

EXPERIMENT STATION
OF THE
KANSAS STATE AGRICULTURAL COLLEGE,
MANHATTAN.

BULLETIN No. 72— JULY 1897.

FARM DEPARTMENT.

C. C. Georgeson, M. S.,
Professor of Agriculture and Superintendent of Farm.

F. C. Burtis, M. S., Assistant.

D. H. Otis, M. S., Assistant.

DATA ON THE GROWTH OF YOUNG STOCK.

WE have, during the past winter, kept an accurate account of the feed eaten and gain made during given periods by each head of young stock in the herd, as hereinafter detailed. The object was to ascertain the average rate of growth and the gain for feed consumed under ordinary farm management, and thus, perhaps, find a clue to the growth that may be expected anywhere under similar conditions. No special treatment was accorded these calves and young stock on account of the experiment. They were treated in all respects as our young stock has been treated for years past. They were all sheltered in the barn and daily turned out from about 9 A. M. to 4 P. M. The grain feed consisted of a mixture of one-eighth oil-meal, two-eighths bran and five-eighths corn-meal, by weight. In addition to the grain, they were fed what they could eat of silage and hay or mangels, given them in such proportions as was thought proper, or the quantity on hand would permit. The ensilage was made from corn. The hay, when not otherwise qualified, consisted of a fair quality of prairie hay. The soy-bean hay was cut and cured when the beans in the pod were about half grown, and was saved in good condition. The alfalfa

hay had been somewhat damaged by rain. It might be classed as of fair quality, and the same might be said of the cow-pea hay. The data are as follows:

I. SHORTHORN BULLS.

No. 106: Calved September 29, 1895; weight December 1, 810 pounds; weight April 26, 1,005 pounds; gain 195 pounds in 147 days, a daily gain of 1.32 pounds. The feed consumed was 958 pounds grain, 585 pounds mangels, 532 pounds soy-bean hay, 249 pounds alfalfa hay, and 275 pounds prairie hay. The average daily grain ration was 6.51 pounds. The hays were not fed simultaneously, and hence the average daily amount will be misleading. The average food per pound of gain: grain 4.90 pounds, mangels 3 pounds, soy-bean hay 2.72 pounds, alfalfa hay 1.27 pound, sand prairie hay 1.41 pounds.

No. 112: Calved February 24, 1896; weight December 1, 590 pounds; weight March 15, 785 pounds; gain in 105 days 195 pounds; average daily gain per day 1.85 pounds. Total food consumed: grain 804 pounds, mangels 631 pounds, alfalfa hay 169 pounds, prairie hay 335 pounds; average daily grain ration 7.65 pounds. Food consumed per pound of gain: grain 4.12 pounds, mangels 3.23 pounds, alfalfa hay 86 pounds, prairie hay 1.71 pounds.

No. 113: Calved May 24, 1896; weight December 1, 1,480 pounds; weight April 26, 756 pounds; gain in 147 days 276 pounds; average daily gain 1.81 pounds. Total food consumed: grain 903 pounds, mangels 621 pounds, alfalfa hay 118 pounds, prairie hay 780 pounds; average daily grain ration 6.14 pounds. Food consumed per pound of gain: grain 3.27 pounds, mangels 2.25 pounds, alfalfa hay .42 pound, and prairie hay 2.82 pounds.

No. 114: Calved May 17, 1896; weight December 1, 490 pounds; weight February 1, 610 pounds; gain in 62 days 120 pounds; average daily gain 1.93 pounds. Total food eaten: grain 378 pounds, mangels 617 pounds, alfalfa hay 94 pounds, cow-pea hay 86 pounds; average daily grain ration 6.09 pounds. Food consumed per pound of gain: gain 3.15 pounds, mangels 5.14 pounds, alfalfa hay .78 pound, and corn-pea hay .71 pound.

No. 117: Calved June 26, 1896; weight January 1, 426 pounds; weight April 26, 638 pounds; gain in 116 days 212 pounds; average daily gain 1.82 pounds. Total food eaten: grain 674 pounds, mangels 28 pounds, prairie hay 605 pounds. The mangels were fed only one week, and for practical purposes may be disregarded. Average daily ration: grain 5.81 pounds, prairie hay 5.21 pounds. Food consumed per pound of gain: grain 3.18 pounds, prairie hay 2.85 pounds.

No. 120: Calved September 4, 1896; weight February 1, 352 pounds; weight April 26, 453 pounds; gain in 85 days 101 pounds; average daily gain 1.19 pounds. Total food eaten: grain 252 pounds, prairie hay 319 pounds, alfalfa hay 59 pounds. Average daily ration: grain 2.97 pounds, hay 4.44 pounds. Food consumed per pound of gain: grain 2.5 pounds, hay 3.74 pounds.

No. 123: Calved February 13, 1897; weight February 22, 78 pounds; weight April 19, 135 pounds; gain in 55 days 57 pounds; average daily gain 1.03 pounds. Food consumed: whole milk 448 pounds, hay 15 pounds. Average daily ration of milk, 8.14 pounds. The hay was fed only during the last 28 days, and he, therefore, ate a trifle over one-half pound a day. Food per pound of gain: milk 7.86 pounds, prairie hay 26 pound.

No. 124: Calved March 5, 1897; weight March 22, 83 pounds; weight April 19, 104 pounds; gain in 28 days 21 pounds; average daily gain .75 pound. Whole milk consumed, 224 pounds; hay 15 pounds. Daily ration: milk 8.14 pounds, hay .53 pound. Food per pound of gain: milk 10.66 pounds, prairie hay .71 pound.

II. SHORTHORN HEIFER CALVES.

No. 118: Calved July 7, 1896; weight February 22, 409 pounds; weight April 26, 530 pounds, gain in 63 days, 121 pounds; average daily gain 1.92 pounds. Total amount eaten: grain 189 pounds, ensilage 977 pounds, soy-bean hay 199 pounds. Average daily ration: grain 3 pounds, ensilage 15.50 pounds, and soy-bean hay 3.14 pounds. Food consumed per pound of gain: grain 1.56 pounds, ensilage 8.07 pounds, soy-bean hay 1.64 pounds.

No. 119: Calved July 13, 1896; weight February 22, 381 pounds; weight April 26, 483 pounds; gain in 63 days 102 pounds; average daily gain 1.62 pounds. Total food consumed: grain 189 pounds, ensilage 957 pounds, soy-bean hay 178 pounds. Average daily ration: grain 3 pounds, ensilage 15.19 pounds, soy-bean hay 2.82 pounds. Food consumed per pound of gain: grain 1.85 pounds, ensilage 9.38 pounds, soy-bean hay 1.74 pounds.

No. 121: Calved September 9, 1896; weight February 1, 400 pounds; weight April 26, 506 pounds; gain in 85 days 106 pounds; average daily gain 1.24 pounds. Total food eaten: grain 255 pounds, soy-bean hay 272 pounds. Average daily ration: grain 3 pounds, soy-bean hay 3.2 pounds. Food consumed per pound of gain: grain 2.46 pounds, soy-bean hay 2.56 pounds. It will be noticed that this heifer received no ensilage, and the grain ration per pound of gain is, therefore, larger than in the preceding cases, while the average daily gain is correspondingly less.

No. 122: Calved January 17, 1897; weight January 25,80 pounds; weight April 19, 173 pounds gain in 84 days 93 pounds; average daily gain 110 pounds. Total food consumed: whole milk 799 pounds, grain 28 pounds. Average daily ration: milk 9.51 pounds, grain .33 pound. The grain was fed only during the last four weeks. Food per pound of gain: milk 8.58 pounds, grain .3 pound.

III. HOLSTEIN-FRIESIAN BULLS.

No. 4: Calved November 11, 1895; weight December 1, 1896, 857 pounds; weight May 3, 1897, 1,083 pounds; gain in 154 days 286 pounds; average daily gain 1.47 pounds. Total food eaten: grain 1,021 pounds, mangels 632 pounds, alfalfa hay 268 pounds, prairie hay 1,006 pounds. Average daily ration: grain 6.63 pounds, hay 8.27 pounds. The mangels were fed the first five weeks only. Food consumed per pound of gain: grain 4.52 pounds, hay 5.63 pounds.

No. 5: Calved February 7, 1896; weight December 1, 690 pounds; weight May 3, 1,015 pounds; gain in 154 days, 325 pounds; average daily gain, 2.11 pounds. Total food eaten: grain 1,019 pounds, mangels 586 pounds, soy-bean hay 636 pounds, alfalfa hay 273 pounds, cow-pea hay 372 pounds. Average daily ration: grain 6.61 pounds, hay 5.90 pounds. The mangels were fed during the first five weeks only. Food consumed per pound of gain: grain 3.13 pounds, hay 2.79 pounds, mangels 1.8 pounds.

No. 6: Calved January 9, 1897; weight January 25, 106 pounds; weight April 19, 201 pounds; gain in 74 days 95 pounds; average daily gain 1.28 pounds. Total food eaten: whole milk 825 pounds, grain 30 pounds. The grain was fed only during the last four weeks. Average daily ration: milk 11.1 pounds, grain .4 pound. Food consumed per pound of gain: milk 8.68 pounds, grain .31 pound.

No: 8. Calved January 21, 1897; weight January 25, 89 pounds; weight April 19, 173 pounds; gain in 74 days 84 pounds; average daily gain 1.13 pounds. Total food consumed: whole milk 788 pounds, grain 29 pounds. Average daily ration: milk 10.64 pounds, grain .39 pound. Food consumed per pound of gain: milk 9.38 pounds, grain .34 pound.

IV. HEREFORDS.

Miss Beau Real IV: Calved February 26, 1896; weight February 21, 1897, 637 pounds; weight April 26, 737 pounds; gain in 63 days 100 pounds; average daily gain 1.58 pounds. Total food consumed: grain 208 pounds, ensilage 1,366 pounds, prairie hay 163 pounds. Average daily ration: grain 3.30 pounds, ensilage 21.68 pounds,

prairie hay 2.58 pounds. Food consumed per pound of gain: grain 2.08 pounds, ensilage 13.66 pounds, prairie hay 1.63 pounds.

No. 5: Bull; calved January 1, 1896; weight November 30, 715 pounds; weight March 3, 900 pounds; gain in 93 days 185 pounds; average daily gain 1.98 pounds. Total food consumed: grain 597 pounds, mangels 537 pounds, alfalfa hay 341 pounds, cow-pea hay 311 pounds. Average daily ration: grain 6.42 pounds, hay 7.01 pounds. The mangels were fed the first five weeks only. Food consumed per pound of gain: grain 3.22 pounds, mangels 2.90 pounds, hay 3.52 pounds.

No. 7: Bull; calved February 12, 1897; weight February 15, 71 pounds; weight April 19, 137 pounds; gain in 63 days 66 pounds; average daily gain 1.04 pounds. Total food consumed: whole milk 454 pounds, hay 14 pounds. Average daily ration: milk 7.2 pounds, hay .22 pound. Food consumed per pound of gain: milk 6.87 pounds, hay .21 pound.

V. JERSEYS.

No. 4: Heifer; calved December 17, 1895; weight November 30, 505 pounds; weight April 26, 701 pounds; gain in 147 days 196 pounds; average daily gain 1.33 pounds. Total food consumed: grain 902 pounds, mangels 632 pounds, alfalfa hay 170 pounds, prairie hay 811 pounds. Average daily ration: grain 6.13 pounds; the mangels were fed the first five weeks only; hay 6.67 pounds. Food consumed per pound of gain: grain 4.60 pounds, mangels 3.22 pounds, hay 5 pounds.

No. 5. Heifer; calved November 22, 1895; weight November 30, 490 pounds; weight April 26, 659 pounds; gain in 147 days 169 pounds; average daily gain 1.15 pounds. Total food consumed: grain 904 pounds, mangels 632 pounds, soy-bean hay 356 pounds, alfalfa hay 150 pounds, cow-pea hay 233 pounds. Average daily ration: grain 6.15 pounds; mangels were fed the first five weeks only; hay 5.02 pounds. Food consumed per pound of gain: grain 5.34 pounds, mangels 3.74 pounds, hay 4.3 pounds.

No. 6: Heifer; calved December 25, 1895; weight November 30, 492 pounds; weight April 26, 679 pounds; gain in 157 days 187 pounds; average daily gain 1.27 pounds. Total food consumed: grain 904 pounds, mangels 632 pounds, alfalfa hay 166 pounds, prairie hay 687 pounds. Average daily ration: grain 6.15 pounds; the mangels were fed the first five weeks only; hay 5.80 pounds. Food consumed per pound of gain: grain 4.83 pounds, mangels 3.38 pounds, hay 4.56 pounds.

No. 7: Heifer; calved January 9, 1896; weight November 30, 447 pounds; weight April 19, 600 pounds; gain in 140 days 153 pounds; average daily gain 1.09 pounds. Total food consumed: grain 778 pounds, mangels 613 pounds, soy-bean hay 265 pounds, alfalfa hay 142 pounds, cow-pea hay 195 pounds. Average daily ration: grain 5.55 pounds; the mangels were fed the first five weeks only; hay 4.3 pounds. Food consumed per pound of gain: grain 5.08 pounds, mangels 4 pounds, hay 3.93 pounds.

No. 8: Bull; calved January 16, 1897; weight January 25, 62 pounds; weight April 19, 152 pounds; gain in 84 days 90 pounds; average daily gain 1.07 pounds. Total food consumed: whole milk 631 pounds, grain 17 pounds. Average daily ration: milk 7.51 pounds, grain .2 pound. Food consumed per pound of gain: milk 7.01 pounds, grain .18 pound.