475.60	134.25	67.00	
1- 25 to 2-23.....	485.90	485.30	140.94	70.44	
2-24 to 3-25.....	498.90	509.20	148.00	74.00	
3-26 to 4-24.....	521.00	535.50	166.74	83.38	
4-25 to 5-24.....	549.30	576.40	198.12	99.06	
5-25 to 6-23.....	588.30	600.10	193.50	96.75	
6-24 to 7-23.....	604.90	615.00	187.50	93.75	
7-24 to 8-22.....	608.30	614.80	187.50	93.75	
8-23 to 9-21.....	621.90	634.10	184.25	92.01	
9-22 to 10-21.....	633.00	629.90	172.95	86.51	
10-22 to 11-20.....	635.10	653.70	184.25	92.12	
11-21 to 12-20.....	660.50	663.60	180.00	90.00	
12-21 to 1-19-10.....	663.20	671.00	180.00	90.00	
1-20 to 2-18.....	681.40	692.80	187.50	93.75	
2-19 to 3-20.....	690.70	710.10	183.38	91.62	
3-21 to 4-19.....	724.60	723.20	173.50	86.75	
4-20 to 5-19.....	716.00	721.90	165.00	82.50	
5-20 to 6-18.....	729.90	727.70	159.12	79.50	
6-19 to 7-18.....	724.50	726.50	157.50	78.75	
7-19 to 8-17.....	723.60	726.20	157.50	78.78	
8-18 to 9-16.....	721.70	726.80	161.88	81.06	
9-17 to 10-16.....	726.50	735.80	165.00	82.50	
10-17 to 11-15.....	747.40	747.30	177.50	89.00	
11-16 to 12-15.....	756.80	765.80	213.75	107.25	
12-16 to 1-14-11.....	807.10	810.90	214.50	107.00	
1-15 to 1-22.....	818.30	811.10	56.00	28.00	
	806.20				
STEER 533					
12- 3 to 12-25-08.....	138.4	146.6	14.99	10.13	249.00
12-26 to 1-24-09.....	159.6	178.3	28.62	14.32	286.00
1-25 to 2-23.....	197.1	199.7	34.12	17.06	172.00
2-24 to 3-25.....	201.6	204.4	42.07	21.07	
3-26 to 4-24.....	210.0	214.5	52.50	26.25	
4-25 to 5-24.....	218.0	217.3	65.25	32.62	
5-25 to 6-23.....	223.3	224.9	75.00	37.50	
6-24 to 7-23.....	226.3	228.2	75.00	37.50	
7-24 to 8-22.....	231.7	238.6	75.00	37.50	
8-23 to 9-11.....	247.2	251.1	50.00	25.00	
	254.4				

TABLE 13.—FOOD CONSUMED AND WEIGHT OF ANIMAL.

Period	Weight at start	Average weight	Grain consumed	Hay consumed	Milk consumed
	lbs.	lbs.	lbs.	lbs.	lbs.
STEER 525					
10- 6 to 11- 1-07.....	154.60	163.80	.....	4.50	338.50
11- 2 to 12- 1.....	178.80	198.20	6.25	22.25	480.00
12- 2 to 12-31.....	219.70	237.80	15.00	30.00	480.00
1- 1 to 1-30-08.....	253.20	273.70	29.50	30.00	480.00
1-31 to 2-29.....	294.10	317.40	57.00	30.00	480.00
3- 1 to 3-30.....	336.40	359.40	60.00	30.00	480.00
3-31 to 4-29.....	382.00	386.10	103.00	51.75	80.00
4-30 to 5-29.....	398.20	407.40	109.75	54.75	.....
5-30 to 6-28.....	412.80	416.50	107.75	53.75	.....
6-29 to 7-28.....	424.30	434.70	127.00	63.50	.....
7-29 to 8-27.....	436.70	445.50	123.89	62.82	.....
8-28 to 9-26.....	456.90	462.20	123.60	61.80	.....
9-27 to 10-26.....	463.40	468.50	123.66	61.83	.....
10-27 to 11-25.....	466.40	471.60	126.49	63.22	.....
11-26 to 12-25.....	476.90	484.70	131.26	65.63	.....
12-26 to 1-24-09.....	491.20	496.10	134.38	67.00	.....
1-25 to 2-23.....	510.40	509.80	138.75	69.26	.....
2-24 to 3-25.....	518.00	521.30	141.37	70.68	.....
3-26 to 4-24.....	530.20	547.80	159.50	79.75	.....
4-25 to 5-24.....	561.20	584.90	186.25	93.12	.....
5-25 to 6-23.....	599.60	607.60	187.50	93.75	.....
6-24 to 7-23.....	616.70	632.30	187.50	93.75	.....
7-24 to 8-22.....	641.00	648.70	187.50	93.75	.....
8-23 to 9-21.....	662.60	673.20	184.25	92.01	.....
9-22 to 10-21.....	668.50	668.50	172.50	86.26	.....
10-22 to 11- 7.....	664.10	687.10	105.75	52.87	.....
	694.60				
STEER 535					
3-26 to 4-24-09.....	92.8	106.8	5.36	1.60	305.50
4-25 to 5-24.....	122.6	136.0	18.11	7.29	300.00
5-25 to 6-23.....	145.7	159.4	32.36	16.62	300.00
6-24 to 7-23.....	173.0	180.8	41.00	20.50	300.00
7-24 to 8-22.....	190.8	199.1	75.00	37.51	112.50
8-23 to 9-11.....	207.4	219.3	65.00	32.50	.....
	221.6				
STEER 536					
4-15 to 4-24-09.....	105.6	107.6	0.68	0.58	75.50
4-25 to 5-24.....	111.1	126.6	20.44	10.25	225.00
5-25 to 6-23.....	142.6	152.8	30.00	15.00	240.00
6-24 to 7-23.....	164.4	176.0	30.00	15.00	240.00
7-24 to 8-22.....	188.7	206.6	51.25	25.64	120.00
8-23 to 9-11.....	212.1	220.1	50.00	25.00	.....
	227.3				
STEER 537					
4-15 to 4-24-09.....	106.5	110.0	0.55	0.37	80.00
4-25 to 5-24.....	112.3	123.7	18.81	8.30	240.00
5-25 to 6-23.....	138.3	149.0	29.68	14.56	240.00
6-24 to 7-23.....	161.1	171.6	30.00	15.00	240.00
7-24 to 8-22.....	182.8	194.3	51.00	25.50	112.00
8-23 to 9-11.....	201.1	208.8	50.00	25.00	.....
	211.8				

TABLE 14.—FOOD CONSUMED AND WEIGHT OF ANIMAL.

Period	Weight at start	Average weight	Grain consumed	Hay consumed	Milk consumed
	lbs.	lbs.	lbs.	lbs.	lbs.
STEER 526					
11- 4 to 12- 1-07.....	150.60	150.40	6.25	15.25	170.75
12- 2 to 12-31.....	158.60	164.60	15.00	30.00	327.00
1- 1 to 1-30-08.....	169.30	182.00	29.50	30.00	405.00
1-31 to 2-29.....	192.40	213.80	57.00	30.00	456.75
3- 1 to 3-30.....	235.60	253.60	73.75	37.00	439.50
3-31 to 4-29.....	268.10	283.70	75.25	37.50	409.50
4-30 to 5-29.....	299.00	307.30	114.75	57.50	.....
5-30 to 6-28.....	322.80	334.40	122.75	61.25	.....
6-29 to 7-28.....	344.10	364.20	149.50	74.75	.....
7-29 to 8-27.....	383.20	394.90	150.00	75.00	.....
8-28 to 9-26.....	416.50	429.10	150.00	75.00	.....
9-27 to 10-26.....	438.70	457.80	157.00	78.63	.....
10-27 to 11-25.....	464.40	480.80	163.00	81.53	.....
11-26 to 12-25.....	496.30	510.90	172.50	86.63	.....
12-26 to 1-24-09.....	524.40	535.60	180.50	90.25	.....
1-25 to 2-23.....	553.00	564.70	187.50	93.75	.....
2-24 to 3-25.....	581.70	590.40	188.38	94.20	.....
3-26 to 4-24.....	613.50	625.40	205.25	102.63	.....
4-25 to 5-24.....	654.60	674.90	217.50	108.75	.....
5-25 to 6-23.....	693.00	711.10	222.75	110.81	.....
6-24 to 7-23.....	734.20	738.70	228.75	114.37	.....
7-24 to 8-22.....	753.80	769.50	228.75	114.37	.....
8-23 to 9-21.....	786.00	801.00	228.75	114.38	.....
9-22 to 10-21.....	815.60	834.40	228.71	114.37	.....
10-22 to 11-20.....	847.00	852.30	204.50	102.25	.....
11-21 to 12-20.....	840.20	837.50	201.50	100.75	.....
12-21 to 1-19-10.....	846.40	847.50	219.13	109.50	.....
1-20 to 2-18.....	858.10	876.70	225.00	112.50	.....
2-19 to 3-20.....	890.30	901.80	225.00	112.50	.....
3-21 to 4-19.....	914.10	930.80	225.00	112.50	.....
4-20 to 5-19.....	932.50	943.50	225.00	112.50	.....
5-20 to 6-18.....	962.50	959.90	225.00	112.50	.....
6-19 to 7-18.....	956.90	972.30	225.00	112.50	.....
7-19 to 8-17.....	972.50	978.60	225.00	112.50	.....
8-18 to 9-16.....	984.20	995.00	225.00	112.50	.....
9-17 to 10-16.....	1001.80	1013.60	225.00	112.50	.....
10-17 to 11-15.....	1029.00	1032.10	231.25	115.75	.....
11-16 to 12-15.....	1027.30	1032.30	245.50	123.00	.....
12-16 to 1-14-11.....	1043.30	1058.60	290.00	145.25	.....
1-15 to 1-22.....	1080.30	1083.00	80.00	40.00	.....
	1088.20				
STEER 539					
4-15 to 4-24-09.....	98.0	106.7	2.88	1.30	73.50
4-25 to 5-24.....	111.0	123.5	19.55	9.87	248.00
5-25 to 6-23.....	140.8	165.0	51.37	25.75	357.50
6-24 to 7-23.....	195.9	223.9	98.66	46.48	354.00
7-24 to 8-22.....	254.0	283.4	160.59	30.48	164.00
8-23 to 9-11.....	313.3	335.8	137.37	63.00	.....
	352.0				
STEER 542					
4-27 P.M. to 5-24-09.....	194.0	196.9	8.62	3.16	243.00
5-25 to 6-23.....	204.6	220.2	30.24	13.41	357.50
6-24 to 7-23.....	243.5	269.3	100.50	48.00	360.00
7-24 to 8-22.....	295.9	320.3	167.48	81.74	164.00
8-23 to 9-11.....	350.1	375.8	147.50	73.75	.....
	393.4				

TABLE 15.—FOOD CONSUMED AND WEIGHT OF ANIMAL.

Period	Weight at start	Average weight	Grain consumed	Hay consumed	Milk consumed
	lbs.	lbs.	lbs.	lbs.	lbs.
STEER 527					
11- 4 to 12- 1-07.....	167.80	179.80	0.50	17.50	347.00
12- 2 to 12-31.....	195.90	214.70	10.25	30.00	466.00
1- 1 to 1-30-08.....	234.60	261.00	35.25	30.00	516.00
1-31 to 2-29.....	288.70	324.30	79.75	40.25	600.00
3- 1 to 3-30.....	358.50	394.40	108.00	54.25	600.00
3-31 to 4-29.....	433.00	469.60	143.25	72.00	600.00
4-30 to 5-29.....	507.00	535.80	189.50	95.00	260.00
5-30 to 6-28.....	561.30	596.70	296.50	147.50	.....
6-29 to 7-28.....	630.90	663.90	366.13	183.81	.....
7-29 to 8-27.....	695.10	730.90	407.25	200.37	.....
8-28 to 9-26.....	772.50	806.00	437.25	209.42	.....
9-27 to 10-26.....	835.10	871.60	424.81	212.71	.....
10-27 to 11-25.....	904.60	932.00	417.31	182.99	.....
11-26 to 12-25.....	956.80	992.00	506.00	189.91	.....
12-26 to 1-24-09.....	1029.60	1057.70	553.96	209.41	.....
1-25 to 2-23.....	1083.00	1088.40	421.48	205.10	.....
2-24 to 3-25.....	1103.90	1127.40	375.00	190.87	.....
3-26 to 4-24.....	1149.40	1163.00	369.73	173.90	.....
4-25 to 5-24.....	1181.00	1200.60	374.68	173.43	.....
5-25 to 6-23.....	1221.20	1231.50	376.28	139.32	.....
6-24 to 7-23.....	1250.40	1267.00	395.30	128.09	.....
7-24 to 8-22.....	1278.90	1295.20	386.25	140.41	.....
8-23 to 9-21.....	1310.10	1334.20	359.87	164.23	.....
9-22 to 10-21.....	1362.10	1388.60	364.00	197.92	.....
10-22 to 11-20.....	1404.60	1430.20	437.31	232.37	.....
11-21 to 12-20.....	1455.90	1464.00	404.44	215.69	.....
12-21 to 1-19-10.....	1466.20	1497.40	428.00	196.99	.....
1-20 to 2-18.....	1521.40	1553.70	470.00	230.06	.....
2-19 to 3-20.....	1574.70	1587.20	448.12	214.73	.....
3-21 to 4-19.....	1596.30	1610.30	428.49	215.32	.....
4-20 to 5-19.....	1632.00	1651.80	479.00	205.12	.....
5-20 to 6-18.....	1669.30	1682.00	469.68	207.75	.....
6-19 to 7-18.....	1690.30	1702.40	437.37	160.76	.....
7-19 to 8-17.....	1714.00	1707.00	416.88	147.00	.....
8-18 to 9-16.....	1723.00	1730.80	434.13	130.24	.....
9-17 to 10-16.....	1742.10	1741.70	382.50	145.25	.....
10-17 to 11-15.....	1753.90	1769.10	394.75	145.98	.....
11-16 to 12-15.....	1779.10	1806.20	468.35	163.40	.....
12-16 to 1-14-11.....	1827.90	1846.70	514.50	146.25	.....
1-15 to 1-22.....	1859.70	1859.30	138.25	34.00	.....
	1869.00				
STEER 543					
4-26 P.M. to 5-24-09.....	254.5	259.4	45.87	9.81	29.00
5-25 to 6-23.....	269.3	275.3	84.25	42.13	.....
6-24 to 7-23.....	284.4	291.4	90.00	45.00	.....
7-24 to 8-22.....	295.5	308.6	112.50	56.26	.....
8-23 to 9-11.....	319.6	330.8	90.00	45.00	.....
	334.2				
STEER 544					
4-27 P.M. to 5-24-09.....	120.0	118.8	2.38	0.93	216.00
5-25 to 6-23.....	118.1	123.3	15.17	7.29	241.50
6-24 to 7-23.....	133.5	145.4	55.63	29.75	240.00
7-24 to 8-22.....	160.7	181.3	47.55	58.76	112.00
8-23 to 9-11.....	200.6	212.4	91.05	46.18	.....
	225.4				

TABLE 16.—FOOD CONSUMED AND WEIGHT OF ANIMAL.

Period	Weight at start	Average weight	Grain consumed	Hay consumed	Milk consumed
	lbs.	lbs.	lbs.	lbs.	lbs.
STEER 529					
12-10 to 12-31-07.....	173.40	169.80	.....	.....	147.30
1- 1 to 1-30-08.....	164.60	170.30	.....	18.50	315.50
1-31 to 2-29.....	172.40	174.50	.....	34.25	393.00
3- 1 to 3-30.....	176.70	185.40	.....	45.00	361.00
3-31 to 4-29.....	192.10	197.70	.....	45.00	398.00
4-30 to 5-29.....	204.30	208.50	.....	38.25	383.00
5-30 to 6-28.....	210.60	210.30	.....	26.75	347.00
6-29 to 7-28.....	204.00	204.20	40.25	21.25	28.00
7-29 to 8-27.....	207.40	208.10	45.00	22.50	.....
8-28 to 9-26.....	209.60	208.60	42.12	20.76	.....
9-27 to 10-26.....	208.70	207.80	38.98	19.46	.....
10-27 to 11-25.....	203.60	205.80	39.38	19.70	.....
11-26 to 12-25.....	211.90	204.00	200.38	76.79	.....
12-26 to 1-24-09.....	302.40	345.10	310.97	105.03	.....
1-25 to 2-23.....	383.30	420.90	262.81	158.12	.....
2-24 to 3-25.....	455.20	490.60	490.60	184.22	.....
3-26 to 4-24.....	528.60	576.80	358.99	187.77	.....
4-25 to 5-24.....	617.60	655.20	399.87	168.96	.....
5-25 to 6-23.....	693.30	727.60	405.00	189.33	.....
6-24 to 7-23.....	760.90	786.70	405.00	206.11	.....
7-24 to 8-22.....	813.40	832.60	405.00	173.28	.....
8-23 to 9-21.....	857.20	890.20	403.18	174.72	.....
9-22 to 10-21.....	925.50	955.50	406.75	199.67	.....
10-22 to 11-20.....	987.50	1021.80	428.12	215.19	.....
11-21 to 12-20.....	1053.10	1075.20	425.56	225.06	.....
1- 1 to 1-19-10.....	1103.30	1121.60	460.87	219.12	.....
1-20 to 2-18.....	1150.30	1174.90	474.54	207.88	.....
2-19 to 3-20.....	1194.40	1217.10	467.55	203.37	.....
3-21 to 4-19.....	1231.20	1240.50	421.99	200.66	.....
4-20 to 5-19.....	1252.30	1263.30	401.38	210.19	.....
5-20 to 6-18.....	1271.10	1284.00	425.70	189.07	.....
6-19 to 7-18.....	1293.00	1298.10	366.62	149.13	.....
7-19 to 8-17.....	1311.80	1317.00	390.76	133.76	.....
8-18 to 9-16.....	1331.70	1340.50	395.85	143.85	.....
9-17 to 10-16.....	1360.50	1378.50	411.88	144.09	.....
10-17 to 11-15.....	1388.80	1420.90	440.50	156.07	.....
11-16 to 12-15.....	1455.60	1479.90	502.40	174.55	.....
12-16 to 1-14-11.....	1504.40	1521.00	495.38	172.75	.....
1-15 to 1-22.....	1536.20	1532.60	131.75	34.75	.....
	1533.60				
STEER 545					
5- 2 to 5-24-09.....	161.2	165.6	8.18	3.99	184.00
5-25 to 6-23.....	167.8	170.8	21.81	11.24	239.00
6-24 to 7-23.....	182.6	193.8	42.75	21.38	240.00
7-24 to 8-22.....	205.8	217.0	75.00	37.23	112.00
8-23 to 9-11.....	230.9	243.4	65.00	32.50	.....
	251.0				
STEER 546					
5- 5 to 5-24-09.....	204.2	208.9	15.06	7.87	128.75
5-25 to 6-23.....	214.9	216.7	36.38	18.19	288.00
6-24 to 7-23.....	221.0	231.2	66.50	33.24	300.00
7-24 to 8-22.....	242.1	261.7	119.00	59.51	137.50
8-23 to 9-11.....	277.8	287.3	85.37	40.06	.....
	297.2				

TABLE 17.—FOOD CONSUMED AND WEIGHT OF ANIMAL.

Period	Weight at start	Average weight	Grain consumed	Hay consumed	Milk consumed
	lbs.	lbs.	lbs.	lbs.	lbs.
STEER 531					
11-21 to 11-25-08.....		230.20	0.19	2.00	50.00
11-26 to 12-25.....	230.00	229.70	13.33	17.59	403.00
12-26 to 1-24-09.....	230.50	236.10	35.62	17.81	286.00
1-25 to 2-23.....	255.00	260.30	50.87	25.50	172.00
2-24 to 3-25.....	260.40	261.30	63.50	31.75	
3-26 to 4-24.....	267.00	271.30	75.00	37.50	
4-25 to 5-24.....	273.50	279.60	88.25	44.13	
5-25 to 6-23.....	290.20	300.50	101.25	50.63	
6-24 to 7-23.....	305.70	314.20	101.25	50.63	
7-24 to 8-22.....	319.70	328.30	101.25	50.63	
8-23 to 9-21.....	339.50	342.40	101.25	50.62	
9-22 to 10-21.....	350.60	352.70	101.25	50.59	
10-22 to 11-20.....	364.10	378.20	112.75	56.39	
11-21 to 12-20.....	387.05	400.40	134.00	67.00	
12-21 to 1-19-10.....	420.90	435.10	150.00	75.00	
1-20 to 2-18.....	452.00	461.50	144.18	72.09	
2-19 to 3-20.....	465.50	475.20	127.37	65.38	
	479.60				
STEER 532					
11-24 to 11-25-08.....		187.50	.06		27.00
11-26 to 12-25.....	189.40	202.30	6.52	4.48	494.00
12-26 to 1-24-09.....	206.40	221.70	51.00	26.44	286.00
1-25 to 2-23.....	249.90	283.50	159.03	75.47	172.00
2-24 to 3-25.....	319.30	349.50	193.12	94.72	
3-26 to 4-24.....	375.80	402.60	193.16	101.93	
4-25 to 5-24.....	431.00	458.40	225.81	113.12	
5-25 to 6-23.....	492.20	538.40	326.34	153.91	
6-24 to 7-23.....	575.30	605.60	363.86	181.51	
7-24 to 8-22.....	642.50	679.70	381.40	187.15	
8-23 to 9-21.....	714.30	746.70	382.99	181.62	
9-22 to 10-21.....	785.80	820.40	401.05	200.44	
10-22 to 11-20.....	851.90	894.70	401.63	205.79	
11-21 to 12-20.....	934.80	958.40	408.98	210.20	
12-21 to 1-19-10.....	981.40	1008.00	426.98	218.56	
1-20 to 2-18.....	1039.30	1058.50	434.43	225.00	
2-19 to 3-20.....	1078.20	1113.40	440.88	229.25	
	1133.00				
STEER 538					
4-13 to 4-24-09.....	132.20	134.70	0.81	0.33	95.00
4-25 to 5-24.....	138.10	152.70	21.72	9.61	249.00
5-25 to 6-23.....	170.80	190.90	43.99	21.80	300.00
6-24 to 7-23.....	208.30	224.00	48.50	24.25	300.00
7-24 to 8-22.....	240.60	253.50	81.00	40.50	137.50
8-23 to 9-21.....	266.80	284.30	105.00	52.50	
9-22 to 10-21.....	293.20	299.60	105.00	52.50	
10-22 to 11-20.....	304.10	312.90	110.42	55.21	
11-21 to 12-20.....	323.60	325.50	123.00	61.50	
12-21 to 1-19-10.....	351.80	366.50	138.55	69.25	
1-20 to 2-13.....	382.80	394.80	115.63	57.81	
	403.00				
STEER 553					
5-11 to 5-12-12.....		129.0			22.00
5-13 to 6-11.....	130.3	141.2	4.50	11.00	338.50
6-12 to 6-19.....	149.4	149.8	1.00	3.00	80.00
	149.6				

TABLE 18.—FOOD CONSUMED AND WEIGHT OF ANIMAL.

Period	Weight at start	Average weight	Grain consumed	Hay consumed	Milk consumed
	lbs.	lbs.	lbs.	lbs.	lbs.
STEER 540					
4-13 to 4-24-09.....	140.30	141.80	2.35	1.07	96.00
4-25 to 5-24.....	145.70	161.60	28.50	14.35	240.00
5-25 to 6-23.....	180.80	194.40	41.21	20.63	240.00
6-24 to 7-23.....	208.80	220.90	41.25	20.63	240.00
7-24 to 8-22.....	229.50	242.10	63.74	31.87	112.00
8-23 to 9-21.....	251.80	265.10	86.25	43.13	.....
9-22 to 10-21.....	274.40	275.60	86.25	43.13	.....
10-22 to 11-20.....	280.30	291.90	91.25	45.63	.....
11-21 to 12-20.....	299.60	301.60	90.00	45.00	.....
12-21 to 1-19-10.....	309.00	316.70	101.13	50.50	.....
1-20 to 2-13.....	335.70	343.90	88.63	44.25	.....
	341.80				
STEER 541					
4-13 to 4-24-09.....	137.6	139.5	1.99	1.12	100.00
4-25 to 5-24.....	144.4	161.0	29.27	16.10	263.00
5-25 to 6-23.....	181.6	206.9	66.59	32.40	357.50
6-24 to 7-23.....	238.0	272.7	125.47	51.24	360.00
7-24 to 8-22.....	306.4	338.0	177.04	85.05	164.00
8-23 to 9-21.....	365.3	393.4	222.50	104.12	.....
9-22 to 10-21.....	419.1	452.3	244.50	120.69	.....
10-22 to 11-20.....	486.9	520.3	261.71	130.33	.....
11-21 to 12-20.....	552.2	579.5	280.92	139.00	.....
12-21 to 1-19-10.....	610.1	641.9	313.18	145.42	.....
1-20 to 2-13.....	673.7	701.6	274.80	125.55	.....
	724.0				
STEER 547					
5-11 to 5-12-12.....		95.50			22.00
5-13 to 6-11.....	96.40	103.10	1.00	2.20	325.50
6-12 to 7-11.....	112.30	120.90	1.10	4.55	411.00
7-12 to 8-10.....	140.1	162.40	16.50	23.00	479.00
8-11 to 9-9.....	189.1	225.1	75.05	37.76	478.00
9-10 to 10-9.....	258.9	292.6	138.40	62.05	146.00
10-10 to 11-8.....	315.1	332.6	168.00	84.00	.....
11-9 to 12-8.....	359.0	382.4	210.00	105.00	.....
12-9 to 1-3-13.....	403.1	427.5	201.50	100.75	.....
	450.2				
STEER 548					
5-11 to 5-12-12.....		147.5			24.00
5-13 to 6-11.....	149.4	156.4	3.95	6.30	347.00
6-12 to 7-11.....	163.0	164.5	6.37	13.10	342.00
7-12 to 8-10.....	174.2	185.2	11.25	22.50	363.00
8-11 to 9-9.....	197.9	208.2	23.50	13.38	325.00
9-10 to 9-29.....	217.7	223.4	25.25	12.62	91.25
	222.0				
STEER 550					
5-11 to 5-12-12.....		148.5			24.00
5-13 to 6-11.....	151.6	159.3	4.75	6.95	354.00
6-12 to 7-11.....	163.9	170.4	7.50	14.10	407.00
7-12 to 8-10.....	175.0	161.2	5.51	14.50	219.50
8-11 to 9-9.....	165.5	176.4	40.75	22.65	274.00
9-10 to 10-9.....	189.6	211.8	104.00	51.00	84.25
10-10 to 11-8.....	229.5	246.1	120.00	60.00	.....
11-9 to 12-8.....	262.5	277.1	133.10	68.25	.....
12-9 to 1-3-13.....	295.5	310.4	130.00	65.00	.....
	323.8				

TABLE 19.—FOOD CONSUMED AND WEIGHT OF ANIMAL.

Period	Weight at start	Average weight	Grain consumed	Hay consumed	Milk consumed
	lbs.	lbs.	lbs.	lbs.	lbs.
STEER 549					
5-11 to 5-12-12.....		117.0			19.00
5-13 to 6-11.....	120.4		1.50	3.50	155.50
6-12 to 7-11.....			4.25	4.00	69.80
7-12 to 8-10.....		121.7	11.25	22.50	306.50
8-11 to 9-9.....	140.6	142.9	36.25	20.38	189.75
9-10 to 10-9.....	150.1	158.2	55.25	27.63	66.60
10-10 to 11-8.....	164.7	169.9	60.50	30.25	
11-9 to 12-8.....	173.5	183.2	73.50	36.75	
12-9 to 1-7-13.....	188.7	196.8	80.75	40.38	
1-8 to 2-6.....	208.5	219.6	90.00	45.00	
2-7 to 3-8.....	225.0	237.6	90.00	45.00	
3-9 to 4-7.....	249.4	261.0	90.00	45.00	
4-8 to 5-7.....	264.7	276.8	90.00	45.00	
5-8 to 6-6.....	285.7	297.0	90.00	45.00	
6-7 to 7-6.....	303.0	308.0	90.00	45.00	
7-7 to 8-5.....	313.7	318.2	90.00	45.00	
8-6 to 9-4.....	321.2	339.3	100.25	51.00	
9-5 to 10-4.....	350.5	360.9	105.00	52.50	
10-5 to 11-3.....	367.1	368.1	105.00	52.50	
11-4 to 12-3.....	376.8	392.7	117.25	58.62	
12-4 to 1-2-14.....	404.2	408.3	120.00	60.00	
1-3 to 2-1.....	407.7	422.8	120.00	60.00	
2-2 to 3-3.....	426.6	431.5	120.00	60.00	
3-4 to 4-2.....	447.9	453.2	120.00	60.00	
4-3 to 5-2.....	465.6	475.5	120.00	60.00	
5-3 to 6-1.....	487.5	499.9	120.00	60.00	
6-2 to 7-1.....	510.2	517.3	120.00	60.00	
7-2 to 7-31.....	513.5	521.1	120.00	60.00	
8-1 to 8-30.....	522.1	526.0	120.00	60.00	
8-31 to 9-29.....	524.3	530.8	120.00	60.00	
9-30 to 10-29.....	523.2	540.2	120.00	60.00	
10-30 to 11-28.....	535.7	539.2	120.00	60.00	
11-29 to 12-28.....	540.8	519.5	120.00	60.00	
12-29 to 1-27-15.....	516.7	539.4	139.00	79.00	
1-28 to 2-26.....	541.5	562.6	150.00	90.00	
2-27 to 3-28.....	572.8	580.1	150.00	90.00	
3-29 to 4-27.....	595.7	605.3	150.00	90.00	
4-28 to 5-27.....	612.3	617.8	150.00	90.00	
5-28 to 6-26.....	624.4	631.6	150.00	90.00	
6-27 to 7-26.....	643.7	648.5	160.00	112.30	
7-27 to 8-25.....	667.9	658.0	168.00	91.00	
8-26 to 9-24.....	656.8	680.5	225.20	112.70	
9-25 to 10-24.....	721.3	726.7	261.00	130.50	
10-25 to 11-23.....	743.9	731.1	187.10	89.30	
11-24 to 12-23.....	724.7	732.8	243.90	150.00	
12-24 to 1-22-16.....	743.5	745.3	247.90	125.20	
1-23 to 2-21.....	747.5	753.9	246.20	123.10	
2-22 to 3-22.....	759.5	768.0	248.80	124.40	
3-23 to 4-5.....	777.7	778.8	117.60	58.80	
	785.8				
STEER 552					
5-11 to 5-12-12.....		140.0			24.00
5-13 to 6-11.....	142.0	155.5	5.25	8.10	371.00
6-12 to 7-11.....	172.5	185.2	7.50	14.50	387.00
7-12 to 8-10.....	194.2	206.3	12.25	24.50	355.00
8-11 to 9-9.....	221.0	234.2	34.75	19.58	364.00
9-10 to 9-29.....	252.4	256.7	35.25	17.62	109.50
	256.2				

TABLE 20.—FOOD CONSUMED AND WEIGHT OF ANIMAL.

Period	Weight at	Average	Grain	Hay	Milk
	start	weight	consumed	consumed	consumed
	lbs.	lbs.	lbs.	lbs.	lbs.
STEER 551					
5-11 to 5-12-12.....		149.5			24.00
5-13 to 6-11.....	149.0	146.0	1.15	5.10	310.00
6-12 to 7-11.....	141.1	141.4	5.45	13.70	274.00
7-12 to 8-10.....	148.3	152.2	12.38	24.75	338.25
8-11 to 9- 9.....	158.3	163.9	30.75	17.63	333.00
9-10 to 10- 9.....	170.5	176.4	54.25	27.12	101.50
10-10 to 11- 8.....	179.6	183.5	72.40	38.13	.....
11- 9 to 12- 8.....	192.6	201.7	90.00	45.00	.....
12- 9 to 1- 7-13.....	211.0	218.2	90.00	45.00	.....
1- 8 to 2- 6.....	223.8	232.2	90.00	45.00	.....
2- 7 to 3- 8.....	240.8	253.7	90.00	45.00	.....
3- 9 to 4- 7.....	266.0	274.4	90.00	45.00	.....
4- 8 to 5- 7.....	282.7	294.0	90.00	45.00	.....
5- 8 to 6- 6.....	300.3	309.2	90.00	45.00	.....
6- 7 to 7- 6.....	317.1	319.3	90.00	45.00	.....
7- 7 to 8- 5.....	324.5	328.8	90.00	45.00	.....
8- 6 to 9- 4.....	323.4	345.1	103.75	51.88	.....
9- 5 to 10- 4.....	363.9	364.8	105.00	52.50	.....
10- 5 to 11- 3.....	368.1	369.5	105.00	52.50	.....
11- 4 to 12- 3.....	380.1	397.6	117.25	58.63	.....
12- 4 to 1- 2-14.....	413.6	416.9	120.00	60.00	.....
1- 3 to 2- 1.....	419.6	433.4	120.00	60.00	.....
2- 2 to 3- 3.....	438.2	447.5	120.00	60.00	.....
3- 4 to 4- 2.....	463.3	461.2	120.00	60.00	.....
4- 3 to 5- 2.....	471.3	480.4	120.00	60.00	.....
5- 3 to 6- 1.....	484.5	492.2	120.00	60.00	.....
6- 2 to 7- 1.....	498.1	513.2	120.00	60.00	.....
7- 2 to 7-31.....	503.3	512.5	124.75	62.38	.....
8- 1 to 8-30.....	525.0	526.3	135.00	67.50	.....
8-31 to 9-29.....	529.4	541.2	136.50	67.50	.....
9-30 to 10-29.....	538.6	555.9	135.00	67.50	.....
10-30 to 11-28.....	559.0	563.1	135.00	67.50	.....
11-29 to 12-28.....	564.7	560.3	135.00	67.50	.....
12-29 to 1-27-15.....	571.7	573.4	146.00	75.00	.....
1-28 to 2-26.....	581.9	593.3	165.00	90.00	.....
2-27 to 3-28.....	601.9	613.9	165.00	90.00	.....
3-29 to 4-27.....	624.6	632.5	165.00	90.00	.....
4-28 to 5-27.....	644.0	652.3	165.00	90.00	.....
5-28 to 6-26.....	675.1	673.2	158.50	90.00	.....
6-27 to 7-26.....	687.0	690.2	94.10	88.40	.....
7-27 to 8-25.....	655.9	657.4	195.40	104.70	.....
8-26 to 9-24.....	676.2	717.0	243.80	121.80	.....
9-25 to 10-24.....	750.9	775.6	252.00	126.00	.....
10-25 to 11-23.....	790.3	815.2	247.80	123.90	.....
11-24 to 12-23.....	836.7	841.5	227.40	113.70	.....
12-24 to 1-22-16.....	823.5	828.9	204.00	102.00	.....
1-23 to 2-21.....	838.5	844.0	204.00	102.00	.....
2-22 to 3-22.....	854.5	858.6	204.00	102.00	.....
3-23 to 4-21.....	867.0	886.8	230.40	115.20	.....
4-22 to 5-21.....	900.4	929.3	275.40	137.70	.....
5-22 to 6-20.....	975.2	1011.9	345.00	172.50	.....
6-21 to 7-17.....	1048.0	1081.4	324.00	162.00	.....
	1111.4				
STEER 554					
5-11 to 5-12-12.....		130.0			21.50
5-13 to 6-11.....	131.6	145.9	5.25	10.50	376.00
6-12 to 7-11.....	161.9	174.5	7.50	15.00	413.00
7-12 to 7-21.....	185.7	190.6	2.50	5.00	140.00
	196.0				

TABLE 21.—FOOD CONSUMED AND WEIGHT OF ANIMAL.

Period	Weight at start	Average weight	Grain consumed	Hay consumed	Milk consumed
	lbs.	lbs.	lbs.	lbs.	lbs.
STEER 559					
5-6 to 5-12-12.....	117.4	119.7			84.00
5-13 to 6-11.....	124.9	140.9	5.25	12.00	375.00
6-12 to 7-11.....	159.2	171.2	7.05	15.00	418.00
7-12 to 8-10.....	178.8	191.7	9.00	19.25	420.00
8-11 to 9-9.....	208.9	227.8	30.75	17.63	422.00
9-10 to 10-9.....	247.1	255.8	52.75	26.17	127.75
10-10 to 11-8.....	257.2	268.1	87.00	43.50	
11-9 to 12-8.....	277.1	292.0	110.50	55.25	
12-9 to 1-7-13.....	309.4	318.9	120.00	60.00	
1-8 to 2-6.....	327.2	335.6	124.50	62.25	
2-7 to 3-8.....	344.9	363.7	144.25	72.13	
3-9 to 4-7.....	387.0	409.3	186.00	93.00	
4-8 to 5-7.....	439.0	467.1	210.00	105.00	
5-8 to 6-6.....	489.7	510.2	225.00	112.50	
6-7 to 7-6.....	533.2	556.9	240.00	120.00	
7-7 to 8-5.....	576.6	598.5	240.00	120.00	
8-6 to 9-4.....	610.2	637.4	209.75	107.63	
9-5 to 10-4.....	651.6	664.4	210.00	105.00	
10-5 to 11-3.....	680.2	688.7	210.00	105.00	
11-4 to 12-3.....	693.6	700.9	210.00	105.00	
12-4 to 1-2-14.....	719.9	740.8	210.00	105.00	
1-3 to 2-1.....	743.4	750.3	186.00	93.00	
2-2 to 3-3.....	747.2	744.4	180.00	90.00	
3-4 to 4-2.....	753.4	751.0	180.00	90.00	
4-3 to 5-2.....	756.7	769.6	180.00	90.00	
5-3 to 6-1.....	775.8	782.8	180.00	90.00	
6-2 to 7-1.....	788.9	806.2	180.00	90.00	
7-2 to 7-31.....	788.3	787.9	180.00	90.00	
8-1 to 8-30.....	789.9	797.4	180.00	90.00	
8-31 to 9-29.....	804.6	808.5	180.00	90.00	
9-30 to 10-29.....	806.6	818.3	180.00	90.00	
10-30 to 11-28.....	817.6	823.0	180.00	90.00	
11-29 to 12-28.....	825.3	800.6	180.00	90.00	
12-29 to 1-27-15.....	820.0	827.9	180.00	90.00	
1-28 to 2-26.....	829.5	827.6	180.00	90.00	
2-27 to 3-28.....	825.5	832.1	193.00	116.00	
3-29 to 4-27.....	847.4	848.1	195.00	120.00	
4-28 to 5-27.....	849.5	858.0	195.00	120.00	
5-28 to 6-26.....	865.7	867.1	187.50	120.00	
6-27 to 7-26.....	868.7	863.7	199.00	115.00	
7-27 to 8-25.....	871.8	887.7	240.00	120.00	
8-26 to 9-24.....	899.8	932.1	294.80	147.40	
9-25 to 10-24.....	988.3	1019.7	372.00	186.00	
10-25 to 11-23.....	1039.6	1029.6	273.40	136.70	
11-24 to 12-23.....	1060.4	1063.6	333.00	166.50	
12-24 to 1-22-16.....	1075.6	1089.3	344.00	172.00	
1-23 to 2-21.....	1115.1	1132.9	376.80	188.40	
2-22 to 3-22.....	1164.4	1189.7	428.80	214.40	
3-23 to 4-21.....	1219.5	1245.1	473.20	236.60	
4-22 to 5-21.....	1257.1	1261.6	373.40	186.70	
5-22 to 6-20.....	1279.1	1307.2	389.90	196.00	
6-21 to 7-17.....	1332.2	1349.9	371.60	185.80	
	1372.8				
STEER 555					
5-11 to 5-12-12.....		147.0			24.00
5-13 to 6-11.....	149.0	155.3	4.75	8.30	338.00
6-12 to 7-11.....	159.5	165.3	7.50	13.50	332.50
7-12 to 7-21.....	178.8	184.0	3.75	7.50	119.00
	188.4				

TABLE 22.—FOOD CONSUMED AND WEIGHT OF ANIMAL.

Period	Weight at start	Average weight	Grain consumed	Hay consumed	Milk ^g consumed
	lbs.	lbs.	lbs.	lbs.	lbs.
STEER 556					
5-11 to 5-12-12.....		148.0			24.00
5-13 to 6-11.....	149.4	165.4	0.80	8.15	493.00
6-12 to 7-11.....	189.5	213.6	3.20	30.00	607.00
7-12 to 7-21.....	234.9	241.6	5.75	25.00	164.00
	247.6				
STEER 557					
5- 6 to 5-12-12.....	132.6	134.1	0.25	0.50	75.00
5-13 to 6-11.....	141.4	163.9	2.95	11.10	493.00
6-12 to 7-11.....	191.7	216.5	19.75	37.00	556.00
7-12 to 8-10.....	241.2	278.6	95.35	73.20	539.00
8-11 to 9- 9.....	319.3	357.9	155.00	74.50	558.00
9-10 to 9-29.....	398.2	421.5	144.00	69.50	182.50
	443.2				
STEER 558					
5- 6 to 5-12-12.....	112.6	113.3			84.00
5-13 to 6-11.....	116.4	126.6	4.50	7.00	335.00
6-12 to 7-11.....	140.8	152.8	7.50	15.00	300.00
7-12 to 8-10.....	160.5	170.3	9.63	19.25	300.00
8-11 to 9- 9.....	181.4	190.9	23.00	13.33	300.00
9-10 to 10- 9.....	201.8	209.1	40.25	20.12	91.25
10-10 to 11- 8.....	207.5	210.5	61.25	30.63	.....
11- 9 to 12- 8.....	213.9	218.6	71.35	40.62	.....
12- 9 to 1- 3-13.....	226.8	231.3	78.00	39.00	.....
	237.8				

TABLE 23.—WEIGHT OF NUTRIENTS CONSUMED, POUNDS

Dates	Weight of protein	Weight of fat	Weight of nitrogen free extract	Weight of crude fibre	Weight of asa	Weight of organic nutrients	Weight of dry matter
STEER 500							
4-3 to 4-5-07.....	0.687	0.668	1.333	0.213	0.171	2.901	3.072
4-6 to 5-5.....	11.944	12.685	16.180	1.359	2.326	42.168	44.494
5-6 to 6-4.....	17.493	17.495	39.951	9.968	4.653	84.907	89.560
6-5 to 7-4.....	22.076	21.008	54.117	12.398	4.953	100.599	114.552
7-5 to 8-3.....	27.784	21.396	93.833	23.323	8.665	165.836	174.501
8-4 to 9-2.....	30.491	19.611	107.043	25.291	9.500	182.436	191.926
9-3 to 10-2.....	29.175	15.182	93.881	20.556	8.914	158.794	167.708
10-3 to 11-1.....	21.437	5.985	90.793	27.024	7.480	145.239	152.719
11-2 to 12-1.....	28.890	8.192	122.966	33.564	9.507	193.132	202.639
12-2 to 12-31.....	30.294	9.089	132.556	36.311	10.057	208.250	218.307
1-1 to 1-30-08.....	32.681	12.219	148.229	43.006	11.004	236.135	247.139
1-31 to 2-29.....	32.351	13.492	146.585	42.969	11.066	235.397	246.463
3-1 to 3-30.....	32.714	10.312	148.805	42.982	11.199	234.813	246.012
3-31 to 4-29.....	32.808	7.386	153.867	43.338	11.175	237.399	248.574
4-30 to 5-29.....	32.808	7.386	153.867	43.338	11.175	237.399	248.574
5-30 to 6-28.....	32.808	7.386	153.867	43.338	11.175	237.399	248.574
6-29 to 7-28.....	33.073	8.752	152.194	43.090	11.449	237.109	248.558
7-29 to 8-27.....	33.809	9.348	154.665	43.877	11.762	241.699	253.461
8-28 to 9-26.....	34.334	10.259	163.145	40.071	11.512	247.809	259.321
9-27 to 10-26.....	33.695	10.125	160.498	39.019	11.282	243.337	254.619
10-27 to 11-25.....	35.037	10.824	166.249	40.885	11.609	252.995	264.604
11-26 to 12-25.....	37.540	11.876	177.547	43.919	12.287	270.882	283.169
12-26 to 1-24-09.....	37.147	11.754	177.577	45.135	12.497	271.613	284.110
1-25 to 2-23.....	37.262	11.792	173.196	45.251	12.534	272.501	285.035
2-24 to 3-25.....	38.123	12.064	182.287	46.333	12.831	273.807	291.638
3-26 to 4-24.....	39.778	10.736	188.524	49.727	13.404	288.765	301.169
4-25 to 5-24.....	40.039	9.811	187.874	52.365	13.590	290.089	304.679
5-25 to 6-23.....	38.877	9.525	182.421	50.847	13.197	281.670	294.867
6-24 to 7-23.....	28.391	8.388	141.350	42.420	9.797	220.555	230.352
7-24 to 8-22.....	43.115	12.239	197.970	56.352	14.405	309.676	324.081
8-23 to 9-21.....	49.851	14.154	228.894	65.154	16.656	358.053	374.709
9-22 to 10-21.....	50.259	14.602	223.019	59.278	16.159	347.188	363.347
10-22 to 11-20.....	39.573	11.710	170.129	42.287	12.283	263.699	275.982
11-21 to 12-20.....	35.436	10.415	152.784	38.040	11.066	233.675	247.741
12-21 to 1-19-10.....	40.313	11.386	173.969	42.733	12.600	268.406	281.066
1-20 to 2-18.....	41.673	11.739	179.421	43.956	13.047	276.789	289.836
2-19 to 3-20.....	41.647	11.565	179.551	44.142	13.005	276.905	289.910
3-21 to 4-19.....	41.023	11.388	176.867	43.483	12.810	272.761	285.571
4-20 to 5-19.....	40.236	11.331	173.232	42.438	12.597	267.237	279.834
5-20 to 6-18.....	39.180	10.052	172.381	43.670	13.756	265.283	279.039
6-19 to 7-18.....	38.859	9.663	172.122	44.046	14.109	264.690	278.799
7-19 to 8-17.....	39.317	9.778	174.160	44.561	14.274	267.816	282.990
8-18 to 9-16.....	40.660	10.112	180.127	46.088	14.765	276.987	291.752
9-17 to 10-16.....	41.410	10.299	183.433	46.941	15.039	282.033	297.122
10-17 to 11-15.....	43.959	11.904	195.077	49.836	15.974	300.776	316.750
11-16 to 12-15.....	48.303	14.328	214.912	54.692	17.545	332.235	349.780
12-16 to 1-14-11.....	53.675	16.325	245.042	64.619	18.934	379.661	398.595
1-15 to 2-13.....	57.756	18.653	268.672	74.519	19.907	419.600	439.507
2-14 to 2-27.....	27.131	8.765	126.220	34.993	9.350	197.109	206.459
STEER 506.							
4-4 to 4-5-07.....	0.294	0.299	0.834	0.320	0.100	1.747	1.847
4-6 to 5-5.....	12.128	12.804	17.513	2.039	2.461	44.484	46.945
5-6 to 6-4.....	16.838	17.146	31.808	6.240	3.840	72.032	75.872
6-5 to 7-4.....	20.957	21.126	45.710	10.813	5.529	98.606	104.135
7-5 to 8-3.....	28.494	23.040	87.541	22.500	8.629	161.575	170.204
8-4 to 9-2.....	35.565	24.202	115.286	26.597	10.763	201.660	212.413
9-3 to 10-2.....	43.352	27.717	123.608	25.460	12.657	220.327	232.794
10-3 to 10-27.....	22.312	6.476	91.061	29.550	7.973	149.399	157.372

TABLE 24.—WEIGHT OF NUTRIENTS CONSUMED, POUNDS.

Dates	Weight of protein	Weight of fat	Weight of nitrogen free extract	Weight of crude fibre	Weight of ash	Weight of organic nutrients	Weight of dry matter
STEER 501							
4- 7 P.M. to 5-5-07.....	11.245	11.975	15.791	1.640	2.245	40.651	42.896
5- 6 to 6- 4.....	15.713	16.093	30.155	6.046	3.802	68.007	71.809
6- 5 to 7- 4.....	21.389	20.991	45.131	11.206	5.545	98.717	104.262
7- 5 to 8- 3.....	31.585	25.117	100.216	24.808	9.525	181.726	191.251
8- 4 to 9- 2.....	44.473	29.898	145.806	35.474	13.696	255.651	269.347
9- 3 to 10- 2.....	54.521	34.535	159.999	31.198	15.654	280.253	295.907
10- 3 to 11- 1.....	48.843	19.593	188.192	49.411	15.604	306.039	321.643
11- 2 to 12- 1.....	58.983	17.037	255.944	69.328	19.505	401.292	420.797
12- 2 to 12-31.....	58.849	17.491	256.626	71.139	19.603	404.105	423.708
1- 1 to 1-30-08.....	59.793	22.355	271.090	78.799	20.151	432.037	452.188
1-31 to 2-29.....	61.107	25.512	277.173	81.189	20.914	445.041	465.955
3- 1 to 3-30.....	65.432	20.626	297.607	85.968	22.399	469.633	492.032
3-31 to 4-29.....	59.612	15.366	257.743	71.928	20.476	404.649	425.125
4-30 to 5-29.....	65.656	14.910	308.230	85.968	22.096	474.764	496.856
5-30 to 6-28.....	74.181	16.711	346.551	97.455	25.257	534.878	560.135
6-29 to 7-28.....	79.130	19.713	361.420	104.158	27.236	564.421	591.657
7-29 to 8-27.....	73.340	19.297	332.183	95.735	25.423	520.555	545.978
8-28 to 9-26.....	72.065	21.317	342.137	84.982	24.739	520.501	545.240
9-27 to 10-26.....	66.753	20.047	319.192	79.552	21.965	485.544	507.509
10-27 to 11-25.....	61.855	19.101	295.329	73.058	20.324	449.343	469.667
11-26 to 12-25.....	66.052	20.918	312.652	77.553	21.253	477.175	498.428
12-26 to 1-24-09.....	76.315	24.188	366.713	91.070	25.868	558.286	584.154
1-25 to 2-23.....	77.448	25.082	374.967	96.134	25.103	573.631	598.734
2-24 to 3-25.....	80.164	25.675	387.021	95.185	26.216	588.405	614.261
3-26 to 4-24.....	78.722	21.337	373.920	99.546	26.013	573.525	599.538
4-25 to 5-24.....	78.930	19.258	373.292	105.403	26.617	576.883	603.500
5-25 to 6-23.....	77.543	19.302	366.988	101.492	26.161	565.325	591.486
6-24 to 7-23.....	76.168	20.800	360.221	106.136	26.178	563.325	589.503
7-24 to 8-22.....	71.129	21.163	334.852	101.751	24.084	528.895	552.979
8-23 to 9-21.....	69.236	20.858	330.446	97.016	22.606	517.556	540.162
9-22 to 10-21.....	76.110	22.286	336.959	94.332	24.219	529.687	553.906
10-22 to 11-20.....	74.739	23.329	328.114	79.250	22.930	505.432	528.362
11-21 to 12-20.....	73.581	23.206	328.515	75.936	22.177	501.238	523.355
12-21 to 1-19-10.....	81.152	23.665	353.155	86.539	24.876	544.511	569.387
1-20 to 2-18.....	83.547	23.748	358.566	90.858	25.413	556.719	582.132
2-19 to 3-20.....	79.087	22.410	339.801	83.889	22.939	530.187	553.126
3-21 to 4-19.....	79.996	22.345	341.436	89.538	24.615	533.315	557.930
4-20 to 5-19.....	79.216	22.649	338.607	87.161	24.923	527.723	552.646
5-20 to 6-18.....	80.436	20.827	355.377	90.144	27.844	546.784	574.628
6-19 to 7-18.....	77.448	19.064	341.894	91.289	28.676	529.695	558.371
7-19 to 8-17.....	78.010	19.385	348.452	89.123	27.786	534.970	562.756
8-18 to 9-16.....	79.778	19.795	353.238	92.722	29.073	545.533	574.606
9-17 to 10-16.....	76.173	18.947	338.755	89.851	27.486	523.726	551.212
10-17 to 11-15.....	76.898	20.418	340.593	89.297	27.469	527.206	554.675
11-16 to 12-15.....	82.053	24.203	363.267	95.822	29.607	565.345	594.952
12-16 to 1-14-11.....	77.647	23.798	357.916	98.487	25.825	557.848	583.673
1-15 to 2-13.....	71.514	23.027	334.610	102.989	22.047	532.140	554.187
2-14 to 2-27.....	33.162	10.693	155.397	47.829	10.111	247.081	257.192
STEER 510							
4- 4 to 4- 5-07.....	0.360	0.348	1.024	0.347	0.121	2.079	2.200
4- 6 to 5- 5.....	9.868	10.122	16.241	3.046	2.181	39.277	41.458
5- 6 to 6- 4.....	11.956	11.447	28.653	6.814	3.194	58.870	62.064
6- 5 to 7- 4.....	13.292	11.321	44.740	11.561	4.125	80.914	85.039
7- 5 to 7-24.....	7.727	2.564	45.833	14.980	3.528	71.104	74.632

TABLE 25.—WEIGHT OF NUTRIENTS CONSUMED, POUNDS.

Dates	Weight of protein	Weight of fat	Weight of nitrogen free extract	Weight of crude fibre	Weight of ash	Weight of organic nutrients	Weight of dry matter
STEER 502							
4-7 P.M. to 5-5-07.....	11.890	12.603	17.257	2.145	2.425	43.895	46.320
5-6 to 6-4.....	17.072	17.303	36.150	9.084	4.459	79.609	84.068
6-5 to 7-4.....	22.560	21.443	54.175	12.348	5.901	110.526	116.427
7-5 to 8-3.....	26.975	21.542	85.868	21.166	8.179	155.551	163.730
8-4 to 9-2.....	32.806	22.045	109.367	23.879	9.813	188.097	197.910
9-3 to 10-2.....	43.349	27.719	123.654	25.363	12.655	220.085	232.740
10-3 to 11-1.....	28.337	10.316	108.933	32.546	9.645	180.132	189.777
11-2 to 12-1.....	30.159	8.676	131.246	35.513	10.063	205.594	215.657
12-2 to 12-31.....	36.216	10.865	158.463	43.392	12.032	248.936	260.968
1-1 to 1-30-08.....	38.126	14.253	172.933	50.176	12.838	275.488	288.326
1-31 to 2-29.....	37.743	15.740	171.017	50.132	12.911	274.632	287.543
3-1 to 3-30.....	38.959	12.209	177.281	51.219	13.341	279.668	293.009
3-31 to 4-29.....	42.711	10.894	192.266	48.046	14.342	293.917	308.259
4-30 to 5-29.....	41.010	9.237	192.333	54.174	13.971	296.754	310.725
5-30 to 6-28.....	41.010	9.237	192.333	54.174	13.971	296.754	310.725
6-29 to 7-28.....	43.215	11.451	199.114	56.091	14.927	309.871	324.798
7-29 to 8-27.....	42.845	11.852	196.042	55.580	14.902	306.319	321.221
8-28 to 9-26.....	42.091	12.577	200.010	49.128	14.114	303.806	317.920
9-27 to 10-26.....	42.683	12.860	203.665	49.191	14.251	308.399	322.650
10-27 to 11-26.....	44.142	13.644	209.566	51.372	14.603	318.724	333.327
11-26 to 12-25.....	46.477	14.702	219.819	54.379	15.215	336.377	349.592
12-26 to 1-24-09.....	44.413	14.053	212.330	53.934	14.935	324.730	340.665
1-25 to 2-23.....	44.334	14.028	211.986	53.871	14.916	324.219	339.135
2-24 to 3-25.....	44.334	14.028	211.986	53.871	14.916	324.219	339.135
3-26 to 4-24.....	44.449	12.015	210.693	55.531	14.978	332.088	337.666
4-25 to 5-24.....	42.117	10.321	197.621	55.085	14.298	305.144	319.442
5-25 to 6-23.....	38.921	9.538	182.629	50.899	13.212	281.987	295.199
6-24 to 7-23.....	38.287	10.004	178.043	50.059	12.911	276.393	289.304
7-24 to 8-22.....	38.039	10.709	174.662	49.713	12.777	273.21	285.990
8-23 to 9-21.....	35.704	10.137	163.938	46.660	11.926	256.439	268.365
9-22 to 10-21.....	37.226	10.816	164.914	43.756	11.951	256.712	268.663
10-22 to 11-20.....	40.932	12.111	175.967	43.735	12.706	272.745	285.451
11-21 to 12-20.....	43.453	12.774	187.342	46.645	13.569	290.214	303.783
12-21 to 1-19-10.....	46.127	13.028	199.058	48.921	14.492	307.134	321.626
1-20 to 2-18.....	47.421	13.359	204.165	50.019	14.847	314.964	329.811
2-19 to 3-20.....	47.391	13.161	204.315	50.233	14.799	315.100	329.899
3-21 to 4-19.....	47.391	13.161	204.315	50.233	14.799	315.100	329.899
4-20 to 5-19.....	47.421	13.359	204.165	50.019	14.847	314.964	329.811
5-20 to 6-18.....	46.177	11.850	203.159	51.470	16.213	312.656	328.869
6-19 to 7-18.....	45.798	11.391	202.854	51.912	16.629	311.955	328.584
7-19 to 8-17.....	46.259	11.505	204.904	52.437	16.798	315.105	331.903
8-18 to 9-16.....	47.181	11.733	209.004	53.487	17.136	321.405	338.541
9-17 to 10-16.....	47.181	11.733	209.004	53.487	17.136	321.405	338.541
10-17 to 11-15.....	46.917	12.639	208.255	53.123	17.033	320.934	337.967
11-16 to 12-11.....	38.451	11.409	171.096	43.514	13.962	264.470	278.432
STEER 503							
4-6 P.M. to 5-5-07.....	11.987	12.500	21.020	4.466	2.767	49.973	52.740
5-6 to 6-4.....	17.466	17.487	39.467	9.648	4.605	84.068	88.673
6-5 to 7-4.....	23.941	21.929	59.827	16.647	6.708	122.344	129.052
7-5 to 8-3.....	31.293	23.687	101.886	29.519	10.182	186.385	196.567
8-4 to 9-2.....	36.051	23.428	120.848	30.617	11.377	210.944	222.321
9-3 to 10-2.....	42.195	26.388	121.822	25.362	12.404	215.827	228.231
10-3 to 11-1.....	25.871	7.102	108.519	33.431	9.339	174.923	184.262
11-2 to 12-1.....	33.015	9.524	143.021	39.030	11.058	224.590	235.648
12-2 to 12-31.....	41.946	12.580	183.536	50.245	13.933	288.307	302.240
1-1 to 1-30-08.....	44.402	16.524	201.809	58.037	14.888	320.772	335.660
1-31 to 2-24.....	39.137	16.258	177.574	52.330	13.420	285.299	298.719

TABLE 26.—WEIGHT OF NUTRIENTS CONSUMED, POUNDS.

Dates	Weight of protein	Weight of fat	Weight of nitrogen free extract	Weight of crude fibre	Weight of ash	Weight of organic nutrients	Weight of dry matter
STEER 504							
4- 6 P.M. to 5-5-07.....	9.626	9.973	14.156	1.763	1.971	35.518	37.489
5- 6 to 6- 4.....	11.753	11.453	30.856	7.792	3.267	61.854	65.121
6- 5 to 7- 4.....	15.092	12.876	46.052	12.187	4.439	86.207	90.646
7- 5 to 8- 3.....	16.633	7.639	86.305	26.519	6.829	137.096	143.925
8- 4 to 9- 2.....	23.275	6.905	129.578	35.763	9.383	195.521	204.904
9- 3 to 10- 2.....	34.602	9.288	139.401	31.858	11.382	215.209	226.591
10- 3 to 11- 1.....	43.304	12.644	189.606	48.678	13.852	294.232	308.084
11- 2 to 12- 1.....	56.334	16.933	253.118	56.570	14.781	382.955	397.736
12- 2 to 12-31.....	60.426	18.606	269.652	66.017	18.324	414.701	433.025
1- 1 to 1-30-08.....	63.328	24.127	290.692	80.552	20.729	458.699	479.448
1-31 to 2-29.....	66.389	27.685	300.513	88.381	22.735	482.968	505.703
3- 1 to 3-30.....	70.756	22.333	322.050	92.761	24.189	507.900	532.089
3-31 to 4-29.....	70.581	15.967	331.575	92.625	23.869	510.748	534.617
4-30 to 5-29.....	72.240	16.266	338.780	95.471	24.615	522.757	547.372
5-30 to 6-28.....	85.437	19.605	403.227	110.092	28.205	618.361	646.566
6-29 to 7-28.....	77.991	20.263	363.333	92.692	24.617	554.279	578.896
7-29 to 8-27.....	70.240	18.838	320.651	92.235	24.430	501.964	526.394
8-28 to 9-26.....	72.089	21.612	344.511	86.507	23.727	524.719	548.446
9-27 to 10-26.....	66.729	20.638	327.985	80.191	20.458	495.543	516.001
10-27 to 11-25.....	52.070	16.347	260.078	67.135	14.386	395.630	410.016
11-26 to 12-11.....	31.996	10.273	152.815	38.370	9.117	233.454	242.571
STEER 505							
4- 6 to 5- 5-07.....	12.556	13.061	21.324	4.233	2.831	51.174	54.005
5- 6 to 6- 4.....	17.508	17.511	39.924	9.936	4.651	84.879	89.530
6- 5 to 7- 4.....	22.360	21.530	52.743	12.112	5.842	108.745	114.587
7- 5 to 8- 3.....	31.456	24.763	102.325	25.196	9.582	183.740	193.322
8- 4 to 9- 2.....	37.573	24.276	128.750	30.595	11.686	221.194	232.880
9- 3 to 10- 2.....	50.000	29.149	153.605	31.190	14.691	263.954	278.645
10- 3 to 11- 1.....	40.924	11.721	176.379	48.878	13.776	277.902	291.678
11- 2 to 12- 1.....	59.295	17.143	257.280	69.464	19.658	403.182	422.840
12- 2 to 12-31.....	63.680	19.260	281.053	74.322	20.735	438.315	459.050
1- 1 to 1-30-08.....	64.598	24.311	294.423	83.997	21.526	467.329	488.855
1-31 to 2- 2.....	6.462	2.724	29.360	8.601	2.209	47.147	49.356
STEER 508							
4- 4 to 4- 5-07.....	0.271	0.286	0.580	0.180	0.074	1.297	1.371
4- 6 to 5- 5.....	8.400	8.670	10.907	0.664	1.577	28.650	30.227
5- 6 to 6- 4.....	9.584	9.493	17.802	2.261	2.135	39.140	41.275
6- 5 to 7- 4.....	7.894	6.790	23.732	6.427	2.399	44.843	47.242
7- 5 to 8- 3.....	10.977	3.774	67.700	18.840	4.430	101.291	105.721
8- 4 to 9- 2.....	16.458	4.728	86.809	9.605	6.782	117.600	124.382
9- 3 to 10- 2.....	25.613	6.489	98.554	25.460	8.894	156.116	165.010
10- 3 to 11- 1.....	25.188	6.913	105.551	33.421	8.951	171.073	180.024
11- 2 to 12- 1.....	30.287	8.733	131.169	36.616	10.148	206.805	216.953
12- 2 to 12-31.....	36.153	10.856	158.289	44.082	11.990	249.380	261.370
1- 1 to 1-30-08.....	39.101	14.692	177.562	51.349	13.142	282.704	295.846
1-31 to 2-29.....	42.055	17.539	190.552	55.859	14.388	306.005	320.391
3- 1 to 3-30.....	42.403	13.480	192.762	55.652	14.510	304.297	318.807
3-31 to 4-29.....	38.274	8.619	179.510	50.562	13.038	276.965	290.003
4-30 to 5-29.....	38.274	8.619	179.510	50.562	13.038	276.965	290.003
5-30 to 6-28.....	38.274	8.619	179.510	50.562	13.038	276.965	290.003
6-29 to 7-28.....	41.245	10.921	189.811	53.742	14.279	295.719	309.998
7-29 to 8-27.....	47.101	11.463	189.605	53.769	14.416	301.938	316.354
8-28 to 9-26.....	40.317	12.046	191.574	47.058	13.520	290.995	304.515
9-27 to 10-26.....	40.672	12.284	194.517	46.389	13.501	293.862	307.363
10-27 to 11-20.....	35.172	10.822	167.191	40.803	11.647	253.988	265.635

TABLE 27.—WEIGHT OF NUTRIENTS CONSUMED, POUNDS.

Dates	Weight of protein	Weight of fat	Weight of nitrogen free extract	Weight of crude fibre	Weight of ash	Weight of organic nutrients	Weight of dry matter
STEER 507							
4- 6 to 5- 5-07.....	12.289	12.966	17.849	2.197	2.504	45.301	47.805
5- 6 to 6- 4.....	16.840	17.143	32.889	5.985	4.008	72.857	76.865
6- 5 to 7- 4.....	22.463	21.601	53.969	11.893	5.836	109.926	115.762
7- 5 to 8- 3.....	29.390	23.309	94.882	22.894	8.838	170.475	179.313
8- 4 to 9- 2.....	34.900	24.167	116.443	25.485	10.287	200.995	211.282
9- 3 to 10- 2.....	43.349	27.719	123.554	25.363	12.655	219.985	232.640
10- 3 to 11- 1.....	25.975	7.540	106.962	32.963	9.139	173.440	182.579
11- 2 to 12- 1.....	31.955	9.220	138.429	37.778	10.703	217.382	228.085
12- 2 to 12-31.....	36.216	10.865	158.463	43.392	12.030	248.936	260.966
1- 1 to 1-30-08.....	38.126	14.253	172.933	50.176	12.838	275.488	288.326
1-31 to 2-29.....	37.743	15.740	171.017	50.132	12.911	274.632	287.543
3- 1 to 3-30.....	38.170	12.031	173.604	50.148	13.067	273.953	287.020
3-31 to 4-29.....	39.861	10.165	179.444	44.843	13.388	274.313	287.701
4-30 to 5-29.....	38.277	8.616	179.508	50.562	13.038	276.963	290.001
5-30 to 6-28.....	38.277	8.616	179.508	50.562	13.038	276.963	290.001
6-29 to 7-28.....	40.588	10.739	186.779	52.883	14.049	290.989	305.038
7-29 to 8-27.....	39.364	10.816	179.855	51.062	13.676	281.097	294.773
8-28 to 9-26.....	39.773	11.886	189.008	46.400	13.333	287.067	300.400
9-27 to 10-26.....	40.491	12.195	193.120	46.752	13.537	292.558	306.095
10-27 to 11-25.....	42.121	13.026	200.042	48.933	13.919	304.122	318.041
11-26 to 12-25.....	44.359	14.032	209.806	51.898	14.522	320.095	334.617
12-26 to 1-24-09.....	43.673	13.818	208.797	53.041	14.694	319.329	334.023
1-25 to 2-23.....	41.932	13.321	200.348	52.066	14.212	307.667	321.879
2-24 to 3-25.....	43.569	13.786	208.287	53.023	14.673	318.665	333.338
3-26 to 4-24.....	43.779	11.832	207.511	54.697	14.991	317.819	332.810
4-25 to 5-24.....	43.144	10.571	202.450	56.425	14.645	312.590	327.235
5-25 to 6-23.....	42.897	10.509	201.294	56.100	14.562	310.800	325.362
6-24 to 7-23.....	42.989	11.230	199.907	56.204	14.496	310.330	324.826
7-24 to 8-22.....	42.754	12.135	196.319	55.877	14.284	307.085	321.369
8-23 to 9-21.....	39.822	11.308	182.870	52.020	13.300	286.020	299.320
9-22 to 10-21.....	39.146	11.367	173.237	46.159	12.587	269.909	282.496
10-22 to 11-20.....	41.889	12.393	180.087	44.761	13.001	279.130	292.131
11-21 to 12-20.....	42.006	12.347	181.100	45.089	13.116	280.542	293.658
12-21 to 1- 2-10.....	19.229	5.450	83.215	20.541	6.067	128.435	134.502
STEER 518							
4- 2 to 4- 5-07.....	1.661	1.656	3.410	0.735	0.450	7.462	7.912
4- 6 to 5- 5.....	14.123	14.408	27.002	5.978	3.353	61.511	64.864
5- 6 to 6- 4.....	20.600	20.293	52.116	14.544	5.846	107.553	113.399
6- 5 to 7- 4.....	26.362	24.851	71.059	17.714	7.498	139.926	147.484
7- 5 to 8- 3.....	34.121	26.008	110.808	31.391	10.990	202.328	213.318
8- 4 to 9- 2.....	39.320	23.235	142.702	39.039	13.246	244.246	257.542
9- 3 to 10- 2.....	33.997	12.204	120.987	30.399	11.377	197.587	208.964
10- 3 to 11- 1.....	30.315	8.430	128.063	39.359	10.624	206.167	216.791
11- 2 to 12- 1.....	34.172	9.858	148.030	41.321	11.445	233.381	244.826
12- 2 to 12-31.....	34.876	12.092	156.857	69.032	11.635	272.857	284.492
1- 1 to 1-30-08.....	38.136	14.257	172.933	50.175	12.839	275.501	288.340
1-31 to 2-29.....	37.740	15.663	171.016	50.131	12.910	274.550	287.460
3- 1 to 3-30.....	37.376	11.855	169.930	49.077	12.794	268.238	281.032
3-31 to 4-29.....	34.351	7.795	160.790	45.328	11.600	248.264	259.864
4-30 to 5-29.....	31.773	7.157	149.076	41.919	11.815	229.925	241.740
5-30 to 6-28.....	30.073	6.772	141.044	39.728	10.245	217.617	227.862
6-29 to 7-28.....	30.366	8.024	139.511	39.500	10.495	217.401	227.896
7-29 to 8- 2.....	5.065	1.402	23.175	6.571	1.762	36.213	37.975

TABLE 28.—WEIGHT OF NUTRIENTS CONSUMED, POUNDS.

Dates	Weight of protein	Weight of fat	Weight of nitrogen free extract	Weight of crude fibre	Weight of ash	Weight of organic nutrients	Weight of dry matter
STEER 509							
4- 4 to 4- 5-07.....	0.248	0.273	0.326	.....	0.049	0.847	0.896
4- 6 to 5- 5.....	12.070	12.776	17.072	1.826	2.418	43.774	46.162
5- 6 to 6- 4.....	16.765	17.105	31.755	5.067	3.872	70.692	74.564
6- 5 to 7- 4.....	21.960	21.352	49.532	11.686	5.722	104.530	110.252
7- 5 to 8- 3.....	27.846	21.374	93.244	23.878	8.716	166.342	175.058
8- 4 to 9- 2.....	30.491	19.611	106.997	25.291	9.520	182.390	191.910
9- 3 to 10- 2.....	35.014	21.980	102.251	20.554	10.173	179.799	189.972
10- 3 to 11- 1.....	18.578	6.131	74.466	22.106	6.374	121.281	127.655
11- 2 to 12- 1.....	22.611	6.521	97.934	26.735	7.575	153.801	161.376
12- 2 to 12-31.....	29.692	8.894	129.736	35.771	9.892	204.093	213.985
1- 1 to 1-30-08.....	32.681	12.219	148.229	43.006	11.004	236.135	247.139
1-31 to 2-29.....	32.265	13.458	146.080	42.942	11.047	234.745	245.792
3- 1 to 3-30.....	32.714	10.312	148.805	42.982	11.199	234.813	246.012
3-31 to 4-29.....	34.167	8.716	153.812	38.436	11.477	235.131	246.608
4-30 to 5-29.....	32.808	7.386	153.867	43.338	11.175	237.399	248.574
5-30 to 6-28.....	32.808	7.386	153.867	43.338	11.175	237.399	248.574
6-29 to 7-28.....	33.085	8.811	152.121	43.078	11.461	237.095	248.556
7-29 to 8-27.....	33.156	9.168	151.686	43.014	11.532	237.024	248.556
8-28 to 9-26.....	32.918	9.835	156.405	38.416	11.038	237.574	248.612
9-27 to 10-26.....	32.892	9.909	156.930	37.905	10.983	237.636	248.619
10-27 to 11-25.....	34.819	10.732	164.787	41.059	11.752	251.397	263.149
11-26 to 12-25.....	37.015	11.726	175.279	43.220	12.268	267.240	279.508
12-26 to 1-24-09.....	36.885	11.667	176.333	44.859	12.712	269.744	282.456
1-25 to 2-23.....	37.251	11.788	178.128	45.256	12.833	272.423	285.256
2-24 to 3-25.....	38.128	12.064	182.300	46.343	13.139	278.835	291.974
3-26 to 4-24.....	39.062	10.557	185.156	48.803	13.230	283.578	296.808
4-25 to 5-24.....	38.877	9.525	182.421	50.847	13.197	281.670	294.867
5-25 to 6-23.....	38.877	9.525	182.421	50.847	13.197	281.670	294.867
6-24 to 7-23.....	37.514	9.904	174.938	50.458	12.856	272.814	285.670
7-24 to 8-22.....	39.072	11.091	179.406	51.069	13.053	280.638	293.691
8-23 to 9-21.....	39.072	11.091	179.406	51.069	13.053	280.638	293.691
9-22 to 10-21.....	40.736	11.833	180.464	47.878	13.075	280.911	293.986
10-22 to 11-20.....	37.978	11.236	163.264	40.577	11.786	253.055	264.841
11-21 to 12-20.....	35.436	10.415	152.784	38.040	11.066	236.675	247.741
12-21 to 1-19-10.....	38.501	10.866	166.007	40.800	12.088	256.174	268.262
1-20 to 2-18.....	40.236	11.331	173.232	42.438	12.597	267.237	279.834
2-19 to 3-20.....	40.594	11.268	175.004	43.031	12.676	269.897	282.573
3-21 to 4-19.....	40.900	11.354	176.330	43.351	12.769	271.935	284.704
4-20 to 5-19.....	40.926	11.526	176.202	43.167	12.813	271.821	284.634
5-20 to 6-18.....	40.421	10.367	177.855	45.069	14.200	273.712	287.912
6-19 to 7-18.....	40.245	10.008	178.269	45.618	14.613	274.140	288.753
7-19 to 8-17.....	41.174	10.239	182.378	46.677	14.953	280.468	295.421
8-18 to 9-16.....	43.847	10.901	194.197	49.722	15.928	298.667	314.595
9-17 to 10-16.....	44.409	11.043	196.710	50.337	16.128	302.499	318.627
10-17 to 11-15.....	45.560	12.306	202.203	51.631	16.550	311.700	328.250
11-16 to 12-11.....	41.649	12.353	185.297	47.160	15.129	286.459	301.588
STEER 511							
4- 4 to 4- 5-07.....	0.163	0.071	1.195	0.559	0.117	1.988	2.105
4- 6 to 5- 5.....	13.088	13.414	27.273	7.181	3.321	60.956	64.277
5- 6 to 6- 4.....	17.894	18.362	28.725	3.217	3.854	68.198	72.052
6- 5 to 7- 4.....	18.008	18.356	37.223	7.522	4.522	81.188	85.040
7- 5 to 8- 3.....	8.806	4.410	57.287	8.321	2.799	78.914	81.713
8- 4 to 8-21.....	8.083	2.329	48.431	14.625	3.534	73.468	77.002

TABLE 29.—WEIGHT OF NUTRIENTS CONSUMED, POUNDS.

Dates	Weight of protein	Weight of fat	Weight of nitrogen free extract	Weight of crude fibre	Weight of ash	Weight of organic nutrients	Weight of dry matter
STEER 512							
4-4 to 4-5-07.....	.412	.364	1.185	.309	0.135	2.270	2.405
4-6 to 5-5.....	13.152	13.591	24.582	5.272	3.075	56.597	59.672
5-6 to 6-4.....	19.351	19.583	39.523	9.907	5.009	88.364	93.373
6-5 to 7-4.....	21.415	21.404	46.382	13.327	6.013	102.528	108.541
7-5 to 8-3.....	29.591	23.326	95.466	23.869	9.063	172.252	181.315
8-4 to 9-2.....	35.825	24.294	118.454	26.495	10.764	205.068	215.832
9-3 to 10-2.....	37.567	21.039	115.161	25.363	11.392	199.130	210.522
10-3 to 11-1.....	26.349	7.241	110.413	34.190	9.375	178.193	187.568
11-2 to 12-1.....	33.628	9.695	145.614	39.799	11.272	228.736	240.008
12-2 to 12-31.....	41.946	12.580	183.536	50.245	13.933	288.307	302.240
1-1 to 1-30-08.....	44.649	16.748	202.531	58.777	14.999	322.705	337.704
1-31 to 2-29.....	47.114	19.668	213.580	62.478	16.058	342.840	358.898
3-1 to 3-30.....	49.452	15.470	223.207	64.473	16.801	352.602	369.403
3-31 to 4-29.....	50.082	11.082	230.799	65.010	16.764	356.973	373.737
4-30 to 5-29.....	49.254	10.898	226.969	63.945	16.488	351.066	367.554
5-30 to 6-28.....	47.304	10.467	217.974	61.395	15.831	337.140	352.971
6-29 to 7-28.....	49.056	12.928	224.826	63.657	16.912	350.467	367.379
7-29 to 8-27.....	47.668	12.931	216.349	63.133	16.750	340.081	356.831
8-28 to 9-26.....	48.008	14.345	228.134	56.027	16.100	346.514	362.614
9-27 to 10-26.....	48.215	14.526	230.046	55.587	16.103	348.374	364.477
10-27 to 11-25.....	49.482	15.300	235.019	57.484	16.353	357.285	373.638
11-26 to 12-25.....	51.867	16.410	245.322	60.687	16.977	374.286	391.263
12-26 to 1-24-09.....	51.062	16.160	244.124	62.014	17.175	373.360	390.535
1-25 to 2-23.....	51.048	16.155	244.104	62.037	17.178	373.344	390.522
2-24 to 3-25.....	50.346	15.933	240.756	61.172	16.939	368.207	385.146
3-26 to 4-24.....	49.837	13.472	236.233	62.261	16.793	361.803	378.596
4-25 to 5-24.....	47.054	11.529	220.791	61.536	15.972	340.910	356.882
5-25 to 6-23.....	45.579	11.166	213.873	59.610	15.471	330.228	345.699
6-24 to 7-23.....	45.677	11.931	212.402	59.719	15.401	329.729	345.130
7-24 to 8-22.....	45.810	13.002	210.339	59.871	15.303	329.022	344.325
8-23 to 9-21.....	45.810	13.002	210.339	59.871	15.303	329.022	344.325
9-22 to 10-20.....	47.760	13.872	211.578	56.132	15.330	329.342	344.672
10-22 to 11-20.....	50.135	14.834	215.555	53.563	15.559	334.087	349.646
11-21 to 12-20.....	50.673	14.897	218.511	54.370	15.821	338.451	354.272
12-21 to 1-19-10.....	51.948	14.671	224.152	55.106	16.323	345.877	362.200
1-20 to 2-18.....	53.166	14.976	228.915	56.082	16.647	353.139	369.786
2-19 to 3-20.....	53.931	14.973	232.511	57.176	16.843	358.591	375.434
3-21 to 4-19.....	54.569	15.150	235.271	57.843	17.041	362.833	379.874
4-20 to 5-19.....	54.603	15.378	235.101	57.597	17.097	362.679	379.776
5-20 to 6-18.....	53.169	13.641	233.946	59.267	18.670	360.233	378.693
6-19 to 7-18.....	52.734	13.113	233.595	59.775	19.149	359.217	378.366
7-19 to 8-17.....	53.200	13.229	235.655	60.310	19.319	362.394	381.713
8-18 to 9-16.....	54.138	13.461	239.796	61.398	19.665	368.793	388.458
9-17 to 10-16.....	54.138	13.461	239.796	61.398	19.665	368.793	388.458
10-17 to 11-15.....	54.118	14.580	240.169	61.329	19.656	370.196	389.852
11-16 to 12-15.....	54.087	16.044	240.657	61.239	19.644	372.027	391.671
12-16 to 1-14-11.....	49.371	14.968	225.251	59.073	17.423	348.668	366.091
1-15 to 2-13.....	49.804	16.080	231.658	64.283	17.171	361.825	378.996
2-14 to 2-27.....	25.133	8.112	116.880	32.470	8.669	182.595	191.264
STEER 518							
4-3 to 4-5-07.....	0.939	0.998	1.561	0.186	0.214	3.684	3.898
4-6 to 5-5.....	7.601	7.970	10.509	1.046	1.498	27.126	28.624
5-6 to 6-4.....	10.873	10.812	24.919	5.359	2.782	51.932	54.745
6-5 to 7-4.....	14.687	13.694	42.129	9.035	4.057	79.545	83.602
7-5 to 8-3.....	14.761	6.964	75.504	23.181	6.014	120.410	126.424
8-4 to 8-19.....	7.630	2.154	45.886	14.422	3.451	70.092	73.543

TABLE 30.—WEIGHT OF NUTRIENTS CONSUMED, POUNDS.

Dates	Weight of protein	Weight of fat	Weight of nitrogen free extract	Weight of crude fibre	Weight of ash	Weight of organic nutrients	Weight of dry matter
STEER 513							
4- 9 to 5- 5-07.....	10.501	11.276	15.373	1.918	2.160	39.068	41.228
5- 6 to 6- 4.....	16.953	17.205	33.643	5.971	4.027	73.772	77.709
6- 5 to 7- 4.....	22.517	21.606	54.114	12.128	5.876	110.365	116.241
7- 5 to 8- 3.....	32.593	25.477	107.139	26.398	9.988	191.607	201.595
8- 4 to 9- 2.....	44.323	29.630	147.749	33.723	13.333	255.425	268.758
9- 3 to 10- 2.....	54.352	34.477	159.189	31.141	15.621	279.159	294.780
10- 3 to 11- 1.....	46.016	17.773	179.939	47.628	14.787	291.356	306.143
11- 2 to 12- 1.....	56.590	16.277	244.686	67.033	18.894	384.586	403.480
12- 2 to 12-31.....	55.865	16.686	244.153	66.994	18.562	383.698	402.260
1- 1 to 1-30-08.....	52.687	19.693	237.500	70.612	17.889	380.492	398.381
1-31 to 2-29.....	53.112	22.173	239.594	71.366	18.269	386.245	404.514
3- 1 to 3-30.....	58.113	18.212	264.365	76.417	19.896	417.107	437.003
3-31 to 4-29.....	66.720	15.068	312.221	88.305	22.684	482.314	504.998
4-30 to 5-29.....	65.672	14.873	303.043	88.043	22.524	472.231	494.755
5-30 to 6-28.....	65.096	14.813	302.079	86.350	22.088	468.338	490.426
6-29 to 7-28.....	69.149	17.693	318.187	90.141	23.890	495.170	519.150
7-29 to 8-27.....	64.538	16.024	286.473	86.274	22.588	453.300	475.897
8-28 to 9-26.....	65.032	18.779	304.581	76.613	21.891	465.005	486.896
9-27 to 10-26.....	61.249	18.083	289.670	71.224	20.516	440.226	460.742
10-27 to 11-25.....	60.594	18.592	287.463	70.876	20.538	437.525	458.063
11-26 to 12-25.....	61.404	19.334	289.295	72.958	20.244	442.991	463.235
12-26 to 1-24-09.....	63.228	20.026	304.638	76.709	21.222	464.601	485.823
1-25 to 2-23.....	60.731	19.989	295.053	73.923	20.301	449.696	469.997
2-24 to 3-25.....	65.702	21.551	322.890	78.351	21.755	489.494	511.249
3-26 to 4-24.....	69.206	19.126	333.133	82.902	22.712	504.367	527.079
4-25 to 5-24.....	69.464	17.455	331.408	86.474	22.912	504.801	527.713
5-25 to 6-23.....	71.836	17.824	340.045	92.166	24.107	521.871	545.978
6-24 to 7-23.....	75.183	19.524	347.391	103.118	26.053	545.216	571.269
7-24 to 8-22.....	73.848	20.843	337.131	102.731	25.541	534.553	560.094
8-23 to 9-21.....	75.769	21.290	345.481	103.761	25.950	546.004	571.954
9-22 to 10-21.....	79.887	22.926	349.787	97.140	26.146	549.740	575.886
10-22 to 11-20.....	83.608	25.134	363.035	88.000	25.717	559.777	585.494
11-21 to 12-20.....	86.834	26.151	382.221	89.320	26.461	584.526	610.987
12-21 to 1-19-10.....	91.451	26.310	393.015	100.924	29.330	611.700	641.030
1-20 to 2-18.....	81.109	21.840	322.874	104.016	28.035	529.839	557.874
2-19 to 3-20.....	82.160	21.863	328.365	105.758	26.817	538.146	564.963
3-21 to 4-19.....	75.193	20.372	306.445	93.722	24.164	495.732	519.896
4-20 to 5-19.....	75.093	21.398	321.154	82.211	23.696	499.856	523.552
5-20 to 6-18.....	74.883	19.252	327.684	86.092	26.731	507.911	534.642
6-19 to 7-18.....	69.937	17.061	306.463	85.072	26.610	478.533	505.143
7-19 to 8-17.....	69.056	16.914	304.910	83.026	25.708	473.906	499.614
8-18 to 9-16.....	74.773	18.522	330.262	86.561	27.418	510.118	537.536
9-17 to 10-16.....	70.390	17.382	310.527	83.657	25.961	481.956	507.917
10-17 to 11-15.....	77.821	20.904	344.403	89.258	28.366	532.386	560.752
11-16 to 12-11.....	75.970	22.453	336.901	87.355	27.686	522.688	550.374
STEER 517							
4- 3 to 4- 5-07.....	1.501	1.595	2.402	0.213	0.322	5.711	6.043
4- 6 to 5- 5.....	12.900	13.548	18.982	2.565	2.652	47.995	50.647
5- 6 to 6- 4.....	17.022	17.244	34.407	6.449	4.103	75.122	79.225
6- 5 to 7- 4.....	21.960	21.575	53.836	11.688	5.834	109.059	114.893
7- 5 to 8- 3.....	28.054	21.675	93.260	23.679	8.730	166.668	175.398
8- 4 to 9- 2.....	30.605	19.676	106.730	25.560	9.610	182.580	192.190
9- 3 to 10- 2.....	31.871	18.353	95.345	20.567	9.485	166.136	175.621
10- 3 to 10-27.....	17.102	4.733	72.007	22.402	6.028	116.244	122.272

TABLE 31.—WEIGHT OF NUTRIENTS CONSUMED, POUNDS.

Dates	Weight of protein	Weight of fat	Weight of nitrogen free extract	Weight of crude fibre	Weight of ash	Weight of organic nutrients	Weight of dry matter
STEER 515							
4-3 to 4-5-07.....	0.691	0.725	1.235	0.186	0.165	2.837	3.002
4-6 to 5-5.....	10.104	10.378	15.288	2.312	2.110	38.082	40.192
5-6 to 6-4.....	10.915	10.806	26.073	6.050	2.882	53.844	56.726
6-5 to 7-4.....	13.201	11.378	39.843	10.656	3.912	75.078	78.990
7-5 to 8-3.....	11.012	8.622	66.022	20.832	5.725	101.488	107.213
8-4 to 9-2.....	17.695	5.185	95.323	26.137	7.092	144.340	151.432
9-3 to 10-2.....	32.837	8.587	129.448	31.198	11.054	202.070	213.124
10-3 to 11-1.....	15.958	4.351	66.485	20.511	5.639	107.464	113.103
11-2 to 12-1.....	22.228	6.404	96.191	26.456	7.460	151.279	158.739
12-2 to 12-31.....	34.288	10.309	150.114	41.115	11.385	235.826	247.211
1-1 to 1-30-08.....	44.467	16.664	201.551	58.705	15.005	321.387	336.392
1-31 to 2-29.....	54.230	22.542	245.397	72.224	18.589	394.393	412.982
3-1 to 3-30.....	64.801	20.441	294.151	85.436	22.210	464.829	487.039
3-31 to 4-29.....	64.499	14.622	302.518	84.708	21.780	466.347	488.127
4-30 to 5-29.....	65.858	14.829	308.841	87.024	22.439	476.552	498.989
5-30 to 6-28.....	80.870	18.271	379.311	106.557	27.428	485.009	512.437
6-29 to 7-28.....	85.681	22.407	395.318	109.027	28.898	612.433	643.331
7-29 to 8-27.....	82.685	22.639	377.159	108.109	28.863	590.682	619.545
8-28 to 9-26.....	77.895	23.452	374.474	93.053	25.179	568.874	594.053
9-27 to 10-26.....	69.123	20.832	331.308	81.369	22.656	502.632	525.288
10-27 to 11-25.....	62.707	19.341	299.301	73.661	20.431	555.010	575.441
11-26 to 12-25.....	61.421	19.475	291.209	71.480	19.606	443.585	463.191
12-26 to 1-24-09.....	61.747	19.491	297.620	74.525	20.525	453.393	473.918
1-25 to 2-23.....	64.480	20.577	307.891	82.459	21.891	475.407	497.298
2-24 to 3-25.....	64.471	20.443	306.383	81.943	21.968	473.240	495.208
3-26 to 4-24.....	65.130	18.454	323.155	85.712	22.931	495.451	518.382
4-25 to 5-24.....	68.516	16.787	321.498	90.402	23.335	497.203	520.538
5-25 to 6-23.....	66.411	16.360	312.594	89.187	22.830	484.522	507.382
6-24 to 7-23.....	69.751	18.497	326.737	91.256	23.500	506.241	529.741
7-24 to 8-22.....	70.100	20.134	332.699	91.707	23.404	505.640	529.044
8-23 to 9-21.....	69.980	20.104	323.178	91.661	23.378	504.923	528.301
9-22 to 10-21.....	74.696	21.224	321.770	95.115	25.073	512.805	537.878
10-22 to 11-20.....	70.785	21.610	306.837	76.426	22.072	475.658	497.730
11-21 to 12-20.....	71.553	21.420	312.112	75.466	22.005	480.551	502.556
12-21 to 1-2-10.....	32.656	9.411	140.897	36.105	10.630	219.669	229.699
STEER 519							
3-22 to 4-5-07.....	7.263	7.902	10.551	0.826	1.544	26.542	28.086
4-6 to 5-5.....	13.998	14.353	26.685	6.275	3.336	61.311	64.647
5-6 to 6-4.....	20.436	20.199	50.301	13.402	5.665	104.338	110.003
6-5 to 6-14.....	7.018	7.397	15.038	4.518	1.969	33.971	35.940
STEER 528							
11-17 P.M. to 12-1-07.....	4.518	4.609	10.613	2.478	4.398	22.218	26.616
12-2 to 12-31.....	13.815	12.988	32.098	9.198	4.474	63.099	72.573
1-1 to 1-30-08.....	22.637	18.278	56.125	13.117	6.544	110.157	116.701
1-31 to 2-29.....	27.602	23.221	73.095	15.086	7.653	139.004	146.657
3-1 to 3-30.....	31.166	23.559	90.569	18.731	8.764	164.025	172.789
3-31 to 4-29.....	38.330	24.417	123.782	27.392	11.143	213.921	225.064
4-30 to 5-29.....	42.169	22.046	151.971	36.405	12.828	252.591	265.419
5-30 to 6-28.....	43.068	9.752	199.600	57.662	14.715	310.082	324.797
6-29 to 7-28.....	47.801	11.473	217.827	64.316	16.918	341.417	358.335
7-29 to 8-27.....	45.245	11.214	202.815	57.933	15.402	317.207	332.609
8-28 to 9-26.....	39.777	11.251	174.066	48.115	13.605	273.209	286.814
9-27 to 10-26.....	38.731	11.020	179.617	47.417	13.334	276.785	290.119
10-27 to 11-2.....	6.592	1.688	30.584	8.388	2.372	47.252	49.624

TABLE 32.—WEIGHT OF NUTRIENTS CONSUMED, POUNDS.

Dates	Weight of protein	Weight of fat	Weight of nitrogen free extract	Weight of crude fibre	Weight of ash	Weight of organic nutrients	Weight of dry matter
STEER 520							
3-22 to 4- 5-07.....	7.758	8.294	11.700	0.850	1.673	28.602	30.275
4- 6 to 5- 5.....	20.719	21.283	36.645	6.851	4.646	85.498	90.144
5- 6 to 6- 4.....	24.332	24.195	56.817	14.439	6.543	119.783	126.326
6- 5 to 7- 4.....	25.822	24.923	66.803	14.314	6.935	131.862	138.797
7- 5 to 8- 3.....	36.378	28.580	113.649	31.080	11.360	209.687	221.047
8- 4 to 9- 2.....	48.515	30.744	168.004	41.901	15.405	289.164	304.569
9- 3 to 10- 2.....	47.992	23.511	156.898	35.789	14.974	264.190	279.164
10- 3 to 10-27.....	36.075	10.225	154.394	45.160	12.354	245.854	258.208
STEER 521							
3-31 to 4- 5-07.....	3.429	3.568	6.355	1.037	0.835	14.389	15.224
4- 6 to 5- 5.....	20.608	21.148	37.326	7.507	4.715	86.589	91.304
5- 6 to 6- 4.....	24.025	24.019	53.426	12.306	6.205	113.776	119.981
6- 5 to 7- 4.....	28.211	27.245	72.205	16.347	7.663	144.008	151.671
7- 5 to 8- 3.....	36.533	28.662	115.167	31.020	11.900	211.382	222.772
8- 4 to 9- 2.....	48.050	30.995	164.459	39.252	14.838	282.756	297.594
9- 3 to 10- 2.....	38.692	11.407	147.238	36.143	13.009	233.480	246.489
10- 3 to 11- 1.....	45.352	12.954	195.258	55.521	15.272	309.085	324.357
11- 2 to 12- 1.....	65.068	18.771	128.869	78.608	21.792	444.316	466.108
12- 2 to 12-31.....	64.637	19.539	285.098	76.291	20.757	445.565	466.322
1- 1 to 1-30-08.....	57.110	22.293	264.224	70.080	18.157	413.707	431.864
1-31 to 2-29.....	48.174	20.253	218.732	63.632	16.406	350.791	367.197
3- 1 to 3-30.....	28.347	9.034	128.976	37.077	9.681	203.434	213.115
3-31 to 4-29.....	26.111	6.134	120.187	34.733	9.081	187.165	196.246
4-30 to 5-29.....	28.310	6.158	130.868	31.731	10.093	197.067	207.160
5-30 to 6-28.....	28.310	6.158	130.868	31.731	10.093	197.067	207.160
6-29 to 7-28.....	26.742	6.577	120.573	30.007	9.742	183.989	193.731
7-29 to 8-27.....	26.842	7.175	121.141	29.525	9.751	184.683	194.434
8-28 to 9-26.....	25.904	7.715	122.908	29.721	8.727	186.248	194.975
9-27 to 10-26.....	27.086	8.164	129.272	31.182	9.039	195.704	204.743
10-27 to 11-25.....	55.757	17.465	264.049	65.123	18.325	402.394	420.719
11-26 to 12-25.....	87.727	28.104	419.217	100.310	26.836	635.358	662.194
12-26 to 1-24-09.....	62.085	18.995	305.523	76.527	20.054	463.130	483.184
1-25 to 2-23.....	52.536	16.652	248.292	73.699	17.973	391.179	409.152
2-24 to 3-25.....	63.858	20.296	306.383	77.778	21.347	468.315	489.662
3-26 to 4-24.....	66.487	17.990	315.142	83.529	22.438	483.148	505.586
4-25 to 5-24.....	69.504	17.029	326.108	91.000	23.606	503.641	527.247
5-25 to 6-23.....	57.108	13.992	267.971	74.688	19.386	413.759	433.145
6-24 to 7-23.....	43.391	11.346	201.766	56.735	14.630	313.238	327.868
7-24 to 7-30.....	8.892	2.525	40.831	11.621	2.971	63.869	66.840
STEER 530							
11- 9 to 11-25-08.....	8.144	7.273	15.140	4.359	2.292	34.916	37.208
11-26 to 12-25.....	14.285	9.721	40.970	10.806	4.405	75.782	80.187
12-26 to 1- 8-09.....	9.015	5.548	29.554	6.016	2.586	50.133	52.719
STEER 533							
12- 2 to 12-25-08.....	10.597	8.763	25.554	4.043	2.823	48.957	51.780
12-26 to 1-24-09.....	13.950	10.438	37.818	6.232	3.728	68.438	72.166
1-25 to 2-23.....	10.740	6.656	37.222	7.427	3.262	62.045	65.307
2-24 to 3-25.....	7.595	2.386	36.047	9.169	2.540	55.197	57.737
3-26 to 4-24.....	9.429	2.549	44.692	11.778	3.179	68.448	71.627
4-25 to 5-24.....	11.663	2.858	54.724	15.251	3.960	84.496	88.456
5-25 to 6-23.....	13.406	3.285	62.904	17.533	4.551	97.128	101.679
6-24 to 7-23.....	13.434	3.510	62.471	17.565	4.531	96.908	101.511
7-24 to 8-22.....	13.474	3.825	61.865	17.610	4.502	96.774	101.276
8-23 to 9-11.....	8.982	2.549	41.243	11.739	3.002	64.513	67.515

TABLE 33.—WEIGHT OF NUTRIENTS CONSUMED, POUNDS.

Dates	Weight of protein	Weight of fat	Weight of nitrogen free extract	Weight of crude fibre	Weight of ash	Weight of organic nutrients	Weight of dry matter
STEER 522							
3-31 to 4- 5-07.....	3.525	3.610	7.024	1.330	0.841	15.489	16.330
4- 6 to 5- 5.....	21.173	21.478	42.901	10.823	5.260	96.375	101.635
5- 6 to 6- 4.....	24.407	24.237	57.641	14.957	6.626	121.242	127.868
6- 5 to 7- 4.....	23.270	27.226	72.495	16.903	7.761	144.894	152.655
7- 5 to 8- 3.....	34.992	27.235	110.535	30.824	11.038	203.586	214.674
8- 4 to 9- 2.....	30.369	18.999	102.079	28.210	9.987	170.993	180.467
9- 3 to 10- 2.....	21.580	5.276	80.769	22.390	7.742	130.204	137.766
10- 3 to 11- 1.....	19.325	4.953	77.279	28.749	7.402	130.306	137.708
11- 2 to 12- 1.....	18.209	5.012	76.391	24.092	6.458	123.704	130.162
12- 2 to 12-31.....	16.360	5.452	79.788	22.850	6.173	126.450	132.623
1- 1 to 1-30-08.....	16.339	6.110	74.114	21.505	5.503	118.068	123.571
1-31 to 2-29.....	29.614	12.261	133.811	39.515	10.167	215.201	225.368
3- 1 to 3-30.....	61.768	19.285	281.667	80.820	21.080	443.540	464.620
3-31 to 4-29.....	53.333	13.613	240.971	60.156	17.776	368.073	385.849
4-30 to 5-29.....	65.497	14.761	307.201	88.485	22.284	475.944	498.228
5-30 to 6-28.....	71.119	16.502	335.526	90.992	23.117	514.139	537.256
6-29 to 7-28.....	57.686	12.766	263.551	72.862	18.905	406.865	425.770
7-29 to 8-27.....	54.382	11.298	170.024	75.191	19.009	310.895	329.904
8-28 to 9-26.....	50.702	13.338	227.026	72.643	17.676	363.709	381.385
9-27 to 10-26.....	49.491	14.870	236.625	58.051	16.311	359.037	375.348
10-27 to 11-25.....	49.553	15.332	236.478	57.714	16.171	359.077	375.248
11-26 to 12-25.....	46.076	14.571	217.885	53.976	15.039	332.508	347.547
12-26 to 1-24-09.....	40.433	12.760	193.166	49.585	13.677	295.944	309.621
1-25 to 2-23.....	35.032	11.102	167.337	43.113	11.856	256.548	268.440
2-24 to 3-25.....	36.093	11.421	172.586	43.859	12.146	263.959	276.105
3-26 to 4-24.....	35.494	9.610	163.268	44.315	11.959	257.687	269.646
4-25 to 5-24.....	28.905	7.094	135.794	37.634	9.787	209.427	219.214
5-25 to 6-23.....	37.999	9.298	178.006	49.447	12.848	274.660	287.508
6-24 to 7-23.....	63.727	22.758	398.463	112.649	28.039	617.599	645.638
7-24 to 7-30.....	17.044	5.248	81.712	23.739	5.668	127.743	133.411
STEER 523							
9-25 P.M. to 10-2-07.....	2.218	1.988	3.809	0.489	0.616	8.504	9.120
10- 3 to 11- 1.....	13.808	12.897	21.577	1.694	3.374	49.676	53.050
11- 2 to 12- 1.....	15.749	15.741	37.351	7.181	4.601	76.022	80.623
12- 2 to 12-31.....	17.262	16.706	47.111	10.451	5.567	91.530	97.097
1- 1 to 1-30-08.....	21.828	17.707	52.253	12.834	6.384	194.622	111.006
1-31 to 2-29.....	26.011	22.126	66.828	13.897	7.203	128.862	136.070
3- 1 to 3-30.....	29.633	22.520	78.199	17.659	8.317	148.020	158.337
3-31 to 4-29.....	24.784	9.114	103.821	27.664	8.011	165.383	173.394
4-30 to 5-29.....	24.606	5.544	115.398	32.505	8.382	178.053	186.435
5-30 to 6-28.....	24.606	5.544	115.398	32.505	8.382	178.053	186.435
6-29 to 7-28.....	27.470	7.275	126.400	35.787	10.227	196.932	207.169
7-29 to 8-27.....	28.282	7.822	129.384	36.709	9.839	202.197	212.036
8-28 to 9-26.....	28.848	8.621	137.076	33.670	9.679	208.215	217.894
9-27 to 10-26.....	30.361	9.147	144.863	35.006	10.141	219.377	229.518
10-27 to 11-25.....	31.772	9.828	150.888	36.912	10.498	229.400	239.898
11-26 to 12-25.....	33.430	10.579	158.163	39.123	10.948	241.304	252.252
12-26 to 1-24-09.....	33.820	10.701	161.681	41.072	11.665	247.274	258.939
1-25 to 2-23.....	34.929	11.055	167.019	42.447	11.754	255.450	267.204
2-24 to 3-25.....	35.242	11.154	168.516	42.825	11.859	257.737	269.596
3-26 to 4-24.....	37.083	10.009	175.755	46.360	12.496	269.207	281.703
4-25 to 5-24.....	37.739	9.246	177.080	49.357	12.810	278.422	286.232
5-25 to 6-23.....	40.485	9.920	189.971	52.947	13.743	293.323	307.066
6-24 to 7-23.....	39.951	10.562	188.359	53.884	13.713	290.756	304.469
7-24 to 8-22.....	41.766	11.859	191.778	54.585	13.953	299.988	313.941
8-23 to 9-21.....	41.766	11.859	191.778	54.585	13.953	299.988	313.941
9-22 to 10-21.....	43.545	12.652	192.908	51.174	13.979	300.279	314.258
10-22 to 11- 7.....	23.127	6.845	9.426	24.713	7.179	154.111	161.291

TABLE 34.—WEIGHT OF NUTRIENTS CONSUMED, POUNDS.

Dates	Weight of protein	Weight of fat	Weight of nitrogen free extract	Weight of crude fibre	Weight of ash	Weight of organic nutrients	Weight of dry matter
STEER 524							
9-29 P.M. to 10-2-07.....	0.892	0.759	1.590	0.357	0.267	3.598	3.865
10- 3 to 11- 1.....	11.146	10.826	17.677	0.981	2.734	40.630	43.364
11- 2 to 12- 1.....	13.364	13.180	33.872	7.421	4.057	67.837	71.894
12- 2 to 12-31.....	17.250	16.701	46.983	10.370	5.509	91.304	96.813
1- 1 to 1-30-08.....	21.618	17.476	51.927	12.834	6.335	103.855	110.190
1-31 to 2-29.....	25.070	20.458	69.258	14.176	6.982	128.962	135.944
3- 1 to 3-30.....	25.565	19.999	71.922	14.330	7.094	131.816	138.910
3-31 to 4-29.....	21.745	11.606	78.777	19.116	6.604	131.244	137.848
4-30 to 5-29.....	19.987	4.506	93.770	20.375	6.804	144.638	151.442
5-30 to 6-28.....	19.623	4.423	92.061	25.893	6.679	142.000	148.679
6-29 to 7-28.....	23.331	6.164	107.398	30.405	8.075	167.298	175.373
7-29 to 8-27.....	22.415	6.200	102.549	29.088	7.796	160.252	168.048
8-28 to 9-26.....	22.602	6.754	107.397	26.382	7.580	163.135	170.715
9-27 to 10-26.....	22.595	6.807	107.809	26.042	7.546	163.253	170.799
10-27 to 11-25.....	23.061	7.130	109.535	26.785	7.621	166.511	174.132
11-26 to 12-25.....	23.878	7.553	112.936	27.942	7.817	172.309	180.126
12-26 to 1-24-09.....	24.039	7.610	114.945	29.171	8.290	175.765	184.055
1-25 to 2-23.....	25.241	7.986	120.703	30.667	8.494	184.597	193.091
2-24 to 3-25.....	26.511	8.390	126.763	32.215	8.923	193.879	202.802
3-26 to 4-24.....	29.079	7.733	135.541	37.165	9.897	209.418	219.315
4-25 to 5-24.....	35.414	8.677	166.166	46.314	12.020	256.571	268.591
5-25 to 6-23.....	34.588	8.475	162.292	45.235	11.716	250.590	262.306
6-24 to 7-23.....	33.585	8.777	156.176	43.912	11.303	242.450	253.753
7-24 to 8-22.....	33.684	9.563	154.659	44.025	11.256	241.932	253.188
8-23 to 9-21.....	33.087	9.395	151.939	43.219	11.053	237.640	243.693
9-22 to 10-21.....	32.399	9.410	143.516	38.074	10.400	223.399	233.799
10-22 to 11-20.....	35.742	10.575	153.656	38.190	11.092	238.163	249.255
11-21 to 12-20.....	34.766	10.219	149.871	37.314	10.855	232.170	243.025
12-21 to 1-19-10.....	34.431	9.721	148.554	36.535	10.819	229.241	240.060
1-20 to 2-18.....	35.925	10.122	154.674	37.896	11.250	238.617	249.867
2-19 to 3-20.....	35.103	9.750	151.356	37.195	10.960	233.404	244.304
3-21 to 4-19.....	33.220	9.220	143.230	35.217	10.372	220.887	231.259
4-20 to 5-19.....	31.614	8.904	136.113	33.348	9.897	209.979	219.876
5-20 to 6-18.....	29.685	7.626	130.601	33.033	10.412	200.945	211.357
6-19 to 7-18.....	29.142	7.248	129.093	33.061	10.584	198.544	209.128
7-19 to 8-17.....	29.146	7.248	129.103	33.043	10.587	198.540	209.127
8-18 to 9-16.....	29.969	7.451	132.726	33.991	10.887	204.137	215.024
9-17 to 10-16.....	30.531	7.593	135.240	34.608	11.085	207.972	219.057
10-17 to 11-15.....	32.862	8.912	145.824	37.264	11.940	224.862	236.802
11-16 to 12-15.....	39.564	11.728	175.961	44.836	14.379	272.089	286.468
12-16 to 1-14-11.....	38.732	11.740	176.705	46.298	13.664	273.475	287.139
1-15 to 1-22.....	9.865	3.186	45.897	12.725	3.399	71.673	75.072
STEER 534							
3-26 to 4-24-09.....	7.116	5.469	12.173	0.668	1.616	25.426	27.042
4-25 to 5-24.....	9.005	6.994	22.530	4.397	2.506	43.526	46.032
5-25 to 6-23.....	11.243	7.908	30.378	6.385	3.082	55.914	58.996
6-24 to 7-23.....	15.054	8.427	56.360	13.022	4.421	92.863	97.284
7-24 to 8-22.....	23.234	8.935	98.614	26.950	7.485	157.733	165.218
8-23 to 9-11.....	18.414	5.227	84.551	24.069	6.152	132.261	138.413
STEER 535							
3-26 to 4-24-09.....	10.439	7.913	18.339	0.891	2.118	37.582	39.700
4-25 to 5-24.....	12.617	9.667	28.497	3.886	2.999	54.667	57.666
5-25 to 6-23.....	15.321	10.827	41.271	7.720	4.088	75.139	79.227
6-24 to 7-23.....	16.100	11.481	48.076	9.603	4.575	85.260	89.835
7-24 to 8-23.....	16.944	8.565	67.096	17.613	5.291	110.218	115.509
8-23 to 9-11.....	11.677	3.314	53.616	15.262	3.902	83.869	87.771

TABLE 35.—WEIGHT OF NUTRIENTS CONSUMED, POUNDS.

Dates	Weight of protein	Weight of fat	Weight of nitrogen free extract	Weight of crude fibre	Weight of ash	Weight of organic matter	Weight of dry matter
STEER 525							
10- 6 to 11- 1-07.....	10.181	10.273	15.740	.....	2.597	36.194	38.791
11- 2 to 12- 1.....	15.784	15.761	37.732	7.421	4.639	76.698	81.337
12- 2 to 12-31.....	18.847	16.537	45.107	11.230	5.609	91.721	97.330
1- 1 to 1-30-08.....	21.618	17.476	51.927	12.834	6.335	103.855	110.190
1-31 to 2-29.....	25.070	20.458	69.258	14.176	6.982	128.962	135.944
3- 1 to 3-30.....	25.565	19.999	71.922	14.330	7.094	131.816	138.910
3-31 to 4-29.....	21.271	7.032	91.853	24.894	6.974	145.050	152.024
4-30 to 5-29.....	19.987	4.506	93.770	26.375	6.804	144.638	151.442
5-30 to 6-28.....	19.623	4.423	92.061	25.983	6.679	142.000	148.679
6-29 to 7-28.....	23.331	6.164	107.398	30.405	8.076	167.298	175.374
7-29 to 8-27.....	23.086	6.351	105.468	30.014	8.035	164.919	172.954
8-28 to 9-26.....	22.602	6.754	107.397	26.382	7.580	163.135	170.715
9-27 to 10-26.....	22.595	6.807	107.809	26.042	7.545	163.253	170.798
10-27 to 11-25.....	23.060	7.130	109.529	26.785	7.621	166.504	174.125
11-26 to 12-25.....	23.888	7.556	112.988	27.947	7.822	172.379	180.201
12-26 to 1-24-09.....	24.055	7.615	115.031	29.177	8.293	175.878	184.171
1-25 to 2-23.....	24.839	7.862	118.792	30.168	8.355	181.661	190.016
2-24 to 3-25.....	25.321	8.013	121.082	30.773	8.521	185.189	193.710
3-26 to 4-24.....	28.638	7.703	135.688	35.854	9.654	207.883	217.537
4-25 to 5-24.....	33.292	8.159	156.210	43.537	11.300	241.198	252.498
5-25 to 6-23.....	33.516	8.214	157.260	43.833	11.376	242.823	254.199
6-24 to 7-23.....	33.585	8.777	156.176	43.912	12.179	242.450	254.629
7-24 to 8-22.....	33.684	9.564	154.659	44.025	11.253	241.932	253.185
8-23 to 9-21.....	33.087	9.395	151.939	43.219	11.051	237.640	248.991
9-22 to 10-21.....	32.308	9.384	143.132	37.972	10.370	222.796	233.661
10-22 to 11- 7.....	20.514	6.070	88.189	21.919	6.367	136.692	143.059
STEER 536							
4-15 to 4-24-09.....	2.451	2.033	4.164	0.279	0.567	8.927	9.494
4-25 to 5-24.....	10.869	7.583	27.615	4.951	2.774	51.018	53.792
5-25 to 6-23.....	12.967	8.834	36.321	7.012	3.500	65.134	68.634
6-24 to 7-23.....	12.378	9.045	36.148	7.026	3.492	64.597	68.089
7-24 to 8-22.....	12.896	7.014	47.858	12.037	3.917	79.805	83.722
8-23 to 9-11.....	8.982	2.549	41.243	11.739	3.002	64.513	67.515
STEER 537							
4-15 to 4-24-09.....	2.549	2.143	4.207	0.207	0.475	9.106	9.581
4-25 to 5-24.....	10.897	7.941	26.551	4.204	2.684	49.593	52.277
5-25 to 6-23.....	12.873	8.818	35.963	6.832	3.457	64.486	67.943
6-24 to 7-23.....	12.378	9.045	36.148	7.026	3.492	64.597	68.089
7-24 to 8-22.....	12.559	6.658	47.277	11.974	3.847	78.468	82.315
8-23 to 9-11.....	8.982	2.549	41.243	11.739	3.002	64.513	67.515
STEER 539							
4-15 to 4-24-09.....	2.757	2.071	5.779	0.630	0.667	11.237	11.914
4-25 to 5-24.....	11.491	8.232	27.971	4.695	2.901	52.389	55.290
5-25 to 6-23.....	20.503	13.461	59.746	12.025	5.618	105.735	111.353
6-24 to 7-23.....	27.087	15.886	97.092	22.204	7.958	162.269	170.227
7-24 to 8-22.....	33.421	14.054	138.868	36.956	11.495	223.299	234.794
8-23 to 9-11.....	24.580	6.994	113.053	32.064	8.180	176.691	184.871
STEER 542							
4-27 P.M. to 5-24-09.....	9.116	7.552	18.120	1.969	2.044	36.757	38.801
5-25 to 6-23.....	16.522	12.515	41.427	6.429	4.198	76.893	81.091
6-24 to 7-23.....	28.215	16.190	99.515	22.823	8.405	166.743	175.148
7-24 to 8-22.....	34.502	14.495	145.021	39.136	10.848	263.154	244.002
8-23 to 9-11.....	26.497	7.522	121.667	34.631	8.853	190.317	199.170

TABLE 36.—WEIGHT OF NUTRIENTS CONSUMED, POUNDS.

Dates	Weight of protein	Weight of fat	Weight of nitrogen free extract	Weight of crude fibre	Weight of ash	Weight of organic matter	Weight of dry matter
STEER 526							
11- 4 to 12- 1-07.....	6.482	5.947	19.793	5.183	2.119	37.405	39.524
12- 2 to 12-31.....	14.473	11.691	37.317	11.119	4.457	74.600	79.057
1- 1 to 1-30-08.....	19.373	15.095	48.441	12.834	5.810	95.743	101.553
1-31 to 2-29.....	24.361	19.677	68.177	14.176	6.818	126.391	133.209
3- 1 to 3-30.....	26.831	19.374	81.477	17.659	7.676	145.341	153.017
3-31 to 4-29.....	26.101	16.928	83.324	18.072	7.531	144.425	151.956
4-30 to 5-29.....	20.931	4.713	98.132	27.764	7.133	151.450	158.583
5-30 to 6-28.....	22.358	5.037	104.883	29.506	7.610	161.784	169.394
6-29 to 7-28.....	27.470	7.275	126.400	35.787	9.510	196.932	206.442
7-29 to 8-27.....	27.627	7.644	126.405	35.844	9.609	197.520	207.129
8-28 to 9-26.....	27.430	8.198	130.336	32.013	9.196	197.977	207.173
9-27 to 10-26.....	28.704	8.647	136.930	33.106	9.588	207.387	216.975
10-27 to 11-25.....	29.724	9.194	141.161	34.538	9.824	214.617	224.441
11-26 to 12-25.....	31.444	9.942	148.640	36.854	10.307	226.880	237.187
12-26 to 1-24-09.....	32.341	10.234	154.612	39.276	11.366	236.463	247.829
1-25 to 2-23.....	33.585	10.626	160.596	40.815	11.301	245.622	256.923
2-24 to 3-25.....	33.745	10.677	161.353	41.009	11.355	246.784	258.139
3-26 to 4-24.....	36.855	9.908	174.600	46.152	12.423	267.515	279.938
4-25 to 5-24.....	38.877	9.525	182.421	50.847	13.194	281.670	294.864
5-25 to 6-23.....	39.752	9.749	186.829	51.865	13.471	287.995	301.466
6-24 to 7-23.....	40.974	10.707	190.534	53.569	13.813	295.784	309.597
7-24 to 8-22.....	41.095	11.667	188.682	53.704	13.726	295.148	308.874
8-23 to 9-21.....	41.096	11.667	188.685	53.708	13.727	294.156	308.883
9-22 to 10-21.....	42.839	12.445	190.771	50.347	13.749	296.402	310.151
10-22 to 11-20.....	39.669	11.735	170.547	42.391	12.314	264.342	276.656
11-21 to 12-20.....	38.908	11.432	167.763	41.772	12.154	259.875	272.029
12-21 to 1-19-10.....	41.908	11.834	180.824	44.453	13.165	279.019	292.184
1-20 to 2-18.....	43.110	12.144	185.607	45.474	13.494	286.335	299.829
2-19 to 3-20.....	43.082	11.964	185.743	45.668	13.450	286.457	299.907
3-21 to 4-19.....	43.082	11.964	185.743	45.668	13.450	286.457	299.907
4-20 to 5-19.....	43.110	12.144	185.607	45.474	13.494	286.335	299.829
5-20 to 6-18.....	41.979	10.774	184.694	46.792	14.726	284.239	298.975
6-19 to 7-18.....	41.634	10.356	184.416	47.193	15.114	283.599	298.713
7-19 to 8-17.....	41.634	10.356	184.416	47.193	15.114	283.599	298.713
8-18 to 9-16.....	41.634	10.356	184.416	47.193	15.114	283.599	298.713
9-17 to 10-16.....	41.634	10.356	184.416	47.193	15.114	283.599	298.713
10-17 to 11-15.....	42.788	11.560	189.890	48.487	15.540	292.725	308.265
11-16 to 12-15.....	45.416	13.469	202.032	51.439	16.500	312.356	328.856
12-16 to 1-14-11.....	52.381	15.912	239.052	62.938	18.482	370.283	388.765
1-15 to 1-22.....	14.094	4.551	65.569	18.178	4.857	102.392	107.249
STEER 543							
4-26 P.M. to 5-24-09.....	9.197	1.910	40.029	10.922	3.024	62.058	65.082
5-25 to 6-23.....	15.060	3.690	70.663	19.696	5.112	109.109	114.221
6-24 to 7-23.....	16.120	4.211	74.966	21.076	5.436	116.373	121.809
7-24 to 8-22.....	20.211	5.738	92.801	26.417	6.752	145.167	151.919
8-23 to 9-11.....	16.168	4.589	74.238	21.130	5.402	116.125	121.527
STEER 544							
4-27 to 5-24-09.....	7.250	6.515	11.958	0.746	1.556	26.469	28.026
5-25 to 6-23.....	10.312	8.233	23.887	3.430	2.579	45.862	48.441
6-24 to 7-28.....	17.148	10.317	57.975	13.647	5.141	99.087	104.228
7-24 to 8-22.....	24.258	10.001	101.050	27.551	7.759	162.860	170.619
8-23 to 9-11.....	16.306	4.685	75.351	21.710	5.458	118.052	123.510
STEER 545							
5- 1 to 5-24-09.....	7.400	5.856	15.383	1.945	1.758	30.584	32.342
5-25 to 6-23.....	11.501	8.451	29.539	5.218	3.017	54.709	57.726
6-24 to 7-23.....	14.663	9.647	46.757	10.013	4.263	81.080	85.343
7-24 to 8-22.....	16.923	7.877	66.969	17.531	5.260	109.300	114.860
8-23 to 9-11.....	11.677	3.314	53.616	15.262	3.901	83.869	87.770

TABLE 37.—WEIGHT OF NUTRIENTS CONSUMED, POUNDS.

Dates	Weight of protein	Weight of fat	Weight of nitrogen free extract	Weight of crude fibre	Weight of ash	Weight of organic matter	Weight of dry matter
STEER 527							
11- 4 to 12- 1-07.....	10.942	11.192	25.531	5.593	3.267	53.258	56.525
12- 2 to 12-31.....	17.910	15.866	40.629	10.886	5.309	85.291	90.600
1- 1 to 1-30-08.....	23.378	19.039	57.287	13.118	6.720	112.822	119.542
1-31 to 2-29.....	32.678	26.179	92.963	19.178	9.132	170.998	180.130
3- 1 to 3-30.....	37.988	26.808	117.417	25.896	11.675	208.109	219.784
3-31 to 4-29.....	44.312	26.186	150.481	34.633	13.121	255.612	268.733
4-30 to 5-29.....	42.415	16.220	174.162	45.720	13.580	278.517	292.097
5-30 to 6-28.....	53.959	12.180	253.158	71.156	18.313	390.453	408.766
6-29 to 7-28.....	67.622	17.405	309.807	88.283	23.190	483.117	506.307
7-29 to 8-27.....	74.575	20.632	341.987	96.228	25.827	533.422	559.259
8-28 to 9-26.....	78.161	23.608	375.366	92.324	25.508	569.459	594.967
9-27 to 10-26.....	77.581	23.387	370.389	89.783	25.868	561.140	587.098
10-27 to 11-25.....	73.827	24.117	350.301	80.583	24.696	528.828	553.524
11-26 to 12-25.....	83.711	27.823	411.249	92.018	19.653	614.801	634.454
12-26 to 1-24-09.....	91.340	28.758	451.100	99.368	27.300	670.566	697.866
1-25 to 2-23.....	73.602	23.868	360.700	95.825	21.101	553.995	575.096
2-24 to 3-25.....	67.828	21.518	327.607	82.342	21.779	499.295	521.074
3-26 to 4-24.....	66.468	16.991	309.948	83.907	22.763	477.314	500.077
4-25 to 5-24.....	64.185	14.803	307.867	89.014	20.705	475.809	496.574
5-25 to 6-23.....	62.020	16.072	299.283	69.445	18.821	446.820	465.641
6-24 to 7-23.....	58.936	17.020	302.666	76.882	16.790	455.504	472.294
7-24 to 8-22.....	61.189	18.524	297.593	79.375	17.394	456.661	474.075
8-23 to 9-21.....	61.275	17.799	289.475	84.683	18.907	453.232	472.139
9-22 to 10-21.....	69.627	19.996	307.576	87.216	22.223	484.415	506.638
10-22 to 11-20.....	86.800	25.747	369.597	95.627	27.014	577.771	604.785
11-21 to 12-20.....	79.704	24.248	340.402	90.165	24.237	534.519	558.756
12-21 to 1-19-10.....	78.902	23.533	347.366	82.705	22.076	532.506	555.182
1-19 to 2-18.....	89.327	25.270	385.627	94.072	27.463	594.296	621.759
2-19 to 3-20.....	84.023	23.894	364.528	91.497	23.712	563.942	587.654
3-21 to 4-19.....	81.583	23.170	351.987	90.580	22.153	547.320	569.473
4-20 to 5-19.....	86.935	25.150	381.910	88.142	24.926	582.137	607.063
5-20 to 6-18.....	83.662	21.977	374.939	91.182	27.588	571.760	599.348
6-19 to 7-18.....	71.928	18.242	337.975	77.519	21.739	505.664	527.403
7-19 to 8-17.....	71.928	17.107	319.983	72.699	19.652	477.155	496.807
8-18 to 9-16.....	67.453	17.917	323.906	70.165	18.571	479.441	498.012
9-17 to 10-16.....	63.420	16.439	296.360	70.462	19.484	446.681	466.165
10-17 to 11-15.....	66.002	18.493	304.397	68.762	20.577	457.654	478.231
11-16 to 12-15.....	76.979	24.429	358.698	77.512	24.009	537.618	561.627
12-16 to 1-14-11.....	78.008	26.066	383.354	80.198	19.678	567.616	587.324
1-15 to 2-13.....	100.601	7.093	100.600	22.102	3.762	149.492	153.254
STEER 531							
11-21 to 11-25-08.....	1.934	1.859	3.278	.649	.494	7.720	8.214
11-26 to 12-25.....	16.117	13.478	34.719	6.335	4.380	70.649	75.029
12-26 to 1-24-09.....	15.202	10.834	43.811	7.752	4.150	77.599	81.740
1-25 to 2-23.....	13.749	7.605	51.594	11.093	4.276	84.041	88.317
2-24 to 3-25.....	11.375	3.600	54.387	13.823	3.829	83.185	87.104
3-26 to 4-24.....	13.469	3.641	63.846	16.831	4.541	97.787	102.328
4-25 to 5-24.....	15.775	3.865	74.019	20.633	5.355	114.292	119.647
5-25 to 6-23.....	18.096	4.434	84.921	23.672	6.146	131.123	137.269
6-24 to 7-23.....	18.133	4.738	84.336	23.716	6.117	130.923	137.040
7-24 to 8-23.....	18.186	5.163	83.517	23.777	6.077	130.643	136.720
8-23 to 9-21.....	18.186	5.163	83.514	23.773	6.076	130.636	136.712
9-22 to 10-21.....	18.957	5.508	83.995	22.278	6.085	130.738	136.823
10-22 to 11-20.....	21.878	6.471	94.055	23.378	6.791	145.782	152.573
11-21 to 12-20.....	25.866	7.596	111.552	27.778	8.074	172.792	180.866
12-21 to 1-19-10.....	28.695	8.102	123.797	30.447	9.017	191.040	200.057
1-21 to 2-18.....	27.625	7.780	118.937	29.139	8.649	183.481	192.130
2-19 to 3-20.....	24.635	6.822	105.773	26.366	7.735	163.596	171.331

TABLE 38.—WEIGHT OF NUTRIENTS CONSUMED, POUNDS.

Dates	Weight of protein	Weight of fat	Weight of nitrogen free extract	Weight of crude fibre	Weight of ash	Weight of organic matter	Weight of dry matter
STEER 529							
12-10 to 12-21-07.....	4.278	4.682	6.849	.....	1.032	15.809	16.841
1-1 to 1-30-08.....	10.826	10.446	22.999	6.318	3.186	50.589	53.775
1-31 to 2-29.....	16.250	13.824	30.218	12.994	5.382	73.286	78.668
3-1 to 3-30.....	16.612	13.240	32.479	17.073	5.982	79.404	85.386
3-31 to 4-29.....	17.878	14.301	34.729	16.196	6.397	83.104	89.501
4-30 to 5-29.....	16.188	13.037	31.148	14.511	5.619	74.884	80.503
5-30 to 6-28.....	13.804	11.647	25.464	10.148	4.484	61.063	65.547
6-29 to 7-28.....	8.323	2.895	35.681	10.056	2.851	56.955	59.806
7-29 to 8-27.....	8.289	2.292	37.920	10.755	2.886	59.256	62.142
8-28 to 9-26.....	7.664	2.293	36.475	8.893	4.035	55.325	59.360
9-27 to 10-26.....	7.117	2.145	33.971	8.197	2.376	51.430	53.806
10-27 to 11-25.....	7.327	2.347	34.095	8.202	2.561	51.971	54.532
11-26 to 12-25.....	33.404	10.980	163.014	36.434	8.723	243.832	252.555
12-26 to 1-24-09.....	49.541	15.789	247.594	51.890	15.104	364.814	379.918
1-25 to 2-23.....	49.962	15.618	236.609	67.741	16.519	369.930	386.449
2-24 to 3-25.....	54.746	16.738	254.088	74.757	19.652	400.329	419.981
3-26 to 4-24.....	65.520	17.433	308.377	83.583	21.936	474.913	496.849
4-25 to 5-24.....	67.343	16.564	323.934	84.720	21.677	492.561	514.238
5-25 to 6-23.....	70.945	17.585	335.128	89.801	23.575	513.459	537.034
6-24 to 7-23.....	72.603	18.953	338.404	97.085	24.494	527.045	551.539
7-24 to 8-22.....	68.288	20.015	322.505	88.550	21.175	499.358	520.533
8-23 to 9-21.....	68.220	19.980	321.891	88.856	21.249	498.947	520.196
9-22 to 10-21.....	75.488	22.010	336.077	88.504	23.956	522.079	546.035
10-22 to 11-20.....	83.015	24.982	357.010	89.870	25.474	554.877	580.351
11-21 to 12-20.....	83.612	24.961	359.063	92.449	25.757	560.085	585.842
12-21 to 1-19-10.....	86.167	25.016	376.271	90.497	26.184	577.951	604.135
1-20 to 2-18.....	86.460	25.161	378.496	91.367	23.460	581.484	604.944
2-19 to 3-20.....	84.791	24.452	372.153	90.883	22.290	572.279	594.569
3-21 to 4-19.....	78.668	22.606	341.817	87.249	21.172	530.340	551.512
4-20 to 5-19.....	77.579	22.575	333.814	85.326	23.521	519.294	542.815
5-20 to 6-18.....	75.477	20.091	339.565	83.863	24.508	518.996	543.504
6-19 to 7-18.....	61.247	15.305	288.650	70.439	18.723	435.641	454.364
7-19 to 8-17.....	62.400	15.863	298.534	67.336	17.757	444.133	461.890
8-18 to 9-16.....	65.866	16.549	303.559	69.866	19.761	455.840	475.601
9-17 to 10-16.....	67.954	17.320	314.166	70.034	20.550	469.474	490.024
11-17 to 11-15.....	72.905	20.783	337.779	73.830	22.955	505.297	528.252
11-16 to 12-15.....	82.555	26.080	384.636	83.125	25.679	576.396	602.075
12-16 to 1-14-11.....	78.910	25.607	380.235	86.371	21.075	571.123	592.198
1-15 to 1-22.....	18.825	6.761	96.431	21.582	2.988	143.599	146.587
STEER 532							
11-24 to 11-25-08.....	0.867	0.970	1.278	0.134	0.130	3.249	3.379
11-26 to 12-25.....	17.080	15.699	31.709	3.379	3.283	67.868	71.151
12-26 to 1-24-09.....	18.072	11.731	57.365	11.404	5.004	98.572	103.576
1-25 to 2-23.....	32.505	13.662	142.573	33.674	10.293	222.414	232.707
2-24 to 3-25.....	34.349	9.961	165.075	41.502	11.370	250.887	262.257
3-26 to 4-24.....	35.247	9.519	166.543	45.250	11.964	256.559	268.523
4-25 to 5-24.....	35.338	9.292	174.282	37.365	13.714	256.277	269.991
5-25 to 6-23.....	55.207	14.109	264.651	66.707	19.062	400.674	419.736
6-24 to 7-23.....	63.828	17.142	301.308	84.035	21.727	466.313	488.040
7-24 to 8-22.....	67.727	19.453	313.266	88.890	22.420	489.306	511.726
8-23 to 9-21.....	67.198	19.405	312.190	87.383	21.966	486.176	508.142
9-22 to 10-21.....	75.066	21.826	332.682	88.372	24.049	517.946	541.995
10-22 to 11-20.....	78.489	23.362	336.702	83.986	24.432	522.539	546.971
11-21 to 12-20.....	79.694	23.523	342.523	86.757	24.942	532.497	557.439
12-21 to 1-19-10.....	82.175	22.949	354.198	89.251	25.977	548.573	574.550
1-20 to 2-18.....	84.216	23.701	361.073	90.128	26.565	559.118	585.633
2-19 to 3-20.....	85.524	23.711	367.016	92.137	26.927	568.388	595.315

TABLE 39.—WEIGHT OF NUTRIENTS CONSUMED, POUNDS.

Dates	Weight of protein	Weight of fat	Weight of nitrogen free extract	Weight of crude fibre	Weight of ash	Weight of organic matter	Weight of dry matter
STEER 538							
4-13 to 4-24-09.....	3.071	2.508	5.056	.220	0.679	10.855	11.534
4-25 to 5-24.....	11.695	8.295	29.354	5.042	2.862	54.386	57.248
5-25 to 6-23.....	17.333	11.330	50.802	10.206	4.748	89.671	94.419
6-24 to 7-23.....	17.443	11.833	54.326	11.361	5.030	94.963	99.993
7-24 to 8-22.....	18.786	9.095	73.206	19.017	5.824	120.104	125.928
8-23 to 9-21.....	18.861	5.355	86.610	24.654	6.303	135.480	141.783
9-22 to 10-21.....	19.665	5.713	87.121	23.115	6.314	135.614	141.928
10-22 to 11-20.....	21.422	6.338	92.088	22.887	6.648	142.735	149.333
11-21 to 12-20.....	23.745	6.977	102.399	25.496	7.419	158.617	166.036
12-21 to 1-19-10.....	26.496	7.492	114.337	28.114	8.327	176.429	184.756
1-20 to 2-13.....	22.151	6.239	95.384	23.368	6.937	147.142	154.079
STEER 540							
4-13 to 4-24-09.....	3.392	2.604	6.394	0.521	0.804	12.911	13.715
4-25 to 5-24.....	12.848	8.405	35.101	6.750	3.403	63.104	66.507
5-25 to 6-23.....	14.980	9.326	45.759	9.647	4.187	79.712	83.899
6-24 to 7-23.....	14.393	9.569	45.521	9.664	4.174	79.147	83.321
7-24 to 8-22.....	14.899	7.305	57.783	14.964	4.609	94.951	99.560
8-23 to 9-21.....	15.494	4.398	71.145	20.252	5.180	111.289	116.469
9-22 to 10-21.....	16.153	4.693	71.564	18.987	5.189	111.397	116.586
10-22 to 11-20.....	17.700	5.238	76.102	18.915	5.494	117.955	123.449
11-21 to 12-20.....	17.381	5.110	74.937	18.655	5.427	116.083	121.510
12-21 to 1-19-10.....	19.336	5.462	83.437	20.500	6.074	128.735	134.809
1-20 to 2-13.....	16.971	4.782	73.089	17.891	5.315	112.733	118.048
STEER 541							
4-13 to 4-24-09.....	3.481	2.690	6.366	0.517	0.825	13.054	13.879
4-25 to 5-24.....	13.802	9.196	37.459	7.290	3.644	67.747	71.391
5-25 to 6-23.....	23.039	14.140	72.320	15.195	6.430	124.694	131.124
6-24 to 7-23.....	31.172	17.168	116.975	26.263	9.046	191.578	200.624
7-24 to 8-22.....	36.301	14.890	152.351	40.665	11.422	244.207	255.629
8-23 to 9-21.....	38.992	11.216	180.842	50.224	12.701	281.274	293.975
9-22 to 10-21.....	45.576	13.280	202.316	53.381	14.510	314.553	329.063
10-22 to 11-20.....	50.608	15.161	217.884	54.402	15.567	338.055	353.622
11-21 to 12-20.....	53.901	16.131	233.058	58.270	16.606	361.260	377.966
12-21 to 1-19-10.....	58.105	16.890	254.447	60.465	17.487	389.907	407.394
1-20 to 2-13.....	50.886	14.626	221.593	53.504	14.614	340.609	355.223
STEER 546							
5-5 to 5-24-09.....	6.916	4.480	18.747	3.639	1.837	33.782	35.619
5-25 to 6-23.....	15.635	10.614	43.904	8.514	4.223	78.667	82.890
6-24 to 7-23.....	20.672	12.702	69.256	15.575	6.111	118.205	124.316
7-24 to 8-22.....	25.617	11.031	104.554	27.942	8.106	169.144	177.250
8-23 to 9-11.....	14.633	4.379	69.237	19.660	4.727	107.909	112.636
STEER 547							
5-11 to 5-12-12.....	0.648	0.491	0.982	.....	0.154	2.121	2.275
5-13 to 6-11.....	10.255	8.395	16.440	0.611	2.421	35.701	38.122
6-12 to 7-11.....	10.703	12.164	18.805	1.420	3.374	43.092	46.466
7-12 to 8-10.....	18.233	14.558	40.541	7.935	6.317	81.267	87.584
8-11 to 9-9.....	27.584	17.362	83.250	15.639	9.433	143.835	153.268
9-10 to 10-9.....	28.989	10.002	118.090	26.521	11.407	183.602	195.009
10-10 to 11-8.....	31.363	7.005	138.257	34.848	13.566	211.471	225.037
11-9 to 12-8.....	39.278	8.751	172.676	43.583	16.965	264.288	281.253
12-9 to 1-3-13.....	38.060	8.509	137.860	41.870	16.322	226.299	242.621

TABLE 40.—WEIGHT OF NUTRIENTS CONSUMED, POUNDS.

Dates	Weight of protein	Weight of fat	Weight of nitrogen free extract	Weight of crude fibre	Weight of ash	Weight of organic matter	Weight of dry matter
STEER 549							
5-11 to 5-12	0.559	0.424	0.848	.....	0.133	1.831	1.964
5-13 to 6-11	5.209	3.975	9.500	0.968	1.312	19.652	20.964
6-12 to 7-11	2.561	2.281	6.950	1.430	1.011	13.222	14.233
7-12 to 8-10	12.701	9.432	29.245	7.496	4.921	58.874	63.795
8-11 to 9-9	12.437	7.216	39.208	8.210	5.009	67.071	72.080
9-10 to 10-9	12.150	4.268	48.583	11.462	4.928	76.463	81.391
10-10 to 11-8	11.294	2.523	49.789	12.549	4.886	76.155	81.041
11-9 to 12-8	13.749	3.603	60.435	15.254	5.938	92.501	98.439
12-9 to 1-7-13	15.040	3.419	66.710	16.692	6.497	101.861	108.358
1-8 to 2-6	16.273	4.031	75.970	18.269	7.115	114.543	121.658
2-7 to 3-8	16.273	4.031	75.970	18.269	7.115	114.543	121.658
3-9 to 4-7	16.273	4.031	75.970	18.269	7.115	114.543	121.658
4-8 to 5-7	16.273	4.031	75.970	18.269	7.115	114.543	121.658
5-8 to 6-6	16.512	4.243	75.134	18.320	7.171	114.209	121.380
6-7 to 7-6	16.990	4.668	73.463	18.424	7.284	113.545	120.829
7-7 to 8-5	17.276	4.885	73.331	18.321	6.724	114.313	121.037
8-6 to 9-4	20.002	5.699	81.703	22.141	6.306	129.545	135.851
9-5 to 10-4	20.822	5.952	85.242	22.883	6.511	134.899	141.410
10-5 to 11-3	20.713	6.069	85.830	22.858	6.486	135.470	141.956
11-4 to 12-3	23.021	6.076	97.546	21.535	7.947	148.178	156.125
12-4 to 1-2-14	23.573	6.218	99.835	22.043	8.134	151.669	159.803
1-3 to 2-1	23.573	6.218	99.835	22.043	8.134	151.669	159.803
2-2 to 3-3	23.996	4.793	98.547	22.143	8.096	149.479	157.575
3-4 to 4-2	24.206	4.079	97.904	22.144	8.078	148.333	156.411
4-3 to 5-2	24.293	4.056	97.893	22.123	8.042	148.365	156.407
5-3 to 6-1	24.318	4.206	98.231	22.278	8.044	149.033	157.077
6-2 to 7-1	24.291	4.169	98.166	22.242	8.029	148.868	156.897
7-2 to 7-31	24.662	6.101	98.022	22.779	8.372	151.564	159.936
8-1 to 8-30	25.105	4.489	98.985	23.979	9.220	152.558	161.778
8-31 to 9-29	25.049	5.482	98.384	24.295	9.027	153.210	162.237
9-30 to 10-29	24.819	4.504	98.330	24.855	8.600	152.598	161.198
10-30 to 11-28	24.819	4.594	98.330	24.855	8.600	152.598	161.198
11-29 to 12-28	26.125	5.104	97.283	23.849	8.472	152.361	160.833
12-29 to 1-27-15	33.312	6.667	116.012	29.239	10.490	185.230	195.720
1-28 to 2-26	36.696	7.482	128.817	32.914	11.616	205.909	217.525
2-27 to 3-28	36.564	7.885	128.529	32.922	11.492	205.900	217.392
3-29 to 4-27	36.564	7.885	128.529	32.922	11.492	205.900	217.392
4-28 to 5-27	36.564	7.885	128.529	32.922	11.492	205.900	217.392
5-28 to 6-26	35.617	8.114	127.634	32.147	11.838	203.512	215.350
6-27 to 7-26	38.838	9.227	137.004	35.514	12.292	220.583	232.875
7-27 to 8-25	39.329	8.973	141.586	35.051	12.070	224.939	237.009
8-26 to 9-24	47.986	11.725	158.593	51.970	14.058	270.274	284.332
9-25 to 10-24	55.172	13.722	185.308	60.994	16.748	315.196	331.944
10-25 to 11-23	31.095	9.677	158.682	44.780	9.809	244.234	254.043
11-24 to 12-23	54.178	13.450	210.893	61.460	18.869	339.981	358.850
12-24 to 1-22-16	50.996	12.396	204.972	51.831	17.571	320.195	337.766
1-23 to 2-21	32.485	11.896	205.605	50.156	17.115	300.142	317.257
2-22 to 3-22	32.826	12.022	207.777	50.682	17.297	303.307	320.604
3-23 to 4-5	23.042	5.554	98.413	23.996	8.508	151.005	159.513
STEER 548							
5-11 to 5-12-12	0.707	0.535	1.072	.....	0.168	2.314	2.482
5-13 to 6-13	11.543	9.051	20.866	1.811	2.863	43.271	46.134
6-12 to 7-11	10.816	10.429	22.384	4.271	3.913	47.900	51.813
7-12 to 8-10	14.280	11.041	31.795	7.495	5.316	64.611	69.927
8-11 to 9-9	13.799	10.676	36.489	5.372	4.354	66.336	70.690
9-10 to 9-29	7.229	3.744	25.048	5.236	2.678	41.257	43.935

TABLE 41.—WEIGHT OF NUTRIENTS CONSUMED, POUNDS.

Dates	Weight of protein	Weight of fat	Weight of nitrogen free extract	Weight of crude fibre	Weight of ash	Weight of organic nutrients	Weight of dry matter
STEER 551							
5-11 to 5-12-12.....	0.707	0.535	1.072	.....	0.168	2.314	2.482
5-13 to 6-11.....	9.957	7.985	16.872	1.355	2.468	36.169	38.637
6-12 to 7-11.....	8.955	8.436	19.448	4.371	3.444	41.210	44.654
7-12 to 8-10.....	14.005	10.398	32.230	8.245	5.421	64.878	70.299
8-11 to 9-9.....	15.456	11.317	41.045	7.070	5.062	74.888	79.950
9-10 to 10-9.....	12.925	5.255	49.391	11.249	5.092	78.829	83.921
10-10 to 11-8.....	13.751	3.039	60.294	15.608	6.095	92.692	98.787
11-9 to 12-8.....	16.835	3.748	74.004	18.679	7.270	113.266	120.536
12-9 to 1-7-13.....	16.774	3.803	74.297	18.612	7.244	113.486	120.730
1-8 to 2-6.....	16.273	4.031	75.970	18.269	7.115	114.534	121.658
2-7 to 3-8.....	16.273	4.031	75.970	18.269	7.115	114.543	121.658
3-9 to 4-7.....	16.273	4.031	75.970	18.269	7.115	114.543	121.658
4-8 to 5-7.....	16.273	4.031	75.970	18.269	7.115	114.543	121.658
5-8 to 6-6.....	16.512	4.243	75.135	18.319	7.171	114.209	121.380
6-7 to 7-6.....	16.958	4.668	73.463	18.424	7.284	113.543	120.827
7-7 to 8-5.....	17.274	4.813	73.331	18.821	6.724	114.239	120.963
8-6 to 9-4.....	20.578	5.881	84.230	22.612	6.459	133.301	139.760
9-5 to 10-4.....	20.822	5.951	85.242	22.883	6.538	134.898	141.436
10-5 to 11-3.....	20.716	6.070	85.828	20.870	6.487	133.484	139.971
11-4 to 12-3.....	23.023	6.077	95.551	21.538	7.947	148.189	156.136
12-4 to 1-2-14.....	23.562	6.218	99.835	22.043	8.134	151.658	159.792
1-3 to 2-1.....	23.562	6.218	99.835	22.043	8.134	151.658	159.792
2-2 to 3-3.....	23.985	1.793	98.547	22.110	8.096	149.435	157.531
3-4 to 4-2.....	24.197	4.079	97.904	22.144	8.078	148.324	156.402
4-3 to 5-2.....	24.293	4.051	97.893	22.125	8.042	148.362	156.404
5-3 to 6-1.....	24.330	4.206	98.230	22.277	8.044	149.043	157.087
6-2 to 7-1.....	24.348	4.169	98.166	22.242	8.029	148.925	156.954
7-2 to 7-31.....	24.102	4.126	101.916	23.735	8.734	153.879	162.613
8-1 to 8-30.....	28.243	5.049	111.359	26.972	10.372	171.613	181.995
8-31 to 9-29.....	28.389	6.226	111.627	27.407	10.200	173.649	183.849
9-30 to 10-29.....	27.922	5.167	110.627	27.961	9.673	171.677	181.350
10-30 to 11-28.....	27.922	5.167	110.627	27.961	9.673	171.677	181.350
11-29 to 12-28.....	29.392	5.741	109.449	18.224	9.531	162.806	172.337
12-29 to 1-27-15.....	33.507	6.781	119.125	28.543	10.313	187.956	198.269
1-28 to 2-26.....	38.691	7.980	138.556	34.790	11.984	220.017	232.001
2-27 to 3-28.....	38.545	8.423	138.240	33.799	11.848	219.007	230.855
3-29 to 4-27.....	38.545	8.423	138.240	33.799	11.848	219.007	230.855
4-28 to 5-27.....	38.545	8.423	138.240	33.799	11.848	219.007	230.855
5-28 to 6-26.....	36.717	8.446	132.898	32.660	11.506	210.721	222.227
6-27 to 7-26.....	24.911	5.323	83.699	23.429	9.785	137.362	147.147
7-27 to 8-25.....	45.590	10.414	132.246	40.405	13.943	228.655	242.598
8-26 to 9-24.....	52.253	12.699	199.350	55.500	15.336	319.802	335.138
9-25 to 10-24.....	53.345	13.264	205.116	58.702	16.251	330.427	346.678
10-25 to 11-23.....	45.665	13.204	213.649	54.513	13.731	327.031	340.762
11-24 to 12-23.....	46.916	12.095	187.138	49.104	15.347	295.253	310.000
12-24 to 1-22-16.....	41.739	10.160	168.456	42.295	14.347	262.650	276.997
1-23 to 2-21.....	40.784	9.858	170.364	41.573	14.182	262.579	276.761
2-22 to 3-22.....	40.784	9.858	170.364	41.573	14.182	262.579	276.761
3-23 to 4-21.....	45.470	10.554	192.950	47.630	16.591	296.604	313.195
4-22 to 5-21.....	55.006	11.965	230.875	58.255	19.668	356.101	375.769
5-22 to 6-20.....	68.574	15.891	287.789	74.248	24.644	446.502	471.146
6-21 to 7-17.....	60.097	14.314	272.484	77.210	19.939	424.105	444.044
STEER 552							
5-11 to 5-12-12.....	0.707	0.535	1.072	.....	0.168	2.314	2.482
5-13 to 6-11.....	12.631	9.814	23.612	2.338	3.158	48.395	51.553
6-12 to 7-11.....	12.392	11.818	25.845	4.608	4.243	54.063	58.906
7-12 to 8-10.....	14.426	10.872	32.807	8.162	5.506	66.267	71.773
8-11 to 9-9.....	17.065	12.307	45.709	7.884	5.597	82.965	88.562
9-10 to 9-29.....	9.601	4.699	34.130	7.312	3.615	55.742	59.357

TABLE 42.—WEIGHT OF NUTRIENTS CONSUMED, POUNDS.

Dates	Weight of protein	Weight of fat	Weight of nitrogen free extract	Weight of crude fibre	Weight of ash	Weight of organic matter	Weight of dry matter
STEER 559							
5-6 to 5-12-12.....	2.473	1.873	3.751	.....	0.588	8.097	8.685
5-13 to 6-11.....	13.074	10.029	25.616	3.711	3.942	52.430	56.372
6-12 to 7-11.....	13.008	12.741	26.945	4.711	4.475	57.405	61.890
7-12 to 8-10.....	15.188	13.130	31.717	6.378	5.298	66.413	71.711
8-11 to 9-9.....	17.965	13.673	45.032	7.069	5.686	83.739	89.425
9-10 to 10-9.....	13.345	5.965	49.314	10.880	5.131	79.504	84.635
10-10 to 11-8.....	16.243	3.627	71.599	18.046	7.025	109.515	116.540
11-9 to 12-8.....	20.672	4.604	90.853	22.935	8.927	139.064	147.991
12-9 to 1-7-13.....	22.367	5.071	99.061	24.816	9.659	151.315	160.974
1-8 to 2-6.....	22.510	5.576	105.090	25.269	9.842	158.445	168.287
2-7 to 3-8.....	26.081	6.462	121.764	29.281	11.403	183.588	194.991
3-9 to 4-7.....	33.631	8.332	157.002	37.752	14.704	236.717	251.421
4-8 to 5-7.....	37.969	9.406	177.294	42.624	16.601	267.293	283.894
5-8 to 6-6.....	41.318	10.644	187.695	45.805	17.937	285.462	303.399
6-7 to 7-6.....	45.302	12.450	195.911	49.127	19.425	302.790	322.215
7-7 to 8-5.....	46.065	12.834	195.558	50.185	17.931	304.642	322.573
8-6 to 9-4.....	41.985	11.945	171.271	46.626	13.262	271.827	285.089
9-5 to 10-4.....	41.644	11.902	170.483	45.765	13.076	269.794	282.870
10-5 to 11-3.....	41.434	12.137	171.657	45.740	12.977	270.967	283.944
11-4 to 12-3.....	41.234	10.883	174.712	38.575	14.234	265.404	279.638
12-4 to 1-2-14.....	41.234	10.883	174.712	38.575	14.234	265.404	279.638
1-3 to 2-1.....	36.522	9.638	154.745	34.167	12.608	235.072	247.680
2-2 to 3-3.....	35.978	7.189	147.811	33.165	12.145	224.143	236.288
3-4 to 4-2.....	36.295	6.121	146.855	33.215	12.116	222.486	234.602
4-3 to 5-2.....	36.441	6.083	146.838	33.182	12.063	222.544	234.607
5-3 to 6-1.....	36.478	7.230	147.345	33.417	12.064	224.470	236.534
6-2 to 7-1.....	36.523	7.015	147.247	33.360	12.045	224.145	236.190
7-2 to 7-31.....	36.992	5.954	147.034	34.166	12.556	224.146	236.702
8-1 to 8-30.....	37.658	6.735	148.479	35.965	13.830	228.837	242.667
8-31 to 9-29.....	37.574	8.224	147.572	36.443	13.540	229.813	243.353
9-30 to 10-29.....	37.229	6.890	147.503	37.281	12.898	228.903	241.801
10-30 to 11-28.....	37.229	6.890	147.503	37.281	12.898	228.903	241.801
11-29 to 12-28.....	39.187	7.654	145.933	35.772	12.707	228.546	241.253
12-29 to 1-27-15.....	40.857	8.295	145.863	34.512	12.503	229.527	242.030
1-28 to 2-26.....	40.688	8.479	148.297	34.635	12.353	232.099	244.452
2-27 to 3-28.....	47.078	10.151	165.443	42.452	14.805	265.124	279.929
3-29 to 4-27.....	48.088	10.334	168.135	43.654	15.204	270.211	285.415
4-28 to 5-27.....	48.088	10.334	168.135	43.654	15.204	270.211	285.415
5-28 to 6-26.....	45.828	10.358	162.141	42.195	14.778	260.522	275.300
6-27 to 7-26.....	48.061	10.490	168.578	42.548	14.847	269.677	284.524
7-27 to 8-25.....	54.848	12.584	198.562	46.905	16.404	312.899	329.303
8-26 to 9-24.....	62.938	15.349	228.218	67.667	18.451	374.172	392.623
9-25 to 10-24.....	77.748	19.581	302.789	86.657	23.994	486.775	510.769
10-25 to 11-23.....	45.545	14.563	236.051	60.184	15.031	356.343	371.274
11-24 to 12-23.....	65.840	17.238	267.112	71.720	22.228	421.910	444.138
12-24 to 1-22-16.....	70.315	17.113	284.193	71.259	24.185	442.880	467.065
1-23 to 2-21.....	75.332	18.206	314.673	76.765	26.195	484.976	511.171
2-22 to 3-22.....	85.728	20.719	358.098	87.358	29.809	551.903	581.712
3-23 to 4-21.....	93.344	21.724	396.162	97.730	34.084	608.960	643.044
4-22 to 5-21.....	74.591	16.218	313.044	78.976	26.666	482.829	509.495
5-22 to 6-20.....	77.664	17.975	325.598	84.242	27.945	505.479	533.424
6-21 to 7-17.....	68.927	16.417	312.516	88.665	22.868	486.525	509.393
STEER 557							
5-6 to 5-12-12.....	2.292	1.686	5.374	0.158	0.583	9.510	10.093
5-13 to 6-11.....	16.409	12.862	28.967	2.973	4.112	61.211	65.323
6-12 to 7-11.....	21.003	17.441	48.580	12.158	8.226	99.182	107.408
7-12 to 8-10.....	35.915	19.696	112.079	27.587	14.295	195.277	209.572
8-11 to 9-9.....	44.353	23.030	151.441	31.234	16.091	250.058	266.149
9-10 to 9-29.....	31.607	11.361	126.121	29.104	12.630	193.193	210.823

TABLE 43.—WEIGHT OF NUTRIENTS CONSUMED, POUNDS.

Dates	Weight of protein	Weight of fat	Weight of nitrogen free extract	Weight of crude fibre	Weight of ash	Weight of organic matter	Weight of dry matter
STEER 550							
5-11 to 5-12-12.....	0.707	0.535	1.072	.....	0.168	2.314	2.432
5-13 to 6-11.....	11.970	9.350	21.940	2.020	2.966	45.280	48.246
6-12 to 7-11.....	12.715	12.389	26.189	4.586	4.449	55.879	60.328
7-12 to 8-10.....	8.587	6.630	18.741	4.735	3.276	38.693	41.969
8-11 to 9- 9.....	15.669	9.888	46.623	9.140	5.449	81.320	86.769
9-10 to 10- 9.....	21.615	6.812	89.160	21.265	8.877	138.852	147.729
10-10 to 11- 8.....	22.403	5.003	98.755	24.892	9.690	151.053	160.743
11- 9 to 12- 8.....	25.106	5.564	110.065	28.144	10.939	168.879	179.818
12- 9 to 1- 3-13.....	24.341	5.443	106.946	26.959	10.761	163.689	174.450
STEER 553							
5-11 to 5-12-12.....	0.648	0.491	0.982	.....	0.648	2.121	2.769
5-13 to 6-11.....	11.737	9.009	23.038	3.032	3.064	46.816	49.530
6-12 to 6-19.....	2.820	2.427	5.497	0.814	0.743	11.558	12.301
STEER 554							
5-11 to 5-12-12.....	0.633	0.479	0.960	.....	0.151	2.072	2.223
5-13 to 6-11.....	12.973	9.994	24.959	2.946	3.320	50.872	54.192
6-12 to 7-11.....	12.912	12.614	27.018	4.735	4.452	57.279	61.731
7-12 to 7-21.....	4.887	4.106	9.796	1.667	1.597	20.456	22.053
STEER 555							
5-11 to 5-12-12.....	0.707	0.535	1.072	.....	0.168	2.314	2.432
5-13 to 6-11.....	11.540	8.939	21.920	2.362	2.925	44.761	47.686
6-12 to 7-11.....	10.707	10.213	23.021	4.408	3.867	48.349	52.216
7-12 to 7-21.....	4.754	3.584	10.564	2.499	1.758	21.401	23.159
STEER 556							
5-11 to 5-12-12.....	0.707	0.535	1.072	.....	0.168	2.314	2.432
5-13 to 6-11.....	15.901	12.888	26.210	2.109	3.901	57.118	61.019
6-12 to 7-11.....	19.583	18.241	37.646	8.988	7.460	84.458	91.918
7-12 to 7-21.....	8.417	5.116	20.339	7.961	4.059	41.833	45.892
STEER 558							
5- 5 to 5-12-12.....	2.473	1.873	3.751	.....	0.588	8.097	8.685
5-13 to 6-11.....	11.314	8.825	21.010	2.018	2.828	43.167	45.995
6-12 to 7-11.....	10.110	9.304	22.606	4.735	3.661	46.755	50.416
7-12 to 8-10.....	11.922	9.146	26.730	6.414	4.474	54.212	58.686
8-11 to 9- 9.....	13.011	9.903	33.034	5.330	4.160	61.283	65.443
9-10 to 10- 9.....	10.030	4.369	37.394	8.349	3.889	60.142	64.030
10-10 to 11- 8.....	11.436	2.554	50.406	12.706	4.947	77.102	82.049
11- 9 to 12- 8.....	13.957	3.025	60.480	16.323	6.311	93.785	100.096
12- 9 to 1- 3-13.....	14.604	3.267	64.168	16.175	6.295	98.214	104.509

TABLES 44 TO 59

Symbols denoting condition of animal are used as follow: V. M. T., very markedly thin; M. T., markedly thin; V. T., very thin; T, thin; F., fair; C, common; G, good; P, prime; E. P., extra prime; M, medium; Ch., choice; O, overdone.

TABLE 44.—MEASUREMENTS

STEER 500

Date of measurement.....	2-22-08	5-27-08	9-7-08	10-28-08	12-2-08	1-2-09	1-30-09	2-27-09
Weight of animal in lbs.....	482	590	620	642	684	696	686	711
Condition of animal.....	T	T	T	T	T	F	F	F
Height at withers.....	113.5	119	125.5	125	127	128	129	129.8
Height shoulder to ground.....	83	85	88.5	89	88.8	89	89.5	90
Height at hips.....	119	121.5	127	127.5	129	130	131	132
Length shoulder to hips.....	99	101	100	102.5	108	110	110	110
Length shoulder to ischium.....								
Width of hip.....	35	39.5	41	42	42.5	43.9	44	44.3
Width of loin.....	32	32	33.8	34.5	34.8	35.6	35.8	36
Depth of chest.....	58	58.5	61	62	62.8	63.3	64.5	65
Width of chest.....	31	31.5	33.5	31.5	32	32	32	32
Girth of chest.....	152.5	159	162	164	164	164	169	169
Depth of paunch.....		61	61	60	60	58.5	59	61
Width of paunch.....		57.5	57.5	57	56.5	53.5	58	62.5
Girth of paunch.....	198	199	195	197	195	185	194	211.5
Length of foreleg.....	71	74	75.5	76	76	76.4	76.4	77
Circumference of shin.....	16	16.5	17	17	17	17.3	17.3	17.3
Length of head.....	42	44	47	48.5	49	50	50.5	50.3
Width of jaws.....	12.5	16.5	17.5	18	17.8	18.5	18.8	17.5
Girth of throat latch.....	80	83	79	80	80.5	79	81	82

STEER 500 (Cont.)

Date of measurement.....	4-2-10	5-7-10	6-1-10	7-8-10	8-1-10	8-31-10	10-1-10	11-4-10
Weight of animal in lbs.....	945	905	915	907	922	943	968	960
Condition of animal.....	C to M	C to M	C to M		C	C	C	
Height at withers.....	138.8	138.8	139.3	140.3	141	140.8	140	140.5
Height shoulder to ground.....	95	96	96.8	101	98.5	98	97.5	98
Height at hips.....	140.5	141	141.3	142	141	142.3	142	141
Length shoulder to hips.....	117.5	117.5	117.8	115	116.5	118.5	117.5	120
Length shoulder to ischium.....	164	164.5	165			164	164	165.5
Width of hip.....	48	48.5	49	49.5	49.5	51	50	51.5
Width of loin.....	40	39.8	39.8	38.5	39.3	39.5	39	40.5
Depth of chest.....	70.5	70.5	70.8	70	71	72.5	71	73.5
Width of chest.....	38	38.5	39	42.8	39.5	34.5	38.5	37.5
Girth of chest.....	182	183	184.5	184	185.5	188	185	193
Depth of paunch.....	68	68	68.5	64	68.5	70	70	71.3
Width of paunch.....	57.5	57	57.5	56.5	58.5	62	59	62
Girth of paunch.....	208	210	213	204.5	213	216	210	230
Length of foreleg.....	83	84	84.5	80.5	85	82	82.5	85
Circumference of shin.....	19	19	20	20	20	21	19.5	19.5
Length of head.....	54	54	54.5	53.5	54	53	52	52.5
Width of jaws.....	19.5	19.5	19.8	20	19.5	20.3	21.3	20.5
Girth of throat latch.....	90	90	90	92	90.5	90.5	90	93

STEER 515 (Cont.)

Date of measurement.....	9-7-08	10-27-08	12-1-08	1-2-09	1-28-09	2-22-09	3-26-09	5-1-09
Weight of animal in lbs.....	1036	1100	1138	1190	1228	1247	1337	1355
Condition of animal.....	G	Ch	Ch	Ch	Ch	Ch	Ch	Ch to P
Height at withers.....	124	126	127	127.5	128	128.5	129.5	131
Height shoulder to ground.....	84.5	86.5	86.5	87	88.3	89	90.8	91
Height at hips.....	129	131.5	132.5	132.8	134	134.5	134.5	134.5
Length shoulder to hips.....	114	115	116.3	118.5	119	120.5	121.5	121.5
Length shoulder to ischium.....							170	170
Width of hip.....	51	51.5	52.3	53.5	53.6	53.8	54.5	55
Width of loin.....	39.5	40.5	42	42.8	43.5	45.5	46	47.3
Depth of chest.....	67	68.5	70.5	71.3	71.8	72.5	73	74.5
Width of chest.....	43.5	45	44.8	45.5	46	46	47.5	46.5
Girth of chest.....	187	192	193	200	198	200	202	208
Depth of paunch.....	74	74	75.5	76.5	74	76	76.8	78
Width of paunch.....	73	75	72	71.5	71.5	76	72.8	74
Girth of paunch.....	242	248	243	249	245	255	245	257
Length of foreleg.....	74	78	78	78.5	78.5	79	80.3	80.5
Circumference of shin.....	19.5	20	20.1	20.1	20	20.3	20.3	20.3
Length of head.....	49.5	51	51.3	52	52.3	52.6	52.5	53
Width of jaws.....	19	19.5	20.5	21.5	21	21	21.5	21.5
Girth of throat latch.....	91	91	95	96	96.5	97	96	98

Symbols denoting condition of animal as follows: V. M. T., very markedly thin; M. T., markedly thin; V. T., very thin; T., thin; F., fair; C., common; G., good; P., prime; E. P., extra prime; M., medium; Ch., choice; O., overdone.

OF STEERS IN CENTIMETERS.

STEER 500 (Cont.)

3-27-09	5-3-09	5-29-09	7-1-09	8-2-09	8-30-09	10-1-09	11-1-09	11-30-09	1-6-10	2-4-10	3-5-10
747	777	810	804	725	790	841	875	860	834	867	930
F	F to C	F to C	F to C	F to C	F to C	C	C	C	C	C to M	C to M
130	132	132.5	133.5	134	134.5	135.5	136.8	137	137.5	137.5	138.5
91	92	92.3	92.5	93.3	93.5	94	95	95	95	95	95
132.5	135	135.5	135.5	136	137.3	137.3	138.8	139	139	139.5	140.5
109.5	110.5	110.5	112	112	113.3	113.3	114.8	115.3	115	116	117
153.5	154	154	154	154	155.5	158.3	158.3	160	161.5	161	163
44.8	45.1	45.5	46	46.8	46.8	47	48	48.3	47	47.3	47.8
36.5	37.8	37.8	38	38	38	38.5	38.8	39	39	39.5	40
65	66	65.8	66.3	66.5	66.8	67	69	69.5	69	69	70
31.8	33	33.5	33.5	32	32.3	33.5	34	34.5	35	35.5	36
167	171	171	173	173	172	176	183	184	183	182	181
61.5	63	63.3	63.5	65.5	65	64	69	67.5	66	67	67.5
61.5	58	57.5	57	58	56.8	55.5	60.5	57.5	57	57.5	60
205	204	204	204	202	202.3	202	213	210	205	210	213
78	78	78.3	78.8	79.5	79.8	80	81	81.5	82	82.3	83
17	17	17.3	17.3	18	18.5	18.8	19	19	19	19	19
50.8	51	51	51	51	52	52.3	53.5	54	54	54	54
17.8	17.8	18	18	18	18	19	19	19.3	19.3	19.3	19.5
82	82.3	83	84	84	84.5	85	87	88	89	89	89

STEER 500 (Cont.)

STEER 503

STEER 505

STEER 515

12-2-10	1-6-11	2-2-11	2-25-11	2-22-08	8-16-07	11-15-07	2-1-08	8-16-07	11-5-07	2-22-08	5-27-08
974	971	1062	1086	604	341	530	697	195	284	510	700
				M	M	M	G	T	T	F to M	G
140.5	142	143	142.5	116.5	99	110.5	117.5	86	94	108	117
97	96	96.5	97	79			84			75.5	82
140.8	141.5	142.5	143.5	119.5	104.5	114	121	90	98.5	111.5	121.5
120	121	122	122	91.5	76	84	89	73	82	94.5	103
166.5	166	168	167.5								
51	53.5	52	53	40.5	29.5	37.5	40.5	25	30.5	37	45
39	39.5	40	40	32			32			29	34.5
73	74.3	74	74	57	46	54	58.5	37	45	52	61
38	38.5	37.5	39	31.5	28.5	34.5	39	20.5	23	32	38.5
191	195	195	197	152.5	125	147.5	164	101.5	122	142.5	165
69	71.5	71.5	71.5								69
57.5	60	61.5	63								64
215	225	225	230	178	148	178	196	133.5	150	172.5	210
85	85	85	85	70	60	66	67.5	55	58.5	65	71
20	19.5	20	20	18	15.5	17	17	13	14	17	18
52	52	52	53	44	36	41	42	30.5	35.5	39	44
20.5	20.5	20	21	17	13.5	15	15	11.5		16.5	17.5
92.5	92	93	93	83	64	74	84	51	57	72.5	83

STEER 515 (Cont.)

STEER 528

5-29-09	7-1-09	8-2-09	8-30-09	10-2-09	11-1-09	11-30-09	1-1-10	2-22-08	5-27-08	9-8-08	10-29-08
1412	1444	1480	1492	1510	1585	1572	1638	275	500	636	656
Ch to P	Ch to P	P	P	P	P	P	P	C to M	G	G	M
132	132.5	133.3	134.8	133	134.5	136	136.5	90	104	112	115
91.5	92.3	93	93	93	93.5	94	94.5	66	75	82	82
136	137	137.5	138.5	141	141	141.5	141.8	96	109.5	119.5	121
122	122.5	124	125	125	126	127.5	128	78.2	87.2	99.7	99
170	170	173	174	175	176	178	178				
57	58	58.3	58.5	59	59	60	60	26	33.5	39.5	39.5
48	48	48	48.3	49	49.8	50	51	22	26	31	30
74.5	75	75.5	76.3	77.5	78	79	78.8	44	51.5	57	58.5
47	48	48	48.8	51	53	54	53	23	32	32.5	33.5
209	212	212	218	218	223	225	225	115.5	140	154	157
79	80	80	82	83.5	81	80	80		61.5	64	64
77	76	75.5	82	83.3	87	87	87.5		54.5	64	64
263	263	258	267	255	260	260	265	135	183	205	204
80.8	81	82	82	82	82.3	83	83	56	64	70	71.8
20.3	20.5	21.5	21.8	21.5	21.5	23	22.5	13.5	16	17	17.5
53.3	53.5	54.5	54.8	55	55.5	56	55.5	32	37	43	43.5
21.5	21.5	21.5	21.5	22	22	22	22.3	12	17	18.3	17.5
100	101	101	101	101	102	102	102	68.5	80	83	82.5

Symbols denoting condition of animal as follows: V. M. T., very markedly thin; M. T., markedly thin; V. T., v. r. thin; T, thin; F, fair; C, common; G, good; P, prime; E. P., extra prime; M, medium; Ch., choice; O, overdone

TABLE 45.—MEASUREMENTS

STEER 501

Date of measurement	8-16-07	11-15-07	2-22-08	5-27-08	9-7-08	10-27-08	12-1-08	1-2-09
Weight of animal in lbs.	343	579	779	926	1100	1152	1190	1250
Condition of animal	M	G	G to Ch	Ch to P	Ch to P	Ch to P	P	P
Height at withers	93.5	109.5	112	118.5	127.5	127.5	128	128.8
Height shoulder to ground			85	87	88	87	88.5	89
Height at hips	94	114.5	119.5	127	131.5	132.5	133	134
Length shoulder to hips	78	88.5	97.5	108	111	114.5	115.8	117.3
Length shoulder to ischium								
Width of hip	27.5	37	38	46.5	51.5	52	52.8	53.3
Width of loin			32	38.5	41	42	44	44
Depth of chest	47	56	61.5	65	68	69	70.5	71
Width of chest	29	37	41.5	46.5	47	48	47	47
Girth of chest	125	155	168	182	191	202	200	200.5
Depth of paunch					17.5	73.5	77	73.8
Width of paunch					73.5	78	77	76
Girth of paunch	150	190.5	200.5	234	237	250	250	251
Length of foreleg	57	66	70	72	75.5	76	77.5	78
Circumference of shin	16	18	19	18.5	19	20	20	20
Length of head	34.5	41	42.5	45	48	51	51	52
Width of jaw	13	16	17.5	18	19	19	19.6	19.8
Girth of throat latch	65	74	81.5	90	92	90	91	92.5

STEER 501 (Cont.)

Date of measurement	2-4-10	3-5-10	4-2-10	5-2-10	6-1-10	7-8-10	8-1-10	9-1-10
Weight of animal in lbs.	1684	1710	1730	1730	1784	1790	1819	1837
Condition of animal	E P	O	O	O	O	O	O	O
Height at withers	137	137.5	138	138	139	138	139.5	141.3
Height shoulder to ground	92.5	93.3	93.5	93.8	93.8	96.3	96	98
Height at hips	143.5	144	144.5	144.8	145	144	144	146.5
Length shoulder to hips	127	128	129	128.8	130	128	131	131
Length shoulder to ischium	175	176	176	176.3	176.5			180
Width of hip	61	61	63	63.5	63	68.3	63.5	66
Width of loin	55	57	57	57	57.5	68	53	53
Depth of chest	79	80	80.5	80.5	80	80.8	81	81.5
Width of chest	57.3	58	58.5	58.5	58	62	59.5	61
Girth of chest	235	236	238	239	238	239.8	240	254
Depth of paunch	82.5	84.5	84.5	84	84.5	80.8	85	86
Width of paunch	85	86	85	85.3	86	85.3	85.5	86
Girth of paunch	285	290	285	286	288	284.8	287	292.5
Length of foreleg	82.5	83	83.5	83.5	84	81.5	83.5	82
Circumference of shin	21.3	21.3	21.3	21.3	21.3	21.5	21.5	21.8
Length of head	55	55	55	55.3	55.5	53.5	55	55
Width of jaw	21.3	21.3	21.5	21.8	21.5	22	21.5	23.5
Girth of throat latch	101	101.5	102	102	101	105.5	101.5	100

STEER 504 (Cont.)

STEER 507

Date of measurement	12-1-08	12-11-08	2-22-08	5-27-08	9-7-08	10-28-08	12-2-08	1-2-09
Weight of animal in lbs.	1160	1179	585	697	775	812	817	870
Condition of animal	Ch to P	P	M	M	M	M	M	M
Height at withers	124.5	124.5	115	122	126	127.5	129.8	130.5
Height shoulder to ground	84.5	84.5	76.5	87	89	90	90.5	91.3
Height at hips	129.5	130	120	126	131	131	133	133.5
Length shoulder to hips	116.3	117	108.5	102	108.5	109.5	115	113
Length shoulder to ischium								
Width of hip	50	50.3	36.5	41	43.5	44	44.5	45.5
Width of loin	44.5	43	30	33	35	35	36	36.5
Depth of chest	69	69	57	64	64.5	63	66.8	67.8
Width of chest	47.5	47.5	32	36	35.5	33	33.3	33.3
Girth of chest	193	193.3	152.5	166	170	174	174	174
Depth of paunch	74.8	74		61	61	60.5	62	62.5
Width of paunch	78.5	77.5		53.5	64.5	54.5	56.5	55.5
Girth of paunch	246	250	170	186	197.5	188	200	194
Length of foreleg	76	76.3	68.5	74	77	78	78.5	78.8
Circumference of shin	20.5	20.5	16.5	17	18	18	18	18.3
Length of head	51.2	51.2	43	45	49	51	51.3	51.8
Width of jaw	21	21	16.5	17.5	19.5	19	19	19
Girth of throat latch	96.8	96.5	84	91	90	91.5	90	91

OF STEERS IN CENTIMETERS.

STEER 501 (Cont.)											
1-28-00	2-22-00	3-26-00	5-1-00	5-20-00	7-2-00	8-2-00	8-3-00	10-2-00	11-1-00	11-30-00	1-5-10
1312	1321	1365	1410	1453	1482	1483	1514	1545	1562	1600	1610
P	P	P	P	P	P	E P	E P	E P	E P	E P	E P
129.3	129.5	130.8	130.8	131	132.5	132.5	133	134.5	135	135.8	136.5
89	89.5	90	88	88	88.5	89.3	89.5	89.8	90	91	92
135	135.3	135.5	136.8	137.3	138	139	139.8	142	142.5	143	143
119	119	120.3	121	121	121.5	123	123	123.5	125	126.5	126.5
.....	.....	167	167	167	168	168.5	168.8	170.5	171.5	175	175
53.8	54.8	55.8	56.3	57	57.5	57.5	57.5	58	60	61	61
44.5	46.5	48.5	48.8	48.8	49	49.5	50	52.5	53	53.5	54
72	72.3	73	73.5	73.5	74.5	75	74.8	74.5	76.5	76.5	78
49.5	50	51.5	51.5	51.8	52.8	53	53.8	54.8	55	55.5	57
205	208	208	210	214	221	220	221	226	225	229	230
76	75.8	78	78.5	78.8	83	80.5	82	83.5	83.5	84	83
79.5	79.5	80	84	78.8	86	83	83.5	83	81	82	84
267	261	268	278	265	277	275	275.5	283	280	285	280
78.3	78.5	79	79	79	79.5	80.3	80.5	81	81.3	82	82.5
20	20	19.5	19.5	19.5	20	20	20.8	20.8	20.8	21.3	21
52	52	52	52	52	52	52.8	53	53.5	53.5	54	54
19.8	19.6	19.9	20	20.3	20.3	20.5	20.5	21	21	21.5	21
93	94.5	94	95.5	96	96	97	97	100	100	100	100

STEER 501 (Cont.)						STEER 504					
10-1-10	11-4-10	12-2-10	1-6-11	2-2-11	2-25-11	8-16-07	11-15-07	2-22-08	5-27-08	9-7-08	10-27-08
1847	1900	1897	1970	1938	1965	234	424	675	900	1105	1155
O	O	O	O	O	O	T	M	G	Ch to P	Ch to P	Ch to P
141.5	141.5	141	142	142	142.5	86	97	110	116.5	123	123.5
94.5	96	96.5	97.5	97	96.5	57	68.5	72	80	83	83
145	145.5	146.5	147	147	147	93.5	104	114.5	112	127	128
128	134	134	133.5	135	137	73	87	97	104.5	109	113.5
181	185	186.3	188	188	187.5	.....	.....	.....	.....	.....	.....
65	63.5	64.5	65	65	65	25.5	33	39.5	44.5	48.5	50
58	64	64	67	65	65.5	.....	.....	34	39	41.5	42
81	81.5	82.5	82	82	84.5	41	50	56	63.5	66.5	68
50.5	61.5	63	61	61	61	24	31	39	44.5	49.5	48
242	249	249	248	248	250	109	131	157.5	178	190	202
86	87	90	87	86.8	84.5	.....	.....	.....	68	73	76
84	84.5	83	85	85	88	.....	.....	.....	72	75	78
287	293	290	290	289	290	142.5	165.5	203	228	244	252
84	83.5	84.5	83	84	84	55	58.5	65.5	68	71	75
22	22	22	21.5	22	22	14.5	16.5	18	19	20	20.5
54.5	56	55	55	53	55	32	37	41	45	48.5	51
22	22.3	22	22	22	22	.....	15	17.5	19	21	21
101.5	104	103.5	105	104	103	.....	.....	74	92	100	96

STEER 507 (Cont.)											
1-30-09	2-22-09	3-27-09	5-1-09	5-20-09	7-1-09	8-2-09	8-30-09	10-1-09	11-1-09	11-30-09	1-1-10
865	889	914	947	970	997	1013	1010	1026	1033	1015	1020
M	M	M	M	M	M	M	M to G	M to G	M to G	M to G	M to G
131.3	132.5	133	134	134.5	136	137.5	138	138.5	138.8	138.8	140
91.5	92	92.5	93	93.3	94.3	94.3	94.5	95	95.8	96.5	97
135	135.5	136.3	137	137.5	138.5	139.5	140.5	140.5	141	141.8	142
114	116	116.8	117	117.3	117.3	117.8	118.3	120.5	121.5	123	123.5
.....	.....	164	164	164.3	164.5	164.5	166	167	168.5	172	173
46	46	46.8	47.3	47.5	48	48.5	48.8	48.8	49.3	49.5	49.5
37	37.3	38	38.3	38.5	38.5	38.5	38.8	37.5	38	38.3	38.5
68.5	70	70.5	71	70.5	71	72	72	72.3	74	74	75
34.5	34.5	34.3	34	35.5	26.3	37.5	36	36.5	37	37.5	38
179	179	176	181	182	182	187	187	186	190	192	195
62.5	64	63	64	64.8	67.5	67	67.5	65	64.8	69	69
54.5	57.5	60	61.3	60	61.5	63	62.5	57	67.3	66.8	66
198	205	208	208	209	212	217	215	202	203	208	210
78.8	79	79.5	79.5	80	81	81	81	81.3	83	83.3	84
18.3	18.4	18	18	18	18.5	18.8	19	19.8	20	20	20
52	52	52	52	52.3	52.5	53	54	54	54.3	55	54.5
10	10	10.6	10.6	10.6	10.8	10.8	10.8	10.8	10.8	10.8	10.8
93	93	93	95	96	97	99	99	100	102	102	102.5

OF STEERS IN CENTIMETERS.

STEER 502 (Cont.)

1-23-09	2-27-09	3-27-09	5-1-09	5-29-09	7-1-09	8-2-09	8-30-09	10-1-09	11-1-09	1-30-09	1-5-10
909	947	941	987	983	998	991	982	992	990	1006	1000
M	M	M to G	M to G	M to G	M to G	M	M to G	M to G	M	M	M
130	130.5	132.3	132.5	132.5	135	136	137.5	137.5	137.8	138	138.5
91.5	91.5	91.5	92	92	92.8	93.3	94	94	94	95	96
134.3	134.8	135	135.3	135.3	137	138.5	140	139.5	139.8	140	140
108.5	111	112	112	113	113.5	115	116	116.5	116.5	116.8	117.5
44.6	45.8	155	157	157	158.5	160	162	163	163.5	164	163.5
35.6	36	46	46	47	47.5	47.5	47.5	48.3	48.3	48.5	49
66.3	67	36.3	36.5	36.5	36.8	37	37	37	37	37	37
37.5	37.8	68	68.5	68.3	68.5	69.3	70	69	69.5	70	70
180	181.5	37	37.5	38	38.3	38.5	38.8	40	42	42	40
62	62	180	180	182	183	185	185	185	185	187	189
56	57	63.3	63.5	64.5	65	66.8	64	65.5	64.5	64.8	63
194	203	57	57.3	57.5	56.5	58	55.5	56	53.3	53.8	52
80.5	80.5	195	197	208	200	205	200	200	193	197	194
20	20.5	80.5	81	81	81.8	82.3	82.5	82.5	83	84	84
52	52	19	19	19	19	19.5	19.8	20	20	20.3	20.3
20	20.3	52.5	53	53	53	53.5	53.8	54.3	54.5	55.5	55.5
88.5	92	20.3	20	20.3	20.5	20.5	20.5	20.5	20.8	20.8	20.8
		91	90	90	91	92	92	92	91	92	91

STEER 502 (Cont.)

STEER 509

10-1-10	11-4-10	12-2-10	2-22-08	5-27-08	9-7-08	10-28-08	12-2-08	1-2-09	1-30-09	2-27-09	3-27-09
1132	1164	1156	487	587	634	654	683	694	690	730	760
M	M		T to C	T to C	T to C	T to C	F	F	F	F	F to C
140.5	142.5	143	111	118	124	124.5	124.8	125.3	126.5	127	127.5
99	102	102	80	84	87.5	88	88.3	89	89	89.5	90.5
142.5	144.3	143.5	115	120.5	126.5	127.5	128	128.8	129.5	130.3	130.5
124.5	120	121	91.5	97	98	101.5	103	102.5	105	105	106.5
170	168	169									148.5
51.5	51.5	51	35	36.5	39	39	40	41	41.8	42	42.3
38.5	38	37.8	28	31	31.5	32	33.3	33.3	33.8	34.3	34.3
72	72.5	72.5	54	57.5	59.5	59.5	61	61.5	62	63	63
40.5	40	38.5	32	32.5	34.5	32.5	31.8	31.8	32	32.5	32.5
193.5	198	198	147.5	154	158	157	160	160	165	165	164
68	70	70		54	56.5	56.5	57.8	56.8	56.5	59	57.3
54	55	52.5		50.5	48	50	49.5	49.5	51.5	53	53
205	213	205	161	180	175	175	172	171	180	189	187
85.5	87	88	68.5	70.5	76	77	76.8	77.9	77.9	78	79.3
21	21	21	17	17.5	18	18	18.1	18.3	18.3	18.3	18.3
56	56	55.5	40	42.5	46.5	47.5	47.5	48.5	48.5	48.5	49
21.5	21	21.5	14	17	17.5	17.5	18	17.8	18	18.3	18.4
94	95.5	96	84	83	78	80	77	78	79	81	80

STEER 509 (Cont.)

1-6-10	2-4-10	3-5-10	4-2-10	5-7-10	6-1-10	7-8-10	8-1-10	8-31-10	10-1-10	11-4-10	12-2-10
830	860	875	905	870	882	912	945	931	969	977	982
C to M	C to M	C to M	C to M	C to M	C to M	C to M	C to M		C to M	C to M	
135	135.5	136.5	137	137	137.5	137.8	138	138.3	137	140	140
96	96.5	98	98.3	98.3	99	99	98.5	98	97.5	98	98.5
136.5	137	138	138	139	139	138.5	138.5	140	139.5	139	139
114	115	116	116.3	116.8	117.5	115.2	116	118.5	117.5	116.5	116
159	158	159	160	159	161	162		162.3	163	162	161.5
45	45	46	46	46	46.5	47	47	47.8	47.5	48.5	48.5
37	37.3	37.5	37.8	37.5	38	38.8	38.5	40	39	41	41
66	66.3	66	67	67	67.3	69	68	70.3	69	70	67
36	36.5	37	38	38.5	39	38.5	39	35.3	40	39.5	40.5
176	177	180	180	180	179	180	180	179	181	186	186
61	61.5	62	62	61.5	62	66.3	63	65.5	67.5	67.5	67
51	52	53.5	53.8	53.5	54	60	56.5	57.5	60	57	58
185	195	195	193	195	200	202	201.5	205	205	214	204
82.5	83	83	83.3	84	84	83	83.3	80	85	84.5	84.5
20	20	20	20	20	21	20.5	20	20.5	20.5	21	20.5
51	51	52	52	53	52.8	51.5	52.5	52.5	53	51.5	52
19	19.3	19.3	19.3	19.5	19.8	19.3	19.8	20	20	20	21
87	87	87	88	89	89.5	89	89.5	88	88	90	90.5

TABLE 47.—MEASUREMENTS

STEER 512

Date of measurement	2-28-08	5-27-08	9-7-08	10-28-08	12-2-08	1-2-09	1-30-09	2-22-09
Weight of animal in lbs.	581	711	790	842	855	894	886	930
Condition of animal	C to M	C to M	C to M	M	M	M	M	M
Height at withers	121	128.5	132	134	136	136.5	137	138.3
Height shoulder to ground	82.5	88	93	91.5	93	93	93	93
Height at hips	123.5	129	131.5	133.5	135	135.8	136.8	138
Length shoulder to hips	101	103	107	107.5	109.3	112.5	112.5	113
Length shoulder to ischium								
Width of hip	38.5	42.5	44.5	45.5	46	47	47.5	47.8
Width of loin	30	33	36	36.5	37	37.5	37.5	38
Depth of chest	59	68	68	68	68.3	70.5	71.5	72
Width of chest	35	38.5	39	37	37.5	37.5	37.8	38
Girth of chest	157.5	171	176.5	179	179	183	187.3	186
Depth of paunch		62	63	63.5	63.5	64.3	64.5	65
Width of paunch		56	56	57	57.5	57	58.5	59
Girth of paunch	175.5	190	200	200	196	198	204	205
Length of foreleg	71	75.5	77	80.5	81	81	81	81.8
Circumference of shin	16.5	18	18.5	18.8	19	19	19	19.3
Length of head	44.5	47	50	51	51.5	52	52	52
Width of jaws	16	18	19	19	19.2	19	19	19
Girth of throat latch	77.5	85	87	85	89	89	91	90

STEER 512 (Cont.)

Date of measurement	4-2-10	5-7-10	6-1-10	7-8-10	8-1-10	8-31-10	10-1-10	11-4-10
Weight of animal in lbs.	1081	1065	1116	1150	1167	1184	1221	1247
Condition of animal	M	M	M	M	C to M	M	M	M
Height at withers	145.5	146	146.8	148.5	147.8	149.3	148.8	151
Height shoulder to ground	100	100	100	100	101	101	101.5	101.5
Height at hips	145	145	145.8	146.3	147	150	149.8	149
Length shoulder to hips	122.5	122	121.8	124	123	125	123.5	126
Length shoulder to ischium	168	169	169			172.5	172	170.5
Width of hip	52	52.5	53	53.3	53.5	54.5	54.5	53.5
Width of loin	41.5	41.3	41.5	45.3	43	44.3	44	44
Depth of chest	77	77.5	76	76.8	76.5	79.3	70.5	79
Width of chest	43	43	43.5	42	45	42.5	43.5	46.5
Girth of chest	201	202	203	200	204	204	206	215
Depth of paunch	67.5	67.5	68	68	70	72.5	73.5	74.5
Width of paunch	58.3	58	59.3	62.5	66	64.3	64.5	65
Girth of paunch	212	215	215	219.5	230	224.5	232	224
Length of foreleg	87.5	88	88	88.5	87	87	87.5	92
Circumference of shin	20.5	20.5	21	21	21	21.5	21	21
Length of head	55	55	55.5	53	55	56	55	54
Width of jaws	20	20.3	20.5	19.5	19.5	20.8	20.5	20
Girth of throat latch	94.5	95	95	95.5	94.5	95	94	97

STEER 508 (Cont.)

STEER 523

Date of measurement	8-2-09	8-30-09	10-1-09	2-22-08	5-27-08	0-8-08	10-20-08	12-2-08
Weight of animal in lbs.	746	790	852.5	330	447	530	575	590
Condition of animal	C to M	C to M	C	F	F	F	F	F to C
Height at withers	126	126	126	98	106	112.5	113.5	116
Height shoulder to ground	85	85.3	86	69	74	78.5	79.5	80
Height at hips	128.5	129	129.5	101.5	111	117	117.5	119
Length shoulder to hips	110	110	111	83	89	95.5	97.5	98
Length shoulder to ischium	148	149.5	152					
Width of hip	43.5	43.8	44	20	34	37	38	39
Width of loin	33	33.5	34	23	27	29.5	29.5	30.6
Depth of chest	63.5	63.5	63.5	46	54.5	54.5	56.3	57.5
Width of chest	33.8	34	34	26	30	30.5	30.5	30.3
Girth of chest	167	167	170	126	139	144	149.5	150
Depth of paunch	59.5	60.5	63		54.5	57	57.5	58.5
Width of paunch	53	51	54.5		47.5	51	54	52.5
Girth of paunch	190	187.5	195	140	161	181.5	182	172
Length of foreleg	76.5	76.8	77	60	63.5	70	71	71.5
Circumference of shin	18.3	18.5	18.5	15	15.5	16.5	16.5	17
Length of head	51	51	52	36	39.5	45.5	45	47
Width of jaws	18.5	18.8	18.5	14	15.5	16.5	17	17
Girth of throat latch	86	86.5	86	74	76	70	75	76

OF STEERS IN CENTIMETERS.

STEER 512 (Cont.)

3-27-09	5-3-09	5-29-09	7-1-09	8-2-09	8-30-09	10-1-09	11-1-09	11-30-09	1-5-10	2-4-10	3-5-10
946	983	991	978	992	1017	1040	1042	1060	1043	1070	1093
M	M	M	M	M	M	M	M to G	M to G	M to G	M to G	M
139	140.5	140.5	141.5	141.5	142.5	142.8	143	144	144.5	144.8	145.5
94	94.5	94.8	95.5	96	96.5	96.8	97	98	99	99	100
139	140.5	140.8	141.3	142	142.5	142.8	142.8	145	145	144	145
115	114.5	115	115.3	117	118	118.5	118.8	120	121	121	122
160	160.5	161	161	163	164	165	165.5	167	167.5	167.5	168
48.3	49.3	49.5	50	51	51	51	51.3	51.5	51	52	52
39.3	39.8	40	40.5	40.8	40.8	40.8	41	41.3	41	41.2	41.5
72	72	72.3	73	73.5	74	74	74.5	74.8	75	75.5	77
38.5	41	41	41	40.5	40.5	41	42	42	41	42	42.5
185	186	186	189	191	192	192	200	200	200	200	200
64	65	65.5	65	66	67	66	66.5	68	66	67	67
59.3	62	60.5	60.5	62.5	62.5	59	59	58	56	58	58
206	205	207	213	215	215	211	215	213	210	213	213
82.5	83	83	83.5	83.5	84	84	84.3	85	85.5	86	87
19	18.8	19	19	19.3	19.5	20	20.3	20.5	20.5	20.5	20.5
52.5	52.5	52.5	52.8	53	53.5	53.5	54	55	55.5	55.5	55
19	18.6	19	19	19	19	19.5	19.8	19.8	20	20	20
89.8	89	89	89	91	91.5	91	92	93.5	94	94	94.5

STEER 512 (Cont.)

STEER 508

12-2-10	1-6-11	2-2-11	2-25-11	2-22-08	5-27-08	9-7-08	10-28-08	11-16-08	.....	6-2-09	7-1-09
1260	1222	1231	1250	425	563	653	676	706	.....	675	743
.....	M	.....	.....	M	M	M	M	M	.....	C	C
151.5	152	153	153	102	111	117.5	118	119	.....	125.5	125.8
102	101	101	101	71	75.5	82	82	82	.....	84	84.3
149	149.5	149	150.5	107	114	121	121	122	.....	127.5	127.5
125	126	127.5	127	92.5	94	102	103	103.8	.....	105.5	108
171	172	172	171.5	.....	.....	.....	.....	.....	.....	144	144
55.3	56	55	56	32	37.5	40	40.5	41.3	.....	42	42.5
43	43.5	43	43.5	24	28.5	30	30.5	32	.....	32.5	32.8
80	77	79	80	50.5	57	60	60	61.3	.....	63.3	63.5
45.8	45	44.5	44.5	31	33	34.5	32.5	34.8	.....	32.5	32.8
212	210	210	210	136	151	158	159.5	162	.....	169	164
68.5	70.5	70	72	.....	59	60	57	59.5	.....	57.5	60.5
62	60	62	62	.....	54	53.5	48.5	53	.....	46.3	54
227	220	221	220.5	152.5	185	184	175	185	.....	170	172
91.5	88	87	88	63.5	67.5	72	73.5	74	.....	76	76.3
21	21	21	21	16	17	17	17.5	17.6	.....	17.8	18
54	55	56	55	38	43	45.5	48	48	.....	49	49.5
20.5	20.5	20.5	21	16	16.5	18.5	18	18	.....	18.3	18.3
96	98	97	100	72.5	81	86.5	84.5	85	.....	86	86

STEER 523 (Cont.)

1-2-09	1-30-09	2-27-09	3-27-09	5-3-09	5-29-09	7-1-09	8-2-09	8-30-09	10-1-09	11-1-09	11-5-09
615	615	651	684	734	738	800	809	810	847	876	870
C	C	C	C	C to M	C to M	C to M	C to M	M	M	M	M
116.5	118	119.8	120.3	123.5	124	124.8	126.5	127	128	128.8	128.8
80.5	81.3	81.8	83	82.5	82.5	83	86.8	87	87.5	88	88
121	123	124.5	125	126	126	127.5	129.5	129.5	129.3	130	130
99.5	102.3	102.5	104.5	105	105	108.5	109	110	111.5	112	112
.....	.....	.....	143.5	146	146	148.5	151	152	154	155	155
40	40.3	40.8	41.5	42	42.8	43.5	44.3	44.5	45	46	46
32.1	33	33.3	34	34	34.3	34.8	35	36	36.5	37	37
58.5	60	60	60.5	61.5	62	63	64	64.3	65	66	66
31.5	31.3	31.3	31	34	34.3	34.3	34	34.3	35	36	36
150	158	159	160	160	163	164	169	170	172	175	175
54	55.3	56.5	58.5	59	59.5	61	62	62.5	63	63.8	63.8
53	54	55.6	56	57	56.8	58.5	59	59.5	59.5	59.5	62
180	188	191	190	192	195	196	200	201	202	205	210
72.2	73	73.8	74	74.6	47.8	75.3	75.5	75.8	76	76.5	76.5
17	17.3	17.3	17.5	17	17.3	17.3	17.5	17.8	19	19	19
49	48.5	48.5	49.3	50	50	50.5	50.5	51	52	52.5	52.5
17.3	17.8	17.8	17.5	18	18	18.3	18.5	18.5	18.5	19	19
77	81	81	80	81	83	83	85	85.5	86	87	87

TABLE 48.—MEASUREMENTS

STEER 513

Date of measurement.....	8-16-07	11-15-07	2-22-08	5-27-08	9-7-08	10-27-08	12-1-08	1-2-09
Weight of animal in lbs.....	347	570	722	905	1062	1107	1127	1170
Condition of animal.....	M	M	M to G	G to Ch	G to Ch	G to Ch	G to Ch	G to Ch
Height at withers.....	96	112	119	124	128	129.5	130	131
Height shoulder to ground.....			83	87.5	90	92	92	92
Height at hips.....	103	117	123.5	128.5	133	136	136.5	136.8
Length shoulder to hips.....	87	94.5	104.5	110.5	111	111	114	116.5
Length shoulder to ischium.....								
Width of hip.....	27.5	37	41	45.5	49	50	50.8	52
Width of loin.....			33	33.5	37.5	38.5	38.5	39.5
Depth of chest.....	46.5	56	59	66	69	69.5	71	72
Width of chest.....	25.5	32	47.5	42	43.5	43	43	42.5
Girth of chest.....	135	152.5	162.5	178	188	195	195	195
Depth of paunch.....					70	70	71.5	68.5
Width of paunch.....					69	72	72.5	72.8
Girth of paunch.....	150	185.5	195.5	216	228	235	233	235
Length of foreleg.....	60	67.5	71	73	76	80.5	80.8	80.8
Circumference of shin.....	16.5	18	18	18	20	20	20	20
Length of head.....	34	41	44	47.5	50.5	52	52	53
Width of jaw.....	12	16	18.5	18	18.5	19	19.5	19
Girth of throat latch.....	73.5	76	86.5	93	88	91	91.5	94.8

STEER 513 (Cont.)

Date of measurement.....	2-4-10	3-5-10	4-2-10	5-2-10	6-1-10	7-8-10	8-1-10	8-31-10
Weight of animal in lbs.....	1634	1620	1656	1625	1690	1722	1730	1780
Condition of animal.....	P	P	P	P	P		P	P
Height at withers.....	141	141.5	142.3	142.5	143	142.3	142.5	144.3
Height shoulder to ground.....	98	98	98.5	99	99	98.5	99.5	97.5
Height at hips.....	143	144	144.5	145	146	144.5	147.5	145.3
Length shoulder to hips.....	126	126.5	126.5	126.5	126.8	124	127	128.5
Length shoulder to ischium.....	173.6	174	174	174	175			182.8
Width of hip.....	59	59.3	59.3	59.3	59.5	62.8	61	53.3
Width of loin.....	46	46.5	47	47.3	47.8	50.5	48	48.3
Depth of chest.....	80	82	80.5	80.5	81	79.5	81	83.3
Width of chest.....	52	54	55	54.5	54.8	53.5	54	55.3
Girth of chest.....	234	237	236	235	237	233.5	235	236.5
Depth of paunch.....	81	81.5	79.5	79.3	81	78.5	81	81.8
Width of paunch.....	82	78.5	79	77	76.5	76.5	76.5	81.8
Girth of paunch.....	266	265	267	266	268	264	270	269.5
Length of foreleg.....	87	87.5	87.5	87.5	87.5	83.3	87	92.5
Circumference of shin.....	21.5	21.3	21.5	22	22	22.5	22	22.5
Length of head.....	55.5	56	56	56	56.6	55.5	55.5	55.5
Width of jaws.....	21.3	21.3	21.3	21.3	21.5	21	21.5	21.3
Girth of throat latch.....	99	99	100	100	100	102.5	102.5	101.5

STEER 525 (Cont.)

Date of measurement.....	5-3-09	5-31-09	7-2-09	8-2-09	8-30-09	10-1-09	11-5-09	4-13-09
Weight of animal in lbs.....	572	608	621	649	650	665	700	98
Condition of animal.....	F	F	F	C	C	C	C	C
Height at withers.....	121.5	123	123	123.5	123.5	123.8	124.8	73.8
Height shoulder to ground.....	82.5	83	83.5	84	84	84.3	85	54
Height at hips.....	123	124.5	125	125.5	125.5	125.8	126.8	79
Length shoulder to hips.....	101	101	101.5	102.5	103.3	104	105	52
Length shoulder to ischium.....	136	136.5	138	140	141.5	142.5	144	72
Width of hip.....	37.5	38.3	38.8	39	39.8	40	40.5	18.8
Width of loin.....	30	30	30.3	30.8	31	31	31.5	14.8
Depth of chest.....	59	60	60	60.3	60.5	61	62	30
Width of chest.....	29	29.5	29.5	29.5	30	30.5	30.5	16
Girth of chest.....	149	150	153	154	155	157	160	78
Depth of paunch.....	56	55.5	56.5	56.5	56.5	56.5	60	26.3
Width of paunch.....	56	56.5	52	52	53	53	54	19.5
Girth of paunch.....	180	169	176	182	182	178	189	76
Length of foreleg.....	71.5	72	72.5	73	73	73	73.8	49
Circumference of shin.....	16	16	16.3	16.3	16.5	16.8	17	11
Length of head.....	48.3	48.5	48.5	49.3	50	50.5	51	25
Width of jaws.....	17.5	17.8	17.8	18	18.3	18.3	18.5	10.5
Girth of throat latch.....	78	78	78	78	78	78.5	80	45

STEER
539

OF STEERS IN CENTIMETERS.

STEER 513 (Cont.)

1-28-09	2-22-09	3-26-09	5-1-09	5-27-09	7-2-09	8-2-09	8-30-09	10-2-09	11-1-09	11-30-09	1-5-10
1215	1200	1250	1284	1366	1403	1427	1470	1502	1570	1600	1635
Ch	Ch	Ch	Ch	Ch	Ch	Ch to P	P	P	P	P	P
132	132.5	134	134.5	135.3	136.5	138	138.5	139.5	140	140.5	140.5
92.8	92.8	93.3	93.5	93.8	95	95.5	95.8	96	96.5	98	97.5
137.8	138.3	138.5	138.8	138.8	139.3	140	141	141	141.5	142	142.5
117.8	117.5	118.8	119	119.5	120	122	122.5	123	123.5	125.5	126
52.3	52	52.3	53.3	55	55.3	56.5	57.3	58	58	59	59.5
40	39.5	39.8	40	40	40.3	42	43	44	44.5	45.8	46
73	73.3	73.3	73.8	74.3	75.3	76.5	76.5	76.5	77	78	79
45	43.5	44.8	44.3	44.5	47	47	47.5	47.5	48.8	51	51
202	199	199	202	205	213	215	216	220	225	227	230
71	72	72.5	72.3	72.5	75	78	77.5	80	78	78	80
73.5	69	70	73	77	78.5	80	79.5	80	83	86.5	86
238	231	235	249	250	250	263	263	264	260	267	265
80.8	80.8	81.3	81.5	81.8	82	82.5	82.8	82.8	83	85	85
20	20	19.9	20	20	20	20.5	21	21.5	21.8	22	22
53	53.3	53.3	53.3	53.3	53.5	54	54	54.5	55	55.5	55.5
19.3	19.3	19.4	19.4	19.4	19.5	19.5	19.5	20.3	21	21.3	21.3
93.5	96	95.3	95.5	95.8	96	96	96	96.3	97	98	99

STEER 513 (Cont.)

STEER 525

10-1-10	11-4-10	12-2-10	2-22-08	5-27-08	9-8-08	10-29-08	12-2-08	1-2-09	1-30-09	2-27-09	3-27-09
1787	1845	1896	330	412	465	466	474	477	480	531	550
O	O	O	T	T	F to T	F	F	F	F	F	F
142.8	144	145.3	97	107.5	112.5	114.5	115	115.5	115.8	117.8	118.3
99.8	98	98.5	68.5	74	79	80	80.5	80.5	80.5	81.5	82
145.5	147	147.5	102	110	115.5	116.5	116.5	117.3	120	121	121.5
126.5	131	132	86.5	90	93	92.5	93	95	97	99	100
183	191	188	188	188	188	188	188	188	188	188	188
61	65.5	64.5	28	32.5	35.5	34.5	35.8	35.3	36	36.3	36.8
52.5	53	54	23	26	27.5	27.5	28.7	27.5	27.8	28	30
84	84	82.5	47	52	53	54	55	55	56.5	57.3	58
55	60.5	55.8	26.5	28.5	27.5	27	27.5	27.5	27.5	27	27.3
236	242	246.5	123	139	138	140	143	143	146	146	147
82	82.8	82.5	51	50.5	52	51	52	51.5	50	51.5	52
79	81.5	78.5	42.5	42.5	47	46.5	44.5	43.5	45	45	47.5
228	273	282	131	157	167	165.5	160	153	154.5	165	167.5
87	85	85.5	59	62	68.5	69.5	69.3	70	70	71	71.5
22.5	23	22.5	15.5	16	15	15.3	15.5	15.5	16	15.5	16
55.5	56.5	55	36	41	44.5	45.3	45.5	46.5	46.5	46.3	47
21.5	21.5	22	15	16.5	17	17	17	17	17.4	17.6	17.8
100.5	105	105	63.5	71	70	71	74	72	75	79	78

STEER 539 (Cont.)

STEER 542

5-5-09	5-31-09	7-2-09	8-3-09	9-1-09	10-2-09	4-20-09	5-31-09	7-3-09	8-3-09	9-1-09	10-1-09
118	150	215	280	334	363	193	211	262	310	376	430
T to F	C	M to C	M	M	M	G to Ch	F to C	F to C	C	M	M
75.3	78.8	85.5	90	94	96.5	84	88	92.5	96.5	98.5	104.3
55.5	56.5	61	65	67	69.5	63	65.5	68.5	70	71	74
79	82	88	95	98	100.5	89.5	93	98.5	101.5	104.5	109
56.5	59.5	66	74.5	80	83	82.5	79	73	79.5	82	85.5
78	83.5	91	103	108	113	90	96.5	100.5	110	114	120
19.8	21	24	27	29	30	28	24.3	26	28.5	30.3	32.3
15.5	17.3	19.8	21.5	23	24.5	18.3	18.8	19.8	21	22.5	23.3
30	33	37	42	44.5	47	36	37.3	40	43	45	47
84	90	102	113	120	124	20.8	22.5	23	24.5	26	28.5
32	33	36.5	41.5	45.5	46.5	33	34.5	39	42	47	49
22.5	24	26.5	32.5	38.5	38.5	24.5	27	29	35	41	41.5
92	100	113	131	146	149	97	111	119.5	140	150	157
50.5	51.5	55	58.5	60	62.5	56.5	59	62	64.5	65.5	67
10.5	11	12.3	13	14	14.3	12	12.5	13	14	14.5	14.8
25.5	28	30.3	33	35	36.5	28.8	30.3	32.5	35	37	38.3
10.5	10.8	12	13.5	14	14.3	12	12.5	12.8	13	14	15
44	48	52	59	61	63	52	54	60	62	64	66

TABLE 49.—MEASUREMENTS

STEER 521

Date of measurement	8-16-07	11-15-07	12-14-07	12-28-07	1-1-08	1-10-08	1-22-08	2-1-08
Weight of animal in lbs.	391	542	595	620	626	634	656	665
Condition of animal	M	M	M	M	M	M	M to G	M to G
Height at withers	102	112.5	114	114	114.5	115	115.5	116.5
Height shoulder to ground			81	81	81.5	81.5	82	83
Height at hips	108.5	114.5	120	120	120	121	122	123.5
Length shoulder to hips	84	89						99
Length shoulder to ischium								
Width of hip	36	38	38	38	38	38	39	38
Width of loin								30.5
Depth of chest	54	56	55	56	57	57	57.5	58
Width of chest	33	34.5	37	37	37	36	36	38
Girth of chest	130	147.5	147.5	152.5	152.5	152.5	155	161.5
Depth of paunch								
Width of paunch								
Girth of paunch	156.5	180.5	178	178	183	185.5	187	185.5
Length of foreleg	62.5	65	66	66	66	66	66	69
Circumference of shin	15	16.5						17
Length of head	36	39.5						41
Width of jaws	15	17						19
Girth of throat latch	71	76						81.5

STEER 521 (Cont.)

Date of measurement	10-1-08	11-2-08	11-30-08	1-2-09	1-30-09	2-22-09	3-27-09	5-3-09
Weight of animal in lbs.	670	645	825	874	810	870	937	1005
Condition of animal	F to T	T	T	C to M	C to M	C to M	C to M	M to G
Height at withers	126.5	127	127.5	127.8	128	128.8	131	132
Height shoulder to ground	85	85	86	87.5	87.5	88.5	89.3	91.8
Height at hips	133	132	132.5	132.8	133	133.5	133.5	134
Length shoulder to hips	109	109.5	111	110.3	111.5	111.5	113	115.5
Length shoulder to ischium							159	162
Width of hip	43.5	44	45.5	46.5	47	47.3	48.3	50
Width of loin	33	33.8	34.5	35.3	35.8	36	36.5	38
Depth of chest	62	63.5	64.5	66	66.3	67	68	69
Width of chest	25	32	35.5	35.5	35.8	36	36.8	39
Girth of chest	160	158	166	172	176	174	173	180
Depth of paunch	56	56.5	61.5	64.5	64	63	62.5	70
Width of paunch	50	51	51.5	61	61	58.5	60.5	69
Girth of paunch	175	175	197	204	203	199	199	225
Length of foreleg	76.5	77	77.3	78	78	78	78.3	78.5
Circumference of shin	16.5	16.5	17.3	17	17	17	17.1	17
Length of head	48	48	49	49.5	49.5	50	50.5	51
Width of jaws	18.5	18.8	19.3	19.7	19.5	19.8	19.8	19.5
Girth of throat latch	80	82	84.5	85	85	85	85	86

STEER 522 (Cont.)

Date of measurement	3-2-08	3-11-08	3-21-08	3-31-08	4-11-08	5-2-08	5-30-08	6-30-08
Weight of animal in lbs.	452	500	538	554	539	605	683	720
Condition of animal	T	F	F	C	C	C	C	M
Height at withers	116.5	116	117.5	117	117	118	120.5	125
Height shoulder to ground	81	81.5	82	83	84	85	84.5	86
Height at hips	120.5	121.5	124	124	124	125.5	129	131.5
Length shoulder to hips	97	96	98	99	103	104	101.5	105
Length shoulder to ischium								
Width of hip	35	35.5	36.5	37.5	37	38.5	40	40
Width of loin	27	28	28.5	28.5	28	28	31	31.5
Depth of chest	55	57.5	58	58	57.5	60	63	64
Width of chest	30	30	32	32	33	34.5	38	38.5
Girth of chest	144	147	148	149	148	154	163	169.5
Depth of paunch							62.5	64.5
Width of paunch							61	61
Girth of paunch	161	170	176	175.5	164	190	201.5	204
Length of foreleg	69	70	70	70	70	72	73.5	74
Circumference of shin	16	16	16.5	16	16	16.5	17.5	17.5
Length of head	43	44.5	45	45.5	45	46	48.5	49
Width of jaws	15	15	15.5	15.5	16	17.5	17	17
Girth of throat latch	75	73	76	76.5	78	83	81	83

OF STEERS IN CENTIMETERS.

STEER 521 (Cont.)

2-10-08	2-22-08	3-2-08	3-11-08	3-21-08	4-1-08	4-11-08	5-2-08	5-30-08	6-30-08	8-1-08	9-7-08
667.5	669	666	671	670	660	666	660	674	682	645	665
G	G	G	G	M	C	C	C	F	F	F to T	F to T
116.5	119	120	199	121	121	119	121	123	125	124.5	125.5
80.5	82	81	82	83	82	87	84	82	86.5	87	85
123.5	124	124.5	126	127	126	126	128	128.5	130.5	131	132
99	99	100.5	100	102	103	104	104	.....	106	107	107.5
38	41	41.5	41.5	41.5	42	42	42	42.5	43	43	43.5
31	31	31.5	32	32.5	32	33	33	30.5	33	32.5	33
58	58.5	59	60	61	61.5	61	61.5	61	61.5	62	62.5
38	39	39.5	37	36.5	36	38	37.5	36.5	36.5	35	35
151.5	157.5	160	159	160	162	160	160	160	161	160	159.5
183	185.5	178	179	179	181	181	172	177.5	184	181	176
69	69	70	71	71	72	74	72	72	72.5	72	73
17	16	16	16	16.5	16.5	16	16	17	16.5	16.5	17
41	42.5	42.5	44	44	44	44	45	45	46	47	47
19	19	19	19	19	19	17.5	18.5	18	18.5	18.5	18.5
83	81.5	81.5	81	81	83	88	85	86.5	86	85	81

STEER 521
(Cont.)

STEER 522

6-7-09	7-1-09	8-16-07	11-15-07	12-14-07	12-24-07	1-1-08	1-10-08	1-22-08	2-1-08	2-10-08	2-22-08
1054	1051	406	392	396	411	388	381	391	384	388	425
G	G	M	C to M	C	C to F	F	T	V T	V T	V T	T
132.8	134	100.5	111	116	112	112	110.5	116.5	114	113	115
92	92.3	.....	.....	76	78	79	79	79	79	79	81
134.5	135	112.5	115	121	117	117	117	117	117.5	119.5	118.5
116	116	88.5	90.5	.....	.....	.....	.....	.....	94.5	97	97
162	162	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
51	50.8	30.5	32.5	33	33	33	33	33	33	34	34.5
38.8	38.5	.....	.....	.....	.....	.....	.....	.....	.....	26	26
69	69.5	51.5	52	52	52	52	53	53	54	53	54
40	40	29	29	23	23	24	24	24	20	30	29
183	183	132	136	135	135	135	135	135	137	139	138.5
68	64.5	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
68.5	63.5	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
220	212	152	152	146	145	141	140	140	145	158	151
78.8	79	66	69	66	67	67	67	67	66	66	67.5
17.3	17.3	16	16	.....	.....	.....	.....	.....	15	15	15
51	51	39.5	41	.....	.....	.....	.....	.....	41	41	43
19.5	19.5	14	14	.....	.....	.....	.....	.....	14	14	15
87	87	70	72.5	.....	.....	.....	.....	.....	72.5	74	72.5

STEER 522 (Cont.)

8-1-08	9-7-08	10-1-08	11-2-08	11-30-08	1-2-09	1-30-09	1-22-09	3-27-09	5-3-09	6-7-09	7-1-09
761	817	816	855	873	867	857	860	885	890	860	982
M	M	M	M	M	M	M	M	C to M	C to M	C to M	C to M
126	126.5	127.5	130	130	131	131	131.5	132.3	132.5	133	135
87	89	89	89	83.8	90	90	90.8	92	93	93.3	94.3
132	133.5	131	133	133.3	133.5	133.5	135.5	135.5	136	136	137
106	111.5	111.5	113	115.5	116	116.5	116.3	115	117.5	116	118.5
42	45.5	45	46	46.8	47	47.8	47.5	47.8	48.3	48	49.3
32	34.5	35	35.5	36.1	36.5	36.3	36.3	36.6	38	37.5	37.8
65.5	66	66	66.5	66.5	67.8	68.8	69	69.3	69.3	69.5	70
38	38.5	39.5	40	39.8	38.5	38.8	38.5	38	38.5	38.3	39
169	175	173	175	178	176	179	179	179	178	178	183
63	67.5	64	66.5	66.5	62.5	64	64.5	64.5	66	63.5	68
57	68	66	67.5	66.5	62	64.5	60	61	63.5	58	66.5
193.5	218.5	202	218	215	204	207	198	202	215	195	222
74	76.5	78.5	79	78.8	79	79.5	79.3	80	80	80.5	81
17.5	18	18	18	18.2	18.3	18.3	18	18	17.8	18	18
49	51.5	50.5	52	52.4	53	53	53	53.3	54	53.5	53.5
17	17.3	17.5	17.5	17.5	17.6	18	18	17.8	17.9	17.8	18
85	87	86	86	87	87	88	86.5	86	85	85	86

TABLE 50.—MEASUREMENTS

	11-8-07	2-22-08	5-27-08	9-8-08	10-28-08	12-2-08	1-2-09	1-30-09
Date of measurement								
Weight of animal in lbs.	178	297	384	432	452	456	470	475
Condition of animal	M	F	F to T	C	F	F	T	T
Height at withers	86	97.5	108.5	113.5	116	116.5	117	117.5
Height shoulder to ground		72.5	76	82.5	83	83	82.5	82.5
Height at hips	93	102.5	113.5	121	121	122	122.5	123
Length shoulder to hips	67.5	77.5	86	92.5	95	96	96	96.8
Length shoulder to ischium								
Width of hip	23	28.5	32	34	34.5	35.2	35.8	36
Width of loin		23	24.5	26.5	27	27.8	28	28.5
Depth of chest	37	45	51.5	54.5	55.5	56.8	57	57.8
Width of chest	22	24	27	27	25	25.3	26	27
Girth of chest	102	122	136	139	141	144	145	149
Depth of paunch			48	48	48.5	50	51.3	51.8
Width of paunch			41	42	41.5	43.3	43	44
Girth of paunch	105.5	135	150	153	153	156	157	161.5
Length of foreleg	56	62.5	67	72.5	75	75	75	75
Circumference of shin	13.5	15	15	15.8	15.5	15.5	16	16
Length of head	28.5	34	39	42.5	44	44	45	45.5
Width of jaws	11.5	11.5	15	16	16	16	16	16.3
Girth of throat latch	54.5	68.5	66	67	67	67	68	68.5

STEER 524 (Cont.)

	3-5-10	4-2-10	5-7-10	6-1-10	7-8-10	8-1-10	8-31-10	10-1-10
Date of measurement								
Weight of animal in lbs.	735	735	710	725	726	746	715	729
Condition of animal	F to C	F to C	C	F to C	T to F	T to F	C	C
Height at withers	131.5	133	133.5	134.3	136.5	135	134.5	135
Height shoulder to ground	93	94	95.5	95	96.5	96	95.5	96.5
Height at hips	136	137	137.5	139	140.5	139.8	139.5	140.5
Length shoulder to hips	112	113.5	113.8	115	115.5	115	120	117
Length shoulder to ischium	150	151	152.5	153	159			156
Width of hip	41.5	43	43	43.8	43	44	44.3	45
Width of loin	33	33.3	33.3	33.5	33	33.5	34.3	35
Depth of chest	66	66.5	67	67.8	67.5	67.5	66.3	69
Width of chest	31.5	31	32	33.5	32	33	32.3	30.5
Girth of chest	170	170	173	171	172.5	170.5	171	170
Depth of paunch	58.5	59.5	59.5	62	57.3	59.5	58.8	58.5
Width of paunch	48	46.5	47	48.5	46	47	45.3	47
Girth of paunch	178	178	178	179	176.5	179	173.5	177
Length of foreleg	84	85	85.5	85	85	85.5	85	85
Circumference of shin	18	18	18.5	18	19	18.5	18.5	18.5
Length of head	51.5	51.5	52	52	52	52	53.5	52
Width of jaws	18	18	18	17.5	19.5	17.5	19	18
Girth of throat latch	81	82	82	81	82.5	81	79.5	79.8

STEER 531 (Cont.)

	8-2-09	8-30-09	10-1-09	11-2-09	12-1-09	1-6-10	2-4-10	3-19-10
Date of measurement								
Weight of animal in lbs.	329	344	360	370	395	432	474	472
Condition of animal	C to F	F	F	T	T	F to T	F	C to F
Height at withers	106	107	108.3	109.5	110	112	114	114.8
Height shoulder to ground	75	76	77	78.5	79.3	80	80	81.5
Height at hips	109	110	111	112.5	113.5	113.8	114.5	115.5
Length shoulder to hips	84	85	85	87	90.5	91.5	93.5	94
Length shoulder to ischium	114	115.5	118	120	125	126	128	131
Width of hip	31.3	31.3	31.5	31.5	33.8	34	34	35.5
Width of loin	23.5	23.5	23.5	24	25	26	27	27.5
Depth of chest	48.8	49.5	50.5	50.5	51.5	52	53	54.5
Width of chest	22	22	22	23.8	24	26	27.5	26.5
Girth of chest	126	127	128	133	136	140	144	146
Depth of paunch	46.5	46.5	46	46.8	50	50.3	51.5	51
Width of paunch	38	38.3	38.5	37	41	43	44.5	42
Girth of paunch	146	147	153	160	160	163	163	160
Length of foreleg	65.8	66	67	68.5	69.3	70	71.5	72.5
Circumference of shin	13.3	14	14.5	14.8	15	15	15	16
Length of head	39.3	39.5	40	41	42.5	42.5	42.5	43
Width of jaws	13.5	13.5	13.5	13.5	14	14.5	14.5	15
Girth of throat latch	64	65	65	67	68	70	72	72

STUDIES IN ANIMAL NUTRITION

OF STEERS IN CENTIMETERS.

STEER 524 (Cont.)											
2-27-09	3-27-09	5-3-09	5-31-09	7-2-09	8-2-09	8-30-09	10-1-09	11-2-09	11-30-09	1-6-10	2-4-10
510	542	566	600	600	607	620	630	685	675	664	700
T	T	T to F	T to F	T to F	T to F	T to F	T to F	F	F	F	F
118.3	119	122	123	123.5	125.5	125.5	126	126.8	127.5	129.5	130
83	85	85.5	86.5	87	87.5	87.5	89	90	90.5	91	91
123.5	124.5	129.5	131	131.5	132.5	133	133.3	134.3	134.5	134.8	135
99	100	104	104.5	105	106	106.3	108	108.5	109.5	110	111
36.5	37	38	38.8	39.5	40	40.3	40.3	40.3	40.5	41	40.5
29	29	30.2	30.8	31.3	32.3	33.3	33	33	33	33.5	33
58.3	59.5	60	61.5	62.3	63	63	63.2	64	65	64	64
27	26	27.5	28.3	28.5	28.5	28.5	28.8	29	29.5	30	31
140.5	149.5	151.5	154	156	158	158	159	160	164	167	167
53.8	53	56	57.3	58.3	57	57.5	57	57.5	59	59	58.8
46	45.8	47	49.3	55	49.5	52	47	47	48	49	48.5
163.5	159	172	179	189	179	180	170	170	176	183	180
75.3	76.5	76.8	77.5	77.8	78.3	79	80.5	80.8	81	81.5	82
16	16.8	16.5	16.5	16.5	16.8	17	18	18	18.5	18	18
45.5	46.5	47	47	47	47.5	48	49.3	49.5	50	50	50
16.3	16.8	16.5	16.8	17	17.3	17.3	17.3	17.5	17.5	17.8	18
70	70	68	70	71	74	74	76	76	78	80	80

STEER 524 (Cont.)						STEER 531					
11-4-10	12-2-10	1-6-11	1-21-11	11-23-08	1-4-09	1-30-09	2-27-09	3-27-09	5-4-09	5-31-09	6-30-09
749	755	815	830	239	230	263	264	280	281	297	330
F to C				F to T	T	T	T	T	T to F	T to F	F
132	135.3	137.5	139.5	89	93	94	96.5	97.8	98.8	101	103.5
95	96.5	98	96.5	67	67	67.5	68.5	71	72.5	73.5	74.3
139.8	139.8	141.5	140	95.8	98	100	102.5	103	104.5	105.8	107.5
113.5	115	117	117	70	72.3	73	73.5	76.5	76.5	79.5	81.5
155	155.8	157	161					108.5	111	112.5	113.5
44	44.5	46	46	25.5	26	26	27.8	28.6	28.5	29.8	30.5
32.5	33.5	35	36	20	20.5	20.3	21	22.5	22.3	22.8	23.3
67	68.8	70	70.5	41	42.5	43.5	44.3	45.8	45.5	47	47.8
32	31.5	33	33	20	20.3	20.3	20.5	20	20.3	21	22
175	176	179	180	107	109	111.5	114	115	116	118	123.5
59.5	60	60.5	61	40	42	42.5	41.5	43	44	45	47
45	45.5	50.5	49	29	30.5	32.8	32.8	34	33.3	34	40
179	181	188	190	115	123	124	126.5	133	131	136	154
86	86	86	85	50.5	60	60.5	61.3	62.5	63	64.3	65
18.5	19	18.5	19	13	13	13	13	13	12.5	13	13.3
53	52.5	53	54.5	32	33.5	34	35.3	36.3	37	37.3	38.3
18.5	17.8	18.8	18.4	12	12.5	13.3	13.3	13.3	12.8	13.3	13.3
81.5	82	85	85	54	58	59	59	60	60.5	61	64

STEER 538											
4-13-09	5-4-09	5-31-09	7-2-09	8-3-09	8-30-09	10-1-09	11-2-09	11-30-09	1-7-10	2-12-10	
131	145	183	220	257	275	300	304	300	356	405	
G to Ch	G	M	M	M	M	M	C	C	C	C	
78	80.5	83.5	88.5	93	94	97	98.8	100	102	103.5	
58	59.5	61	62.3	66	66.5	68	69	70	72	73	
82.3	84	87	92.5	98	99.5	102	103	104	105	107.5	
56	61	65.5	68.5	74.5	75.5	78	79.5	81	83	84.5	
78.5	85	90.5	94.5	103	104.5	107.5	108.5	112	115	117	
19.8	20.5	23.5	24.5	26.5	27	28	28.5	29.3	30	31	
15.3	16.3	17.5	18.5	20.5	21	22	22.3	22.5	23.5	24.5	
33.3	34.5	36.5	40	42	43.5	45.5	45.5	47	48.3	49.5	
19	19.3	19.5	21	23	23.8	26	25	26	28	28.5	
90	91	98	106	114	116	121	124	126	133	135	
28.8	31.5	32.5	36	40	41	47	44.5	45.5	47.5	48.5	
21	22	23.8	25	29.5	32.5	41.3	35.5	35	37	37.5	
84	92	102	111	129	132	149	142	139	145	146	
51.8	53.5	55.3	57.3	60.3	61	62.5	63.3	64	65	67	
11.3	11.3	12	12.5	13	13	14	14	15	15	15	
27	27.8	29.5	31	33.3	34	36	37	38	39	39.5	
11.5	11.8	12	12.3	13	13.3	14	14.5	14.8	15	15.5	
45	48	50	55	60	60	61	62	64	65	66	

OF STEERS IN CENTIMETERS.

STEER 526 (Cont.)

2-22-09 557 F 112.5 79.8 118.3 98.5 39.3 31 59 29.8 155 55.3 52.5 170 73 16.8 46 16.5 73	3-27-09 632 C 115 80.5 119.3 100.5 137.3 40.3 31.5 59.5 31 157 56.3 52.3 174 73.5 17 46.5 16.8 76	5-4-09 687 C to M 118.8 84 123 100.8 140 41.5 32.5 61.5 30 160 58 54 186 75 17 47 18.8 78	5-31-09 704 C to M 119.3 84.3 124 100.8 140.5 41.8 33.8 61 31 161 58.5 51 185 75.3 17 47 17 78.5	7-1-09 756 M 121.5 85.3 126 102.5 142.5 43 34 62.5 31.5 165 59.5 59 199 76.3 17 47.5 18 81	8-2-09 772 M 124 86.8 128 106 146 44 35 64 33.5 168 60.5 60 200 77.3 17.5 48.3 18.3 82	8-30-09 790 M 124 86.3 128.5 107 147 44.3 34.3 64 33.5 170 61.5 57 201 77.5 18 48.8 18.3 82	10-1-09 826 M 125.5 87 130 108.5 149 44.5 35.5 65.5 35 172 63 58 200 78.5 18.5 49.5 18.2 84	11-1-09 864 M 126 87.5 130.5 110 150 44.8 35.8 66 36.8 175 64 58.5 200 79 19 50 18.5 85	11-30-09 840 M 127 88 132 111.5 153 44.8 36 66 37.3 180 62.5 54 192 80 19.3 52 18.5 87	1-5-10 845 M 127.5 88.5 133 112 154 45 37 67 38 183 62 55 196 80.3 19.3 52 18.8 84	2-4-10 882 M 128 89 133.5 113 156 45 37 67.3 38 183 63 55.8 196 80 19.5 52 86
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STEER 526 (Cont.)

STEER 532

11-4-10 1049 M 138.5 95.5 138 120.8 165.5 50.5 39 71.5 39 193 68 55.3 212 85 21 52 52 19 92	12-2-10 1015 138 95.5 137.5 120.5 165 51 39.5 72 40 192 65 54 207 85.5 21 52.5 19 92	1-6-10 1027 M 137.5 95.5 138.5 122 166.5 52 39.5 72 40 193 64.5 56.5 207 83.5 21 52 19.5 93.5	1-21-11 1115 M 139 94 140.5 124 166 53 41 71.5 43 197 65 57 212 85 21 54 20 94	11-24-08 185 M 87.5 65 89.5 62.8 22.3 17.5 37.3 20 98 34.5 24 108 58.5 13 29.3 12.8 50	1-4-09 211 C to M 90 67.5 94 65.8 23.8 19 39 21.3 102 36 28 108 59.8 13 31 13 55	1-30-09 250 M 92 68 98 72 25 20 41 22 109 40 32 121 61.5 13 32 13 58	2-27-09 327 M 98 70.5 103.5 77.5 28.3 22.5 44.5 24 118 44 36.5 134 64 13.3 14 34 14.5 61	3-27-09 382 M 100 73 104.5 77.5 30 23.3 45.3 27.8 123.5 45 40 139.5 66 14 35.3 14.5 62	5-4-09 450 M 106.5 77 110.5 87.5 122.5 32 32.5 25.5 50.5 130 49 42.5 155 69 15 37 16 64.5	5-31-09 520 M 108.5 78.5 112.3 90 127 33.5 36 28 51 29 135 50.5 45.5 163 70 15.3 38.3 16 69	6-30-09 592 M to G 112.5 81 116.5 93.5 131 36 28 54.5 31 145 56 52 184 72.5 41 17 72
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STEER 540

4-13-09 140 G 76.5 57 81.5 60 83 20.5 16.3 33 18.8 90 28.8 20.5 84 51 11.5 27 12 47	5-5-09 153 G 78 58 84 60 84.5 21.3 17 33 18.8 90 32 20.5 98 51 11.8 28 12.5 48	5-31-09 187 M 80.5 59.8 86 65 91 23 18.5 35 19.5 91 32 22.5 102 54 12 28 12.5 51	7-2-09 220 M 85 61.5 89 68.5 95.5 24.5 19.8 39.3 21 104 34.5 26.5 113 55.3 13.3 31 13.5 55	8-3-09 243 M 89 63.8 93.5 74 101 26.5 21.3 41.5 22 112 37.5 30 126 57 13.5 33 14.5 60	8-30-09 261 C to M 90.5 64 95 75.5 102.5 21.5 42.5 22.3 116 41.5 31.5 130 130 58.3 13.5 33 14.5 60	10-1-09 274 C to M 92.3 63 90.5 28 23 44.5 25.5 117 46 41 147 147 59.5 14 34 15 60.5	11-2-09 287 C 93 66 98.5 80 108 28 22 44.5 23 120 42.5 44.3 137 60 14 35 14.5 61	11-30-09 300 F to C 96 67.5 100 70 110.5 28.3 22.5 24 108 44 36 140 61.5 14.5 36.5 15 61.5	1-7-10 311 F to C 97 69 101 83.5 112 28.5 23 46 25 125 43 35 135 62.5 14.5 37 15 62.5	1-12-10 336 F to C 99.5 70 102.5 84.5 114 29 24 47.5 26 130 44 35 140 64 14.5 38 15.5 64
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TABLE 52.—MEASUREMENTS

STEER 527

Date of measurement.....	11-18-07	2-22-08	5-27-08	9-8-08	10-28-08	12-1-08	1-2-09	1-28-09
Weight of animal in lbs.....	181	345	555	805	905	970	1035	1084
Condition of animal.....	M	M	G	G to Ch	Ch	Ch	Ch	Ch
Height at withers.....	82.5	94.5	109	117	119	122	122.8	123.5
Height shoulder to ground.....		67.5	76	80	83	84.5	85	85.5
Height at hips.....	89	101	114.5	120	124	126	127.3	128.3
Length shoulder to hips.....	68	83	93	103	106	107	108	110
Length shoulder to ischium.....								
Width of hip.....	22	30	36	42	45	46	46.5	47.5
Width of loin.....		23	29	33	35	36.8	38	39.5
Depth of chest.....	37	46	53	60	62	63.3	65.3	66.8
Width of chest.....	23	26.5	35	39	43	43.3	43	44.8
Girth of chest.....	99	124.5	150	169	180	179	184	191
Depth of paunch.....			58	64.5	64	65	67.5	67
Width of paunch.....			52	61	67	66	67.5	71
Girth of paunch.....	102	141	177	207	212	210	218	230
Length of foreleg.....	55	62.5	67	74.5	76	76.5	76.5	77.1
Circumference of shin.....	13	14	16.5	18	18	18.3	18.5	18.5
Length of head.....	27	33	39	44.8	45.5	46.4	47.7	48
Width of jaws.....	11.5	14.5	16.5	18.5	18.5	19.3	19	19.2
Girth of throat latch.....	56	70	82	80	85	87	89	88

STEER 527 (Cont.)

Date of measurement.....	3-5-10	4-2-10	5-2-10	6-1-10	7-8-10	8-1-10	8-31-10	10-1-10
Weight of animal in lbs.....	1595	1620	1630	1680	1720	1686	1730	1750
Condition of animal.....	P	P	P	P	P	O		O
Height at withers.....	136	136	137	137	136	137.5	138.3	137.5
Height shoulder to ground.....	95	95.5	96	96	95.5	97	98	96.5
Height at hips.....	138.5	139	140	141	140.3	141	144	142
Length shoulder to hips.....	126	127	128	127.5	122	126	127.5	128.5
Length shoulder to ischium.....	173	173.5	173.5	174			179	174
Width of hip.....	55.5	56	56.5	57	59.5	57	59	59.5
Width of loin.....	47	47.5	48	48.3	52.5	48.3	54.3	50
Depth of chest.....	77	76.8	78	78.8	77.5	78	78.8	79.5
Width of chest.....	55.5	55.5	55.8	56	67	57	57	57.5
Girth of chest.....	225	228	230	232	232.3	232.5	227	227
Depth of paunch.....	77.5	77	77	78	75.5	78	77.5	78.5
Width of paunch.....	76	77	77.3	77.8	79.5	78	78.5	76
Girth of paunch.....	260	260	263	263	267.8	264	260.5	264
Length of foreleg.....	83.5	83.5	84	84	81.5	84	80.5	83
Circumference of shin.....	21	20.5	21	21	21	21.5	22	22
Length of head.....	52	52	52.5	53	52.5	53	52.5	53
Width of jaws.....	21	21	21.5	21.5	21	21.5	22.3	21
Girth of throat latch.....	100	101	102	102	102.5	102.5	104	103

STEER 533 (Cont.)

STEER 541

Date of measurement.....	8-2-09	8-30-09	10-2-09	4-13-09	5-5-09	5-31-09	7-3-09	8-3-09
Weight of animal in lbs.....	240	250	320	136	154	192	264	336
Condition of animal.....	T to F	T to F	F	Ch	G to Ch	M to G	G	G to Ch
Height at withers.....	99	100	101	77	80	83	88	93
Height shoulder to ground.....	70.3	70.3	71	56.5	59.8	60.5	63.5	66
Height at hips.....	101.5	102.3	103.3	81	84.5	87.5	93	99
Length shoulder to hips.....	78	80.5	82.5	57	59.8	63	71.5	77
Length shoulder to ischium.....	108	111	113.5	80	83	90.3	99	107
Width of hip.....	28.3	28.5	29.5	20	21	23	25.5	28
Width of loin.....	20.8	21	22.5	16.5	17	18.5	20.8	22.5
Depth of chest.....	44	44.5	46	32	34	35.3	40	43.5
Width of chest.....	20.5	20.8	23.5	18.5	20.5	21.3	22.8	26
Girth of chest.....	112	114	120	87	91	95	109	122
Depth of paunch.....	44.5	44.5	48	28.8	31	32.3	40	44.5
Width of paunch.....	35	38	44	21.8	22.3	24.8	32	38.5
Girth of paunch.....	143	143	155	85	95	105	128	148
Length of foreleg.....	60.3	61	63	51	52.5	55	58	60.3
Circumference of shin.....	12.3	12.5	12.8	12	12.3	12.5	13	14.3
Length of head.....	33.8	34	36.5	27	28	28.8	31.5	34.5
Width of jaws.....	13.8	13.8	13.8	11.5	12.3	12.5	14	14.5
Girth of throat latch.....	54.5	54.5	57	50	49.5	51	58	63

OF STEERS IN CENTIMETERS.

STEER 527 (Cont.)

2-2-09	3-26-09	4-29-09	5-29-09	7-1-09	8-2-09	8-30-09	10-3-09	11-1-09	11-30-09	1-6-10	2-4-10
1100	1151	1193	1224	1271	1289	1324	1381	1416	1465	1500	1560
Ch	Ch	Ch to P	Ch to P	Ch to P	P	P	P	P	P	P	P
124	124.8	126.5	128	129.5	131	131.5	133.3	133.5	134	134.5	135
85.5	85.5	87	87.5	88.5	89.5	90.3	91.3	92	93	94	94
129	130.3	131.3	132.3	133	134	134.5	136.5	137	138	138	138.3
110.5	113	113	114	114.5	117	118	119.5	120.5	124	125	125
47.7	48.3	49	50.5	50.8	52	52.5	53	53.5	54.3	54.3	54.5
39	39	40.5	41	41.3	41.8	42.5	43	44	44.5	45.5	46
67.3	67.5	68.3	68.3	69.8	71.5	71.5	72.5	73.5	75	75.8	76
45.5	46.3	46.5	48.5	49.5	51	51	52.5	53.5	54.5	55	55.5
191	193	195	199	202	207	208	212	216	220	223	225
68	67.5	68	68.5	71	72.5	72.5	72.5	73.5	76	77	77.5
68.5	69.3	69.3	69.3	71.5	71	72	77	73.8	73.5	74.5	76
219	222	226	227	233	240	240.5	253	251	254	255	257
77.3	78	78.3	79	79.5	80	81	81.8	82	82.3	82.5	83
18.5	19	18.5	18.8	18.8	19.3	20	20.8	21	21.3	21	21
48	48.6	48.7	48.8	49	49.5	50	51	51	52	52.5	52
19.6	19.8	20	20.3	20.3	20.3	20.3	20.3	20.5	20.5	20.5	20.8
88.8	91	93	93.5	94	94	94.3	96	97	99	100	100

STEER 527 (Cont.)

STEER 533

11-4-10	12-2-10	1-6-11	1-21-11	12-3-08	1-4-09	1-30-09	2-27-09	3-27-09	5-4-09	5-31-09	6-30-09
1778	1800	1860	1664	145	167	185	204	213	219	224	233
O				C	C	C	C	F	T to F	T to F	T to F
138.5	139.5	140.5	140	80	85	88	89.5	91.5	93.5	95	96.5
97	98.5	98	95	59.3	63.3	64.3	64.3	65.5	68	69	69.3
143	144.5	144.3	144.5	84.5	87.5	91	92.8	93.3	96	98.5	99
128	128.5	128	126	58.5	63	66.5	69	70.5	74.8	75.8	76
177	177	178	174					100	103	104	105
60	60	61	60	20	22.3	24	24.8	25.5	26.3	27	27.5
53.5	54	56	58	16	17.8	18.8	19.3	19.5	19.5	19.8	20.3
80.3	80	80	80.5	35.3	37	37.8	40.5	42	42.5	43	43.5
59.5	57	58	59	16.8	18.3	19.3	19.3	20.5	19.3	19.8	20
236	235	240	248	88	96	102	104	107	107	108.5	110
78.8	78.5	80.3	80.5	33	35.5	37	37.3	41	40	40	41
80	81	82.3	84	34.5	27	31	32.5	35.5	33	34	33
258	267	270	282	95	103	114.5	121	130	124	124	130
81	82	82	84.5	49	54	55.5	56	57.5	58.5	59.5	59.8
22	21.5	21.5	21	11.3	11.5	12	12	12	11.5	11.8	12
53	52.5	53	53	26.5	28	30	30.5	32	32.5	32.8	33
21	21.5	21	21	11.3	12	12.5	12.8	12.8	13.3	13.5	13.8
103.5	103.5	104	104.5	47	53	53	52.5	54	53	54	54

STEER 541 (Cont.)

STEER 543

8-30-09	10-1-09	11-2-09	11-30-09	1-7-10	2-12-10	4-29-09	5-27-09	7-2-09	8-3-09	9-1-09	10-1-09
385	443	507	577	645	715	256	270	287	310	332	385
G to Ch	G to Ch	Ch	Ch	Ch	Ch	Ch	M to G	M to G	M	C to M	C to M
96	100.8	103.5	104.5	108.5	111	89	91.5	94.5	95.5	96	99.5
68.3	70.8	72	73	75	76.5	64	66	67.8	68.3	68.5	69.5
101.5	106	109	111	112.5	116	94	96.5	99.5	100.5	102.5	104.5
81	84.5	89	93	95	97	70	73	76	77	80.5	83
112	117	123	127	129	132	100	103	106	107.5	111	115
29.8	32	34	35	36.5	38.5	26	27	28	28.5	29.5	31
23.5	26.3	27	28	29	30.5	20.5	21.3	22.3	23	22.5	24
46	49	50.5	53.3	53.5	53.5	40	41.5	42.8	43	45	46.8
26.5	28.5	30.5	32.5	34	36.5	23	23.5	23.5	25.5	25.5	27.5
128	134	140	148	155	165	107	110	114	118	120	127
46.5	52.5	54	56.3	59	60	39.5	40	42	44.5	46	48.5
41.5	45.5	47.8	48	52	53.5	28.5	30.5	34.5	36	37.5	40
154	167	174	181	189	194	111	125	134	142	145	155
60.5	63	64.3	65.5	67	69	57.5	59.5	61	62.5	63	64.5
15	16	16.5	16.8	17	18	13	13	13.3	13.5	13.8	14.5
35	38	39	41	41	42	33	33.5	34.3	35.5	36	37
15	15.8	16.5	17	17.5	17.8	13.5	13.8	14	14	14.3	14.5
64	70	73	75	77	79	58	56	59	62	63	65

TABLE 53.—MEASUREMENTS

STEER 529										
Date of measurement	2-22-08	5-11-08	6-3-08	7-1-08	7-31-08	9-5-08	9-29-08	10-30-08	11-24-08	
Weight of animal in lbs.	177	216	209	207	203	210	200	211	210	
Condition of animal	V T	V T	V T	V T	V T	V M T	V M T	V M T	V M T	
Height at withers	86	91.5	94	95.5	96.5	96.7	96.5	96.8	96.8	
Height at shoulder to ground	63.5	68	69	70	70	70.5	70.5	70	69.8	
Height at hips	89.5	97	97	100	101	101.3	101.3	101	101	
Length shoulder to hips	67.5	72	73	75	75	75.5	73	73.3	74.5	
Length shoulder to ischium										
Width of hip	22.5	24.5	25	25.5	25.5	26	25.5	25.5	25.8	
Width of loin	17.5	18.5	19	19	19.5	19.5	19	19.5	19.8	
Depth of chest	40.5	43	45	45	46	45.8	45.5	45.4	46	
Width of chest	19	20	20	20.5	20.5	20.5	20.5	18.8	20	
Girth of chest	107	111	102.5	112	111.5	114	114	112.5	113.5	
Depth of paunch			42	43	42	44.5	43.5	42.3	42.5	
Width of paunch			26.5	26.5	25	33.5	27	29	29	
Girth of paunch	112	120	118.5	115	116	128	119	120	120	
Length of foreleg	55.5	58	59	61	61	61	61	61.5	61	
Circumference of shin	13	12.5	13	12.5	13	13	12.5	12.5	12.5	
Length of head	30.5	33	34	34	34	35	35	35.5	35.8	
Width of jaws	12	13	13	13	13	13	13	13	13.5	
Girth of throat latch	56	60	59	58	55	57	55.5	56.5	57	

STEER 529 (Cont.)

STEER 529 (Cont.)										
Date of measurement	8-30-09	10-3-09	11-1-09	11-30-09	1-5-10	2-4-10	3-5-10	4-2-10	5-2-10	
Weight of animal in lbs.	875	960	1010	1063	1112	1183	1230	1235	1255	
Condition of animal	Ch	Ch	Ch	Ch	Ch	Ch	Ch	Ch to P	P	
Height at withers	124.5	125	127	130	130.5	131.5	132	133	135	
Height at shoulder to ground	86	86.8	87.5	88.5	89	90	90	92	92	
Height at hips	129.3	130	133	135	135	136	137	138.5	138.8	
Length shoulder to hips	108.8	110.5	111	114	115	115.5	117	117.5	117.5	
Length shoulder to ischium	150.5	154.5	155.5	160	162.5	163	163.5	163.5	164	
Width of hip	44.3	44.8	45	45.8	46	46.5	48	49	51	
Width of loin	34.3	34.5	34.5	37	39	39.3	40	40.5	41.5	
Depth of chest	63.8	66.3	68.5	71	71.5	72.5	72	73	74.5	
Width of chest	35.5	37.5	39.5	41.3	42.5	43	46	49	49.5	
Girth of chest	178	182	188	193	200	202	205	210	212	
Depth of paunch	65.5	68	71	71	72	72.5	73.5	74	75	
Width of paunch	60	62	62	67.5	70	71	69	73.5	69	
Girth of paunch	215	212	220	230	240	238	235	240	241	
Length of foreleg	75	75.5	77	78	79	79.5	81	81.5	81.8	
Circumference of shin	19	19.3	19.3	20	20.3	20.3	20.3	20.8	21	
Length of head	46.5	47.5	48.5	49	49	49	49.5	50	51	
Width of jaws	17.5	18	18.5	20	19.5	20	20	20	20.5	
Girth of throat latch	90	92	94	94	95	95	95.5	97	98	

STEER 534 (Cont.)

STEER 535

STEER 534 (Cont.)										
Date of measurement	7-3-09	8-3-09	9-1-09	10-1-09	3-27-09	5-4-09	5-31-09	7-2-09	8-3-09	
Weight of animal in lbs.	130	156	189	215	95	134	152	177	203	
Condition of animal	T	F to T	T to F	F	G	M to G	M	M	C to M	
Height at withers	78	82	83.5	88.5	69	75	76.5	81	85	
Height at shoulder to ground	57.3	58.5	59	63	50.5	54.5	55.5	57.3	59	
Height at hips	82	85	89	93	74.3	80	82	85.5	89.5	
Length shoulder to hips	57	61	65.5	69	46.5	55.8	58	61.8	68	
Length shoulder to ischium	80	85	91	95	66.5	79	83.5	86	93	
Width of hip	19.5	21.5	23	24.3	17.3	19.5	21.3	23	24.3	
Width of loin	15.5	16.5	17.8	19.5	13.5	15.4	16.5	17.5	18.3	
Depth of chest	32.5	34.3	36	39	29.3	32.8	34	36.5	38.5	
Width of chest	16.8	18	20.5	21	17	18.3	19	20	21	
Girth of chest	88	95	100	105	79	87	92	99	105	
Depth of paunch	33	33.5	36	38.5	26.5	28.5	30.5	35	37	
Width of paunch	27	27	29.5	31	20	22	23.5	27	30	
Girth of paunch	107	104	117	123	75	90	100	109	118	
Length of foreleg	51	52	52	56	46	49	50.3	52	53.5	
Circumference of shin	11	11.5	12.3	12.8	10.3	10.5	10.8	11.3	12	
Length of head	27.3	28	29	31.3	24.5	27	27.8	30.3	32	
Width of jaws	11	11.5	12	13.3	11.3	12.5	12.5	12.5	13	
Girth of throat latch	45	48	50	53	43	47	50	51	52	

OF STEERS IN CENTIMETERS.

STEER 529 (Cont.)											
12-1-08	12-22-08	1-4-09	1-16-09	1-30-09	2-22-09	3-26-09	4-10-09	4-29-09	5-29-09	7-2-09	8-2-09
V V M T	V M T	M T	V T	T	T	F to C	C	M	M to G	G	Ch
235	298	328	362	390	453	527	585	622	700	786	822
97	100.5	100.5	102	102.5	105.5	109.5	113	113.3	116	121.5	123
70	72	72.2	73	73.5	74.5	78.5	79.5	80.5	81	83	85.5
101.5	103.8	104.8	105.3	106	110	115	118.5	119.5	121.8	125	127
74.5	75	79.5	84.5	84.8	88.5	95.5	95	97	100	103.5	108
25.8	27.8	29	30	30.5	32.5	34.8	36	37.5	40	40.8	43.8
19.8	21	22	22.5	23	24.5	26.8	27.3	29	30	31	33.5
47	47.5	49.5	49.8	51.5	53.8	57	58	60	60.8	62.5	64.5
20.5	22	23.8	24.3	25	26.8	29.5	29	30	33	34.5	35.5
115	123	126	131.5	134.5	138	145	150	155	160	168	176
43.8	47.5	51	51.5	51.5	53.5	58	58.8	61	62.3	63.5	65.5
30.5	37.5	39.5	41.3	41.5	44.5	48	51.3	54	55	56.5	60.5
125	143	147	151	152	165	170	180	190	197	197	215
61.2	62.3	63.5	64.5	65.5	66	68.5	70	70.8	71.3	73	74
12.8	13.5	14	14.3	14.5	15	15.7	15.9	16.1	17	17.3	18
35.8	37	37.5	38	38.5	39.9	42	43	43.6	43.8	45	46.3
13.4	14.8	14.8	15.3	15.5	15.8	17	17	17.2	17.5	17.8	17.8
57.5	59	62	65	70	70	73	76	78	79	85	90

STEER 529 (Cont.)										STEER 534	
6-1-10	7-8-10	8-1-10	8-31-10	10-1-10	11-4-10	12-2-10	1-6-11	1-21-11	3-27-09	5-4-09	5-31-09
P	P	P	P	O	O	O	O	O	M to G	G	T
1284	1295	1310	1339	1388	1440	1490	1555	1543	93	98	110
135	135	135.3	136.3	135	138	139.5	139.5	140	71	73.8	75.8
92	91.5	92.5	93	93	93	93.5	94.3	94.5	55	55.5	56.3
138.5	138.3	138.5	141.8	139	142	143	142.5	143	76.5	79	80.5
117.5	119.5	117	117.5	117	119	121	120	122	48	52	54
164.5	164.5	169.5	166	167	168	169	169	170	70	74	77
52	52.5	52.5	52.3	53	53.5	56	56	56	17	17.5	18.5
41.5	43.8	43.5	40.3	41	43.5	43.5	44	44	13.5	13.8	15
74.3	74.5	74.5	75.5	76	76.8	76.3	77.5	79.5	29.3	30.5	32
49.5	50	49.5	50	50.5	51.5	50	52	54.5	15.5	15.5	16.5
210	208.3	209	214	211.5	216	224	225	230	77	79	81
75.5	73.5	74.5	75.5	75	75	78.3	77	79.5	25.5	27.3	28.5
66.8	70.3	66.5	63	63.5	66.5	67	67	66	19	19.8	20.8
296	245.5	237.5	236.5	232	239	250	245	250	72	80	87
82.3	81.3	82.5	79	83	82.5	82.5	82.5	83.5	48.5	49	50
21	20.8	21.5	21	21.5	22	21.5	22	22	10.6	10.5	10.8
51	51.5	51	51.5	51.5	52	53	52.5	52.5	25	25.8	26
20.8	18.8	20.3	21.3	21	20.3	20.8	20.8	20.5	10.5	10.8	10.8
98.5	97.8	98	99.5	99	100	102	102	102	40	40	43

STEER 535 (Cont.)		STEER 536					STEER 554				
9-1-09	10-1-09	4-10-09	5-4-09	6-1-09	7-2-09	8-3-09	9-1-09	10-2-09	6-13-12	7-5-12	7-20-12
C to M	C to M	M to G	M	C to M	C to M	C to M	C to M	C to M	C to M	C to M	C to M
216	235	102	119	150	170	210	225	247.5	164	182	197
86	87.5	70.8	76	80	84	88	90	92.5	83	89.9	90.6
60	61	54	55	57	58.3	61.5	63	64	63.5	66	67
91.5	92.3	76.5	79.5	84.5	89	91	94	98.5	89	95	96.8
70.5	73.5	52.5	53.5	59	63.5	69	71	73.5	67.8	69.5	70.5
97.5	101.5	72	78.5	84.5	89.5	96	99	102	94	97.5	100
25.3	26.3	17.5	19.3	21	22.3	24	24.8	26	20.3	22.5	23.1
19	21	13.5	14.3	15.5	16.5	17.5	18	18	15.5	16.4	17
40	41	30	32.5	34	36.5	39	40.5	43	37.4	37.5	38.5
21.3	21.5	16	17	17.5	18.3	20.5	21	23.5	21.3	21.5	22.3
106	106	79	84	88.5	97	103	105	107	96	99	101
37.5	40	26.3	30	32.5	35	35.5	38	40.5	33.5	33.7	37
31.5	31.5	18	21.5	22.5	26	30.5	33	33.5	23	23.1	25.6
122	128	78	90	99	108	108	124	126.3	100.5	99	103
54.5	56	49	51	52.5	54.8	56.5	58	59	56.3	60	60
12.3	13	11	10.8	11.3	12	12	12	12.5	12.5	13	13.2
38	34.5	25	26	27	29	32	33	34.5	30	31	31.5
13.5	13.5	10.5	11.8	12	12.3	12.5	12.8	13.5	12.3	12.5	12.7
53.5	54	42	45	50	50	55	55	56	53.3	55	55

TABLE 54.—MEASUREMENTS

STEER 549

Date of measurement.....	8-1-12	9-5-12	10-5-12	11-5-12	11-30-12	12-31-12	2-1-13	3-1-13
Weight of animal in lbs.....	136	146	165	175	187	201	220	239
Condition.....								
Height at withers.....	83.8	86.2	85.5	85.8	86	87	91.2	94
Height shoulder to ground.....	59.8	60	61.3	63	63	63	63.3	65
Height at hips.....	86.2	89.5	88.7	89.5	90	91	94.5	98
Length shoulder to hips.....	60	62	65	66	66	72	74	74.2
Length shoulder to ischium.....	85	88	92	92.5	94	98	100	102.3
Width of hip.....	20.2	20.2	21.8	23	23.2	24	25	26.3
Width of loin.....	14.6	15	15.4	16	16.5	16.8	17.5	17.5
Depth of chest.....	34.7	36.8	38.3	39.2	39	41	42.5	43.5
Width of chest.....	18	19.3	22.5	20.3	20.3	20.7	22	22
Girth of chest.....	89.5	94	97	100	104	106	110	114
Depth of paunch.....	36.8	36.3	39	38	38	38	38.5	39.5
Width of paunch.....	24	27.3	32	29.5	30.3	30	29.7	30.5
Girth of paunch.....	160	110	115.5	115	117	119	120	121.5
Length of foreleg.....	54	55	56	56	56	56	56.5	57
Circumference of shin.....	11	11	11	11	11.2	11.5	12	12
Length of head.....	28	30	30.5	31	31	32	33	33
Width of jaws.....	11.2	11.3	12.1	12	12	12	12.2	12.3
Girth of throat latch.....	46	48	48	52	52.5	54	55	55.5

STEER 549 (Cont.)

Date of measurement.....	4-1-14	5-1-14	6-1-14	7-4-14	7-25-14	9-1-14	9-26-14	11-8-14
Weight of animal in lbs.....	475	483	505	522	532	529	525	537
Condition of animal.....								F
Height at withers.....	116	116	118	118.7	119.5	119	120.5	120.5
Height shoulder to ground.....	78	79.2	79	80	80.5	82	81.5	81.5
Height at hips.....	117.4	117.5	120.5	120.8	122.5	122.3	123	122.5
Length shoulder to hips.....	91	92.5	92	95	95	98	95	97.5
Length shoulder to ischium.....	132	135	134.5	136	136	136.5	135	136
Width of hip.....	37	37.5	37.7	38.6	38.5	39.3	40	40.5
Width of loin.....	24	25	25.9	24.5	24.5	24.6	27.7	27.7
Depth of chest.....	56.5	57	58	57.5	58.2	57.5	59.6	60
Width of chest.....	26.5	27	27.8	28.5	26.5	27.2	31.5	30
Girth of chest.....	142	143.5	147	147	146.5	146	155	150
Depth of paunch.....	52.5	52.5	58.1	57.2	57	56.2	57.5	59
Width of paunch.....	49.5	50	50	53.6	54.3	53.3	56	55.5
Girth of paunch.....	165	166	183	184	181	179.5	182.5	182
Length of foreleg.....	68.5	69	69.5	70	70	70	71	71
Circumference of shin.....	14	14.2	14.2	15.2	15.5	15	14.2	14.7
Length of head.....	41	41.5	41.5	42	42	42.3	43	43
Width of jaws.....	15.5	15.2	15	15.2	15.5	15.4	15.3	15.9
Girth of throat latch.....	72	73	68	71	69.5	71	70.3	70.5

STEER 549 (Cont.)

STEER 557

Date of measurement.....	10-30-15	11-30-15	12-31-15	1-31-16	3-1-16	3-30-16	6-14-12	7-6-12
Weight of animal in lbs.....	779	720	758	751	784	790	194	229
Condition of animal.....	T	M	M	M	M			
Height at withers.....	128.5	127.5	130	129	132	131.5	87	90.5
Height shoulder to ground.....	85	82	85	86	84	86	63.5	68.7
Height at hips.....	128	131	134	132	132	134	91	97.3
Length shoulder to hips.....	106	111	105	110	113	114	69	73
Length shoulder to ischium.....	150	154	162.5	158	162	159	96	104
Width of hip.....	45	46	46.5	47	46	48	22.7	24
Width of loin.....	27	30	32	32.5	31	29.5	17.3	19
Depth of chest.....	65	64	66	67	66.5	67	37.5	42.2
Width of chest.....	30	30	28.5	30	30	30	23	23.8
Girth of chest.....	163	168	168	168	170	171	102	107
Depth of paunch.....	64	65.5	65	66	65	66.5	36.5	39.5
Width of paunch.....	59.8	67	72	67.5	62	66	28.4	27
Girth of paunch.....	195	220	220	211	216	208	112	110
Length of foreleg.....	76	76	78	76	77	74.5	55	59
Circumference of shin.....	16	16	16	16	17	17	12.5	13.2
Length of head.....	47	46	48	47	48	46	30.5	31.5
Width of jaws.....	16	16.5	16.5	16	17	17	12.3	13.4
Girth of throat latch.....	75	75	77	78	80	78	58	58

OF STEERS IN CENTIMETERS.

STEER 549 (Cont.)											
3-30-13	5-1-13	6-1-13	7-1-13	8-1-13	9-1-13	10-1-13	11-1-13	12-1-13	1-1-14	2-1-14	3-1-14
268	284	307	316	322	337	370	369	403	410	429	459
98	101.3	101.7	102	103.8	106	106.5	106	109.3	112.5	114	115.5
65.5	65.7	66	69	70	70	72	72	73	73	73.5	76
100	102.2	105	107.5	109.8	111.2	110.7	110.5	111.5	111.8	112.3	115.8
75	75	75	79	79.5	82	82	82	83	87	89	93
104	105	107.5	111	112	116	116	117	120	124	126	128
26.5	27.5	28.4	29	29.5	30.4	31	31.6	33	34	34	35.5
17.5	19	20	20.3	20.8	21.5	21.5	21.5	23.5	23	23.5	25
45.5	46.8	47.6	48.2	49.3	50	51	51.5	53	53	53.2	54.5
22	21.5	22	22	22	22.5	22.5	24.3	24.7	24.8	25	27
117	119	122	125	125	128	128	130	136	138	140.5	140
41.5	42	45.5	47.4	47.5	48.7	50.5	49.5	51.5	50.5	52	52
31.5	33.3	38	40.6	40.3	41.7	45.5	43.5	48	48	48	51
128	133	146	142	147	150.5	159	152	161	164	166	165
59	60	61.5	63	63	63.5	63.5	64	66.1	66	66.2	67
12	12.7	12.7	13.7	13	13	13	13.1	14.6	14	14.3	14
33.5	35	35	36	37	38	38	38	38.5	40	40	41
12.5	12.7	13	13.2	13.3	13.4	13.6	13.8	14	14	14.2	14.8
58	55	55	55	56	62	61	61	62	70	68	69

STEER 549 (Cont.)											
12-3-14	1-5-15	2-1-15	3-2-15	4-2-15	5-1-15	6-2-15	7-1-15	7-31-15	9-1-15	9-4-15	10-5-15
524	546	545	590	590	606	617	629	644	671	671	740
F	G	G	F	.....	.....	F	M	M	M	M	M
119.5	121	121	121	123.2	124	126	125	127	126.5	127	128.5
81.5	81	81	81	81	82	80	81	82	84	83	85
122.5	123	123	125	125	126.5	127.8	129	131	130	130.5	132
98	98	99	100	102	102	102	104	104	107	105	109
136	138	139	140	145	143	146	147	145	148	145	152
40.2	40.8	41	42	42.5	42	43	43.5	44	44.5	44	46
27.5	25.5	25.5	26	28	28.5	27.5	29	29	30	29.5	28
60.5	60	61	62	62.5	62.5	64	65	64	64.5	65	65.5
27.7	28	27.5	26.5	26.5	27.5	28	26	27.5	28	28	29
150	149	153	150	151	153	155	158	160	156	160	160
59	57	57	55	60	60.5	65	66	66	66	65	67.7
51.5	56	57	57.5	60	60.5	57	61	62	62	60	68
177	180	193	178	190	196	195	202	204	205	199	223
71	72	71	71	72	73	72.5	72	72	72	73	75
14.8	14.8	14.8	15	14.5	15	15	15.2	15.7	16	15.5	16.3
42.5	44	44	44	44	44	42	43	44	43	43	42
15.5	15.5	15.3	15.3	16	16.5	16	15.5	16	15.5	16	16
70.5	69	70	71	74	70	77	72	74	75	73	76

STEER 557 (Cont.)						STEER 558					
7-20-12	8-1-12	9-2-12	9-28-12	6-12-12	7-5-12	8-1-12	9-5-12	10-5-12	11-5-12	11-30-12	12-31-12
256	296	385	440	141	156	174	196	210	215	227	238
M				M							
94.4	96.6	102	104.4	81.2	84.5	87	89.5	91.3	95.5	95.8	97.4
68.6	70.6	71	76	61.5	62	65.5	66	68	69	69.5	69.5
99	100.7	106.7	108	84.4	88.8	91	93.7	95	99.5	100	100.3
75	75.5	82	87	62.5	65.5	66.5	69	71	73	75	77
104.5	106	117	122	88	90.5	95.5	100	101.5	103.5	107	107.5
26	27	30.5	33	20.5	21.8	23	24.9	25.6	26.2	26.5	26.8
20	21.2	22.5	25.5	15.5	16	17.5	17.9	18.2	18.5	19	19
42.5	43.7	48.8	49.8	32.4	32.7	35.6	37.8	39	40	41	42
24.6	25.5	27.8	32	20	20	21.5	20	21.5	21.8	22.5	22
112	117	130	135	89.2	92	95	101	103	106	109	110
42.8	46.6	51.7	52.8	30.5	31.5	34.3	35.8	37	37.5	38	38
33.6	38	42.7	46	24.6	23.6	27	30	31.5	34	34.2	31
128	135	156	159	92	98.5	104	113	117	120	123	122
59.8	59.5	65	65	53.8	55.5	56.7	59	60.5	62	62.5	63
13.4	14	14.5	15	12	11.9	12.2	13	13.3	13	13.5	13.5
33	34.5	37	38.5	28	30	31.6	32	33.2	34	34.5	35
14.2	13.8	14.4	15	13.2	13	13	11.8	12.8	12.8	12.5	13
58	60	63	65.5	53	51	53	53	55	56	56	57

TABLE 55.—MEASUREMENTS

STEER 551

Date of measurement	6-13-12	7-4-12	8-1-12	9-5-12	10-5-12	11-5-12	11-30-12	12-31-12
Weight of animal in lbs.	139	146	154	161	180	192	203	222
Condition								
Height at withers	82.5	85.4	86.5	88.5	89.2	90.5	91.2	93
Height shoulder to ground	63	63	64	64	65.8	66	66	66
Height at hips	86	88.2	88.6	91	91.5	93.2	93.5	96
Length shoulder to hips	63	64	64.6	64	66	70	72	72
Length shoulder to ischium	89.5	91.5	90.5	91	94.5	98	100	101.5
Width of hip	21	20.8	21.5	21.8	22.7	23.5	23.8	24
Width of loin	17	16	16.5	16.5	18	18	17.5	17.8
Depth of chest	35.2	35.4	37.4	37.7	39.5	40	40	42
Width of chest	20.2	21	20.3	18.2	22.5	19	20.8	21.2
Girth of chest	90.5	91	94	96	101	103	105	110
Depth of paunch	33.7	34.2	36.5	35.7	37.3	38.7	39.3	40
Width of paunch	23.5	24.8	28.5	25.7	29.5	30	30.3	30
Girth of paunch	95	99	108	105	112	118	118	120
Length of foreleg	55.2	55.8	56	57	58.4	60	60	60
Circumference of shin	12	12	12	12	12.2	12.5	12	12.2
Length of head	30	30	30.6	31	32.5	33	33.5	33.5
Width of jaws	11	11.5	11.4	10.4	12.2	12	12	12
Girth of throat latch	49	49	49	50	51	54	55	56

STEER 551 (Cont.)

Date of measurement	2-1-14	3-1-14	4-1-14	5-1-14	6-1-14	7-4-14	7-25-14	9-1-14
Weight of animal in lbs.	439	474	470	485	508	511	540	528
Condition								
Height at withers	115.5	116.6	118.8	119.5	121	122	122.4	123.6
Height shoulder to ground	76.5	79	81	82	82	82	83	85.2
Height at hips	115	120.4	118.8	120	121.6	125	125.8	125.2
Length shoulder to hips	91	94	95	95.5	95.8	95	97	103
Length shoulder to ischium	128	130	132	133.5	138	133	136	139
Width of hip	33	35	35.6	36	36.4	37.2	37.5	38.5
Width of loin	23	25	26	26.8	26.6	27	27.3	27.2
Depth of chest	55	56.8	58	58.8	59.2	59.2	58.8	59.5
Width of chest	26.5	27.5	25	26	28	26.8	26.9	28.5
Girth of chest	142	145	146	146.5	146	149	149	149.5
Depth of paunch	52	56	53.5	55	56.3	55.5	58	57.7
Width of paunch	46	52.4	44.5	45.7	46.2	48.5	51.3	49
Girth of paunch	158	174	162	168	170	173	178	171
Length of foreleg	68	69	69	69	69	73	73	73
Circumference of shin	15.5	15.3	15.5	15.5	15.7	18.2	16.2	16.2
Length of head	42.5	44	44.5	45	45.5	45.5	45.5	47
Width of jaws	15.2	15	14.2	14.6	14.8	15	15.6	14.8
Girth of throat latch	70	70	68	69.5	70	74	69	74

STEER 551 (Cont.)

Date of measurement	9-4-15	10-2-15	10-80-15	11-30-15	12-31-15	1-31-16	3-2-16
Weight of animal in lbs.	703	780	787	841	827	851	835
Condition	F	M	T	M	M	M	T
Height at withers	130.5	131	131	131.5	133	134	134.5
Height shoulder to ground	86	86	88	87	86	87	94
Height at hips	134	134.5	134	135.7	134.8	134.5	134
Length shoulder to hips	105	107	107	111	110	110	113
Length shoulder to ischium	148	147	149	155	153	155	160
Width of hip	44	45.5	45	46.5	46	47	47.5
Width of loin	29	31	29	32	31.5	32	32
Depth of chest	67	67	68	68.5	68	70	72.5
Width of chest	31	32.5	32.5	33.5	31	32	33.5
Girth of chest	166	168	171	173	177	176	179
Depth of paunch	67.5	68	67.5	70.5	69.5	70	68
Width of paunch	53	60	56	63.5	61	62	60.5
Girth of paunch	192	205	198	208	217	216	205
Length of foreleg	76	77	78	80	79	78	78
Circumference of shin	17.5	18	18	18.2	18.2	18.8	19
Length of head	46	47	51	51	53	53	52
Width of jaws	16	17	17.2	17.5	17.7	18	16.5
Girth of throat latch	75	77	81	80	80	84	84

OF STEERS IN CENTIMETERS.

STEER 551 (Cont.)

2-1-13 232	3-1-13 254	3-30-13 282	5-1-13 300	6-1-13 316	7-1-13 328	8-1-13 334	9-1-13 351	10-1-13 365	11-1-13 371	12-1-13 408	1-1-14 430
96	98	100.5	102.5	104	106.5	106.5	109	111.5	111.5	112.3	114.2
66	63	67	68.2	69	71	71.5	72	75	75	76	76
97.5	101.2	103.4	104.3	107	109.2	111.2	111.5	113	112.5	114.8	114
73	73.5	76	77	78.5	79	81	86	83	87	88	90
103	107	109	111	112	112	115	118	118	121	122	127
24.2	25.7	26.5	27.5	27.8	28.5	29	29.6	30.5	31.4	32.5	32.5
18	18.3	19.5	20.5	20.7	21	21.5	22	21	22	22	22.8
43.5	45.7	46.5	48.3	48.5	49.7	50	51.6	52	52.5	54	55
21.3	21.5	21.5	22.5	22.8	23	23	24.2	23.6	23.4	24.5	26
115	116	120	122	124	125.5	128	130	129	133	138	141
40	40	41.5	43.2	44.4	46.5	46.5	50	50.3	51.3	52	51.4
30	30.2	30.5	30.5	32	32	33.5	37	38	43	46	42
121	122	128	128	137	136	141	148	143.5	158	165	155
60	60.5	61	62.3	63	63	64	65	67	66	66	68
12.8	13	13	13.5	13.5	13.8	14	14.4	14.4	14.1	15.4	15
34.5	35	35.5	36.5	37	38	39	42	42	41	42	42.5
12.2	12.5	13	13.3	13.5	13.5	13.6	13.7	14	14	14.3	15
58	58.5	61	61	61	61	61	64	64	64	65	72

STEER 551 (Cont.)

9-26-14 538	11-8-14 555	12-3-14 556	1-5-15 581	2-2-15 590	3-2-15 616	4-2-15 620	5-1-15 645	6-2-15 654	7-1-15 712	7-31-15 655	9-1-15 693
121.5	125.2	125	126	125.5	126	128	129	128	130.5	131	131
86	86	86	86	86	86	86	86	85	86	86	86
127	125.5	125.5	127	126.8	127	128	131	129	131	135	134
98.5	99	99	100	100	101	100	100	101	104	105	106
138.3	138.9	138.8	138.8	138.8	140	133	142	145	145.5	148	143
38.7	38.8	39.5	40	40.3	41.5	42	42.5	42	43	43	44
26.7	28	28.3	28	27.5	26.5	27.5	27	30	28	31	29
60	63	63.5	63.5	64	63	63	63.5	62	65.5	65.5	67
31	31	31	27.5	28	29	28	28	29	29	29	30.5
151	154	155	155	158	158	160	160	161	161	163	163
57.5	59	60	61	62	62	62.5	64	65	64.5	67	68.5
49.3	49.9	50	51	52.5	55	55.5	56	54.5	50.5	57	56.5
177	177	180	182	183	189	185	189	190	187	197	203
73.5	74.5	74.5	75	75	75	75	75	75	76	76	76
16	16	16.2	16	16.2	16.5	16	16	17	17	17.5	17
46	46	46	46	46	46	46	47	46	46	46	46
16	16	16	16	16	16	16	16.3	16.5	15.4	15	16
71.5	74	74	74	74	76	79	77	77	73	74	74

STEER 551 (Cont.)

STEER 547

3-30-16 880	4-20-16 913	5-29-16 971	7-4-16 1090	6-14-12 108	7-6-12 130	8-1-12 171	9-7-12 246	10-5-12 310	11-5-12 347	11-30-12 389	12-21-12 446
137	137	138	140	74	78.7	82.1	89.5	92.1	94.8	96.4	101
91	92	93	88	57	59	61.5	63	70	70	71	71.5
137.5	138	141	142	76	81.5	85.2	93.8	95.7	98.5	101.5	103.5
113.5	112	110	116	59	62	65	67	74.5	78	81	83
154	156	156	165	82.5	85	91	96	106.2	114	117	120
48	50	47.5	50	19	19.8	22	25.5	27.7	30.5	31.5	33
31.5	32.5	32	32	13.5	15.3	16.5	20	22	23	23.3	23.8
72	73	75	73	31.5	33.7	36.2	39.3	42.5	45.8	47	50
36	36	38	37	18.8	18.8	21	23.4	25.5	24.5	26	27
181	184	186	190	85	86	95	109	115	122	127	133
71.5	75	78	78	29.5	30.5	37.7	41.3	46	47.5	48	50
62	67	78	75	19.5	21	29	32.3	41	42.5	42.5	45
208	223	240	245	87	91	111	130	145	150	152	161
77	77	79	78	50	52	53.5	56.5	58.3	61	61	61.5
19	19	20	19	11.5	11.7	12.5	13.3	14	14	14.5	15
50	52	52	54	26.5	28	30	32	34.5	35	36	37
18	18	18.5	18	11.2	11.8	12.6	13	15	15.2	15.2	15.8
87	87	89	89	46.5	49	52	60	62	67	69	71

TABLE 56.—MEASUREMENTS

STEER 559

Date of measurement	6-13-12	7-5-12	8-1-12	9-5-12	10-5-12	11-5-12	11-30-12	12-31-12
Weight of animal in lbs.	164	176	198	242	254	274	300	325
Condition								
Height at withers	84.5	86.1	89	93.3	95.5	97	98	100.5
Height shoulder to ground	61	64	66	67	70.5	72	72.5	72.5
Height at hips	88	91.4	93	99.1	99.2	102	103	103.8
Length shoulder to hips	66	70.5	71	73.5	76	79	81	85
Length shoulder to ischium	91	99.5	98	104	106	105	110	115
Width of hip	22	23.2	24.3	26	27.5	28.2	29	29.5
Width of loin	17	17.2	18.4	19.8	19.8	20.7	21.5	22.3
Depth of chest	35	37	38.5	42	43.5	43	45	46
Width of chest	22.2	22	22	23.4	23.5	22	22.5	23.7
Girth of chest	94	96	101	110	112	116	118	118
Depth of paunch	34.7	35.5	37.9	41.5	41.3	43	42	43
Width of paunch	25	25	25	29.9	32.4	34.3	35.5	35
Girth of paunch	100.5	98.5	109	121	125	133	133	134
Length of foreleg	53.3	56.8	58.8	61	62.2	63	63	64
Circumference of shin	12.6	13	12.7	13.5	14	14	14.5	14.5
Length of head	29	30	31.2	35	34.5	36	36.5	36.5
Width of jaws	12.5	12.5	12.7	12.5	14	13.5	13.5	13.7
Girth of throat latch	56	57	59	61	62	65	67	67

STEER 559 (Cont.)

Date of measurement	2-1-14	3-1-14	4-1-14	5-1-14	6-1-14	7-4-14	7-25-14	9-1-14
Weight of animal in lbs.	753	765	765	779	792	788	800	800
Condition of animal								
Height at withers	124	124.2	125.5	126	128	128.3	130.1	129.8
Height shoulder to ground	84.6	83	86	85.5	86	87.5	91	92.5
Height at hips	128	129.5	132.5	133	132.4	134.9	135.4	133.2
Length shoulder to hips	110	110	108	109	109	109	110	108.5
Length shoulder to ischium	156	157	152	155	154.5	153.8	151.5	151.5
Width of hip	43	43.5	44	45	45	45.1	45.8	46
Width of loin	31.8	31.5	31.7	32	31.9	31.6	32.7	31.5
Depth of chest	63.2	64.5	65	65	65.8	65.6	66	65.7
Width of chest	36	34	33.5	34	35.6	33.5	35.2	36.5
Girth of chest	171	167	166	167.5	170	169	169	172
Depth of paunch	60.5	55.5	57.5	56.8	60	60.6	60.5	62.5
Width of paunch	55	51.5	51.4	52	52.2	51	56	57.7
Girth of paunch	190	180	180	183	183.5	181	189	195.5
Length of foreleg	75.4	74	77	76	77.2	77.4	77	78
Circumference of shin	18.9	18.5	18.7	19	19	19.8	19.3	19.6
Length of head	49	50	51	51	51	52	51.5	51.2
Width of jaws	17.7	17.8	17.5	17.7	17.5	17.6	17.6	18.2
Girth of throat latch	92	88	86	87.5	88	88	86	89.5

STEER 559 (Cont.)

Date of measurement	9-6-15	10-2-15	10-30-15	11-30-15	12-31-15	1-31-16	2-29-16	3-30-16
Weight of animal in lbs.	915	1015	1023	1045	1090	1130	1183	1225
Condition of animal	G	G	M	M	M	M	M	M
Height at withers	135.5	136	136	135	139	137	138	139.5
Height shoulder to ground	90	90	91	88	92	93	90	97
Height at hips	141.5	142	141	141	143	143	141	142
Length shoulder to hips	118	122	118	120	124	125	121	125
Length shoulder to ischium	161	164	163	172	175	173	175	171
Width of hip	50	50.5	50	51	51.5	52	52	53.5
Width of loin	34	33.5	33	35	36	34.5	35	36
Depth of chest	72	72	72.5	72.5	74	75	74	78
Width of chest	35	36	38	39.5	38	40	40	43
Girth of chest	178	184	186	184	191	195	195	202
Depth of paunch	71	72.5	71.5	71	73.5	78.5	75	75
Width of paunch	60.5	66	61	65	69	75.5	76	78
Girth of paunch	212	221	215	219	238	238	240	245
Length of foreleg	81	81	80	81	80	83	83	80
Circumference of shin	20	20.5	20	20.5	21.2	21	21	21.5
Length of head	51	51	54.5	54	56	57	55	55
Width of jaws	17.7	18.5	18.5	18.3	19.5	18.5	18.5	19
Girth of throat latch	88	92	87	85	93	92	93	98

OF STEERS IN CENTIMETERS.

STEER 559 (Cont.)

2-1-13 342	3-1-13 374	3-30-13 416	5-1-13 484	6-1-13 520	7-1-13 579	8-1-13 611	9-1-13 640	10-1-13 674	11-1-13 694	12-1-13 714	1-1-14 746
102.5	105.5	108	110	112	115	115.6	118	119	119.8	123	123.2
73.5	73.5	74	75	75.4	79	80	80	81.5	81.5	82	84
108	111	113.5	115.4	117.3	121	123	124	124.4	125	127.5	127.5
86	87.5	88	92	93.5	95	96	98	98	100	101	108
117	120	123	129	129.5	131.5	134.5	136.5	137	139	142	154
30.5	31.9	33	34.5	34.8	36.5	38.4	39.2	40	40.9	41.5	42.5
23	24.1	24.5	26	26	26.4	26.6	27.4	28.5	30	30.4	31.4
49.5	49.8	51.3	53.8	54.5	56.1	56.7	59.3	60	60	61.5	62.5
25.5	25.5	26.3	28	28.5	29.4	31.6	32.4	33.5	33.5	34	35.5
129	130.5	133	138	142	147	151	156	158	160	162	168
44.5	45.2	47	50	53	55	54.6	56.5	57	57	56.7	61.2
35.3	36.3	38.2	40.3	45	44.4	44.5	48	48	49.5	50.2	57.4
135	138	144	153	167	165	169	175	173.5	176	176	190
64.5	64.5	67	68	68	69	71	71	71	71.3	71.5	75
14.5	14.8	15	15.5	16	17	17	18	18.2	18.2	18.5	18.8
38	38.5	39.5	41.5	42	43	44.3	45	46	46.5	48	49
14	14.5	15	15.5	15.8	16	16	16.5	17	17.1	17.5	17.5
70	70	72	74	77	78	78	81	83	83	85	95

STEER 559 (Cont.)

9-26-14 812	11-8-14 815	12-3-14 812	1-5-15 835	2-2-15 835	3-2-15 825	4-2-15 845	5-1-15 853	6-2-15 871	7-1-15 868	7-31-15 901	9-1-15 922
131	131	131	132	132	132.5	133	133.5	131.5	134	135.5	135
91.5	91.5	91.5	91	91	91	91	91	90	90	90	90
135.3	137.5	136.8	137	137	137	138	138	140	141.8	144	142
110	115	115	116	117	117	117	115	120	120	120	119
151	160	160.5	161	160	154	155	157	160	160	158	159
46	47.3	47.5	47.5	47.5	48	48.5	49	48	48.5	49	49.8
32	32.5	32.5	32.7	32	30.5	32	31	33	34	34	34
66.6	68	69	69	69.5	69	69	70	71.5	70.5	72	72.5
35.2	35.2	35.3	35	34.3	34.3	34	33.5	35.5	35	33	35
172.3	175	173.2	173.5	178	174	175	175	180	178	176	179
61.3	64.5	64.5	64	64	64	64	65	66	71.5	71	73
52	54	54.5	55	56.5	56.5	57	57	58	58.5	60	61
190	195	188.5	190.5	194	185	193	190	205	202	205	213
78.5	79	80	81	81	82	82	82	79.5	81	81	81
19.5	19.5	19.7	19.3	19	19.5	19.2	19.2	19.5	19.6	20	20
52.5	52.5	52.5	52	51	52.5	52	51.5	50.5	51	51	51
18.3	16	16.8	17.5	17.5	17.5	18	17.5	17.5	16	17	18
90	91	91	91	90	90	90	89	90	87	85	86

STEER 559 (Cont.)

STEER 550

4-29-16 1220	5-29-16 1260	7-4-16 1345	6-13-12 164	7-4-12 175	8-1-12 160	9-5-12 181	10-5-12 227	11-5-12 259	11-30-12 288	12-31-12 323
M	M	G								
140	139	141	80	83.2	85.7	86.3	88.8	90.5	93	96
95	98	92	80.5*	82.5*	83	83	85	87	87.5	87.5
144	145	146	83.5	87.6	88.6	91.5	91.5	92	94.3	96.5
122	130	126	69	69.6	68	71	74	76	77	80
172	182	175	96	98	96	104	104	109	111	113
53.5	55	56.5	22	23	23.4	20.2	25.5	27.2	27.7	28.5
35.5	35	35.5	16	16	16.3	17	17	17.5	18	19
77.5	78	76.5	36.3	37.7	38	39.2	41	42.2	43.8	45
44	46	45	22.3	22.6	22.5	22	22.7	23	23.2	24
207	205	206	95	98	95	100	105.5	111	115	121
80.5	79	80	36.5	35.6	37.8	38.3	40.5	41	42.5	42.8
78	80	74	31	27	27.8	28.8	36.5	39.5	39.7	39.7
251	255	258	113.6	107	104	111	128.5	135	138	140
79	80	80	54	54.4	55	56	56.2	59.5	59.5	59.5
21	21.5	21	12	12.6	12.2	12.5	12.8	12.5	13	13
55	54	56	30	30.5	31	31.5	32.5	34	34	35
19	19	19	12	12.2	12	11.7	12.8	13.3	13.3	13.5
97	100	95	52.3	53	52	52	56	61	61	64

*Probably taken from wrong point on shoulder.

TABLE 57.—MEASUREMENTS

STEER 537							STEER 544			
Date of measurement.....	4-10-09	5-4-09	5-31-09	7-2-09	8-2-09	9-1-09	10-2-09	4-29-09	6-1-09	
Weight of animal in lbs.....	103	120	146	170	196	210	235	121	121	
Condition of animal.....	M to G	M to G	C	C	C	C	C	M	T	
Height at withers.....	72.5	77.5	80.5	84.5	90	92	93	77.5	81	
Height shoulder to ground..	55	58	59.3	61.5	64.8	66	68	58	59	
Height at hips.....	78.5	82.5	85.3	88	92.5	95	94.5	97.5	81.5	
Length shoulder to hips.....	51	55	60.5	64.5	69	71.5	73.5	57.5	57.5	
Length shoulder to ischium..	73	78	84.5	90	94.5	98	102	82	82.5	
Width of hip.....	18	19	20.5	22	23.5	24.5	25.5	18	19.3	
Width of loin.....	14.5	15.3	16	17.3	18.3	19	20.3	15.3	15.5	
Depth of chest.....	30.5	31.8	33.8	36	38	40	42	32	33.3	
Width of chest.....	18	18	18.5	19.3	21	21.5	22	17	17.5	
Girth of chest.....	82	82.5	90	98	103	105	110	85	87.4	
Depth of paunch.....	25.5	26.5	27.5	31	31.5	36.5	38	28.5	32.1	
Width of paunch.....	20	20	21	24.5	25	29	31	18.3	21.5	
Girth of paunch.....	77	79	91	102	106	115	120	80	99	
Length of foreleg.....	50	52	53.3	55.5	58.3	60.3	61	52	53.5	
Circumference of shin.....	10.5	10.5	10.8	11	12	12.3	12.5	11.3	11.3	
Length of head.....	23.8	25	26	28.5	30.3	31.5	32.5	25.5	27	
Width of jaws.....	10.3	11.5	11.8	11.8	12.3	12.5	13.3	11.3	11.3	
Girth of throat latch.....	43.5	44	48	51	51	53	54	50	50	

STEER 546 (Cont.)					STEER 548				
Date of measurement.....	7-2-09	8-3-09	9-1-09	10-1-09	6-13-12	7-5-12	8-1-12	9-5-12	9-28-12
Weight of animal in lbs.....	228	262	281	330	162	166	190	214	222
Condition of animal.....	C	C	C	C to M	M				
Height at withers.....	90.5	94.5	94.5	96	83.3	85.5	89	92.3	95
Height shoulder to ground..	65.5	66.5	66.5	67.5	63	64	66	67	69.5
Height at hips.....	95	98.5	99	101.5	87.2	87.5	91	95.3	95.5
Length shoulder to hips.....	69	74	76.5	79	64.5	65	66.5	69	71
Length shoulder to ischium..	95	103	106.5	110	90	91	93	99	104
Width of hip.....	25.3	27	28.3	30	21.6	22	23.5	24.5	25.3
Width of loin.....	20	21.3	21.5	22	16.7	17	17.6	18	19
Depth of chest.....	40.5	42	44.5	46.3	36.4	37.5	39.5	40.5	42.4
Width of chest.....	22.8	23	23.5	24	21	21	22.4	21	23.5
Girth of chest.....	109	117	122	125	96	98.2	102	108	109
Depth of paunch.....	41	43	46	49	35.7	35.2	37.6	37.8	38.3
Width of paunch.....	26	33.5	33.5	34.5	26.6	25	28	28.2	29.4
Girth of paunch.....	120	136	141	150	104	104.5	107	116	114
Length of foreleg.....	58.3	59.3	60	61.5	54.6	56.5	56.9	59	59.8
Circumference of shin.....	13	13.5	13.8	14.3	12	12	12.2	12.5	13
Length of head.....	31.3	33	34	35	31.2	31.5	32.5	33	34
Width of jaws.....	13.3	13.5	13.8	13.8	12.6	12.7	12.2	12.3	12.8
Girth of throat latch.....	58	62	62.5	67	51	54	55	57	58

OF STEERS IN CENTIMETERS.

STEER 544 (Cont.)				STEER 545						STEER 546	
7-3-09	8-3-09	9-1-09	10-2-09	5-3-09	5-31-09	7-2-09	8-3-09	9-1-09	10-1-09	5-3-09	6-1-09
138	176	209	250	161	168	190	218	245	275	212	218
T	T to F	T to F	T to F	T to F	F to C	F to C	F to C	F to C	F to C	C	C
82.5	87	89.5	93	82.5	84	87	90.5	91	93.8	86	89.5
59.5	61	63	64	61	62	64	66	67	67.5	63	64.3
84	89	92	95	86	87	89.5	92.5	93.5	95	91.5	94.5
58	64	67.5	72.5	63	66.5	67	70.5	73	75.5	58.5	63
83	88	94.5	101	88	93	94	97.5	101	105	88.5	94
20	22	24	24.5	22.5	22.8	23.8	26	26.8	27.8	.....	24.5
16	17	17.8	19.8	17	17.5	18	19.8	20	21	19	19.5
35	38	40	44	36.5	37.3	38	40.5	41.5	42	37	39
17.5	18.5	20	21	19.5	20	20	21	21.5	22.5	21	20.5
94	100	105	110	93	96	101	110	111	115	107	106
34.5	37	39	42	32	34	34	39.5	40	40.8	41	41
24	29	31.5	32.5	23	24.5	24.5	31.5	33	32.5	24.5	27
107	119	125	135	95	102	106	126	128	138	111	118
54	56	58	59.5	52.5	53.5	55	57	59	61	55.5	57
11.5	12.3	12.5	13	12	12	12.3	13	13.3	14.3	13	13
28	30	31	34	29	29.5	30.5	33	33.5	35	30	30.8
11.5	12	12.3	12.5	12.5	12.5	13	13.8	13.8	14.3	12.5	12.8
50	51	52	60	50	52	54	55	57	60	51	56

STEER 552					STEER 555			STEER 556		
6-14-12	7-5-12	8-1-12	9-5-12	9-28-12	6-14-12	7-5-12	7-20-12	6-14-12	7-6-12	7-22-12
170	191	209	245	255	154	171	193	188	234	252
84.5	86.2	89.8	93.2	96.5	83.5	87.8	88.3	89	92	95.7
57.5	62	66.2	67	70	61	62	63.5	65	67	69.5
86.3	89.5	92.9	97.2	98	86.3	90	90.7	94	96.5	99.5
66	70.5	69.5	73	75	61	65	67.5	69.5	72	75
94	100	102	105	107	89.5	93.5	97	100	103	105.5
23	23.7	24.6	26.7	27	21.6	22.2	23	22.5	24.5	25
18.5	18.5	18.7	20.8	21.7	15.4	16.3	17	17.5	19	19.7
36.5	37.3	40.2	43.8	44	35.2	37.6	37.4	39	41	42.3
20.4	22.4	24	24.2	25	20.3	22	21.7	22.7	23.4	23.9
99	101.3	106	112	114	95	97	99	102	108	112.5
34	34.5	37.2	41.5	40	33.4	35.6	37.5	37.5	39.5	42.5
27.2	25.2	27.3	30.7	33.3	24.8	27.4	31.4	23.7	32	30.5
105	103	110	123	125	99.5	105	115	103	121	123
54	57	59	60	61.2	54.7	55	56.3	58	58.8	60
13	13.3	13.7	14	14	12.5	13	12.8	13	13	14
29	31	32	34	35	30.7	31	31.5	30	32.5	32.6
11.8	12.2	12.7	12	13.3	11	12.2	12.2	12	14	14.1
54	55	56	58	60	54	55.5	55.5	54.2	58	60.7