ECONOMIC HISTORY OF THE PRODUCTION OF BEEF CATTLE IN IOWA

[This is the second installment of an article on the economic history of beef cattle production in Iowa, by John A. Hopkins, Jr. The article will be concluded in the July number.— THE EDITOR]

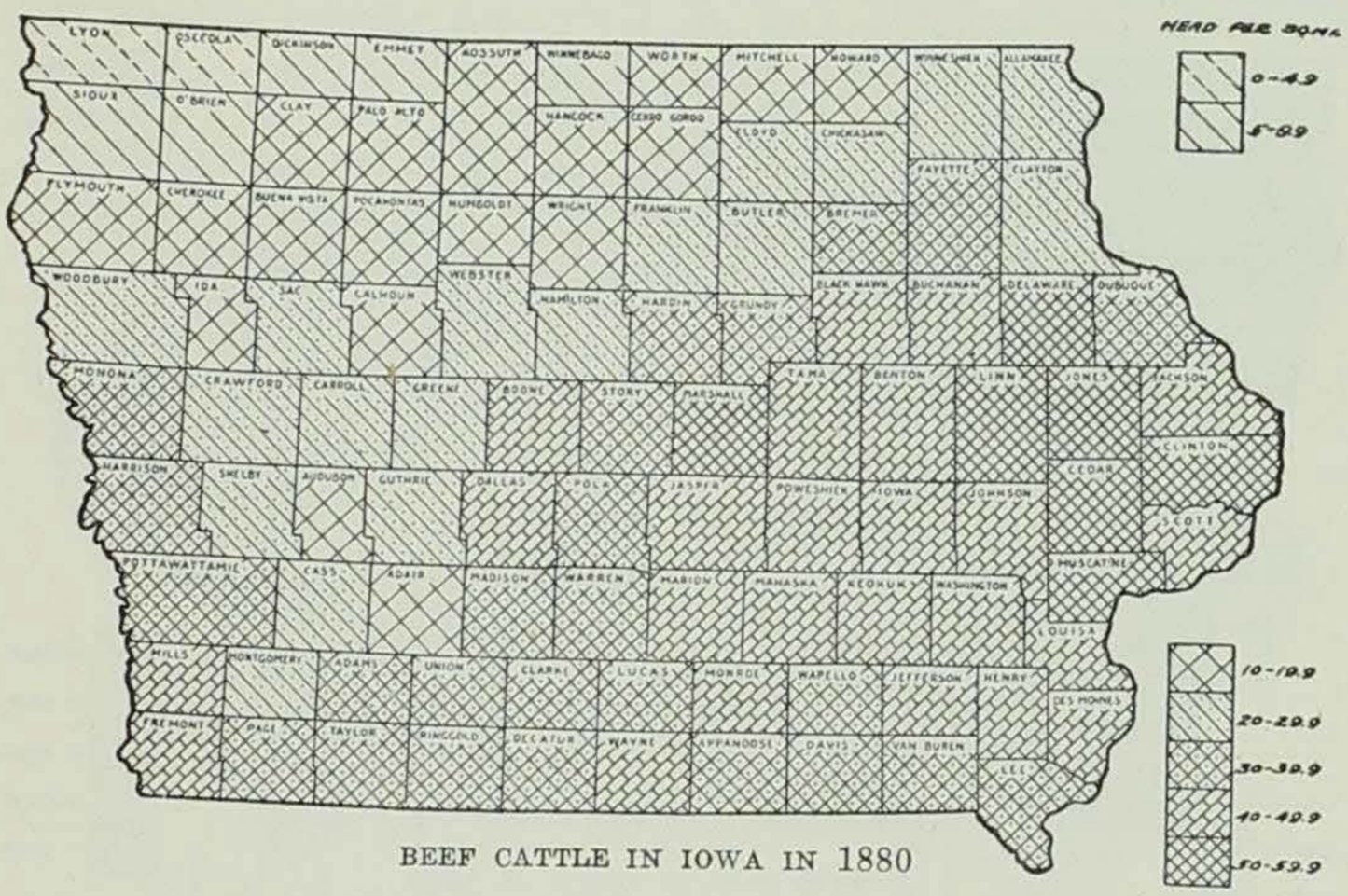
INCREASE IN NUMBER OF CATTLE IN THE LATTER PART OF THE CENTURY

Between 1860 and 1870 the number of cattle in the State had more than doubled. Between 1870 and 1880 it nearly trebled and the number per 100 of rural population increased from 59 to 127. Between 1880 and 1890 the number again nearly trebled, while the number per 100 of rural population increased from 127 to 225. The number of cattle other than milk cows in Iowa in 1870 was 614,366. In 1880 it was 1,755,343 and in 1890 it was 3,394,765.[86]

The density of the cattle population was changing with the change in density of human population. In 1870 the area of greatest cattle density was east of a line drawn from Monroe to Delaware County. This area averaged about twenty-five cattle per square mile. In 1880 the southeastern part of the State was still the one of greatest density as far west as a line from Mills County, in the southwestern corner of the State to Buchanan in the northeastern section. But the density was much more uniform in this area than previously, except for Cass, Adair, and Montgomery counties which were still quite thinly settled. As far west as a line from Woodbury County in the western part of the State to Winneshiek in the northeastern corner, the density was as great as in the densest area a decade before.

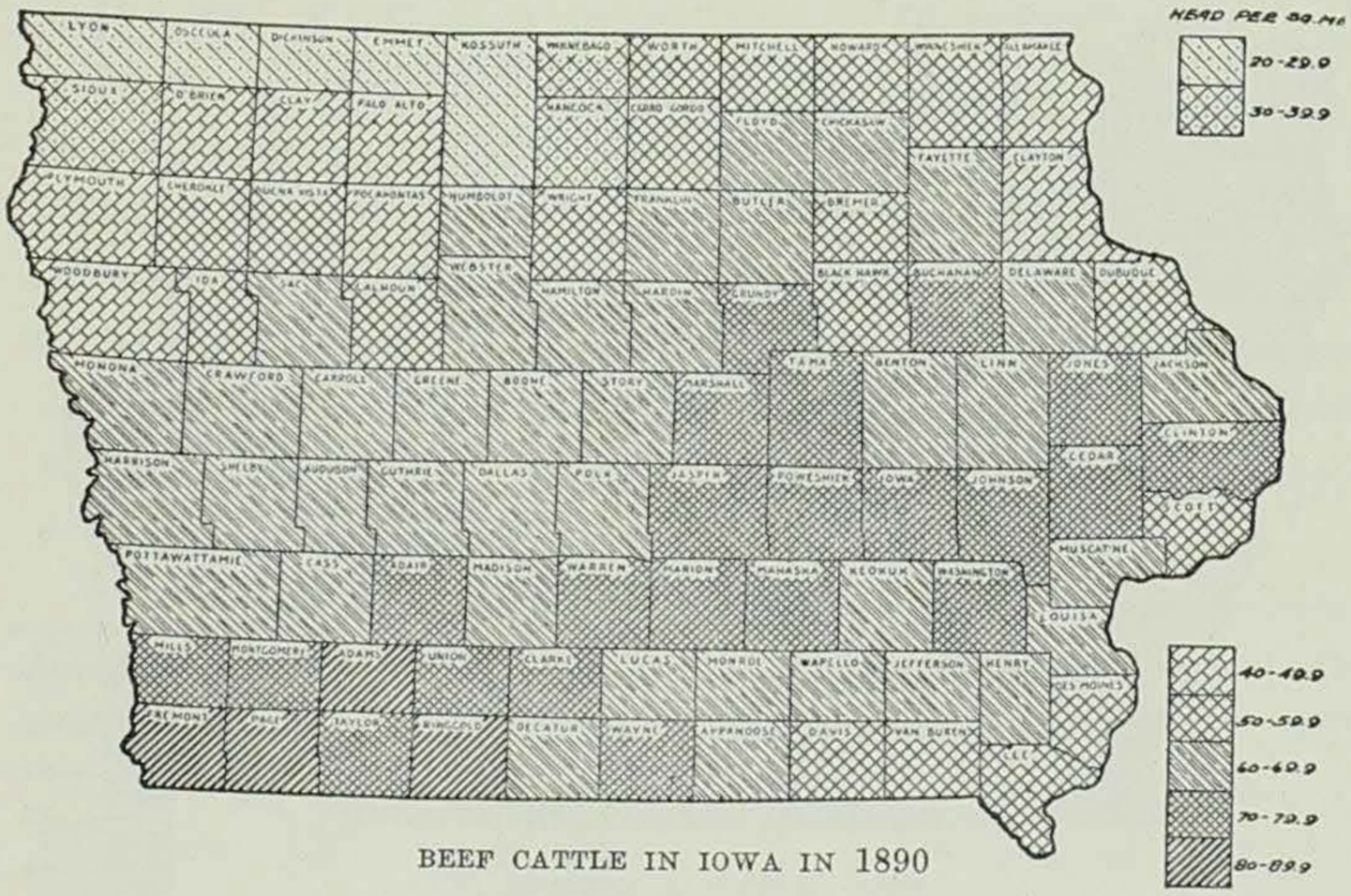
[86] Census reports from 1860 to 1890 inclusive. The maps in this chapter are drawn from data found in the census reports from 1840 to 1920.

In 1890 there were four belts of varying grades of cattle density. In the section of the State east of a line from



BEEF CATTLE IN IOWA IN 1880

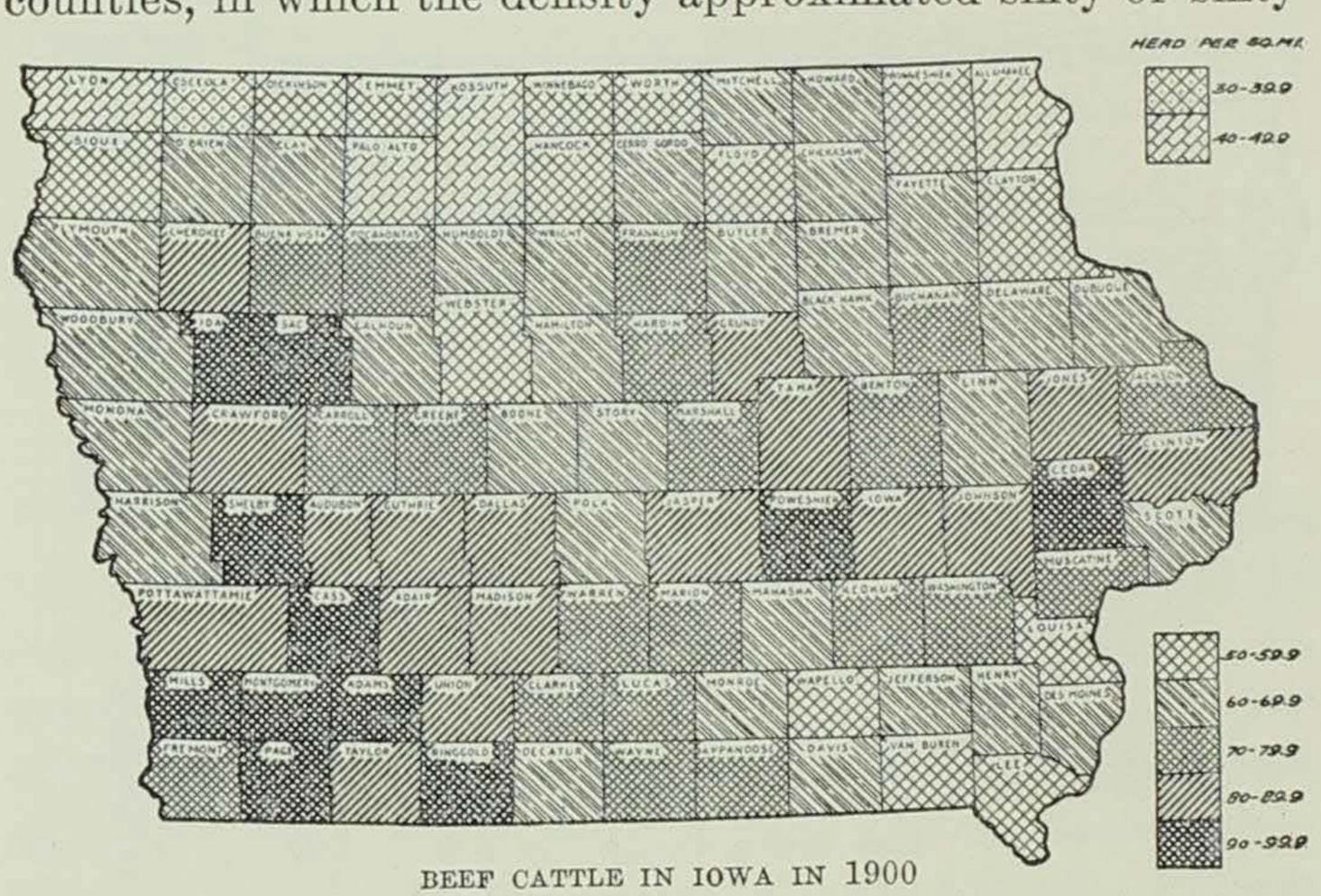
Decatur to Scott County there were not more than sixty cattle per square mile. West of this and east of a line from



BEEF CATTLE IN IOWA IN 1890

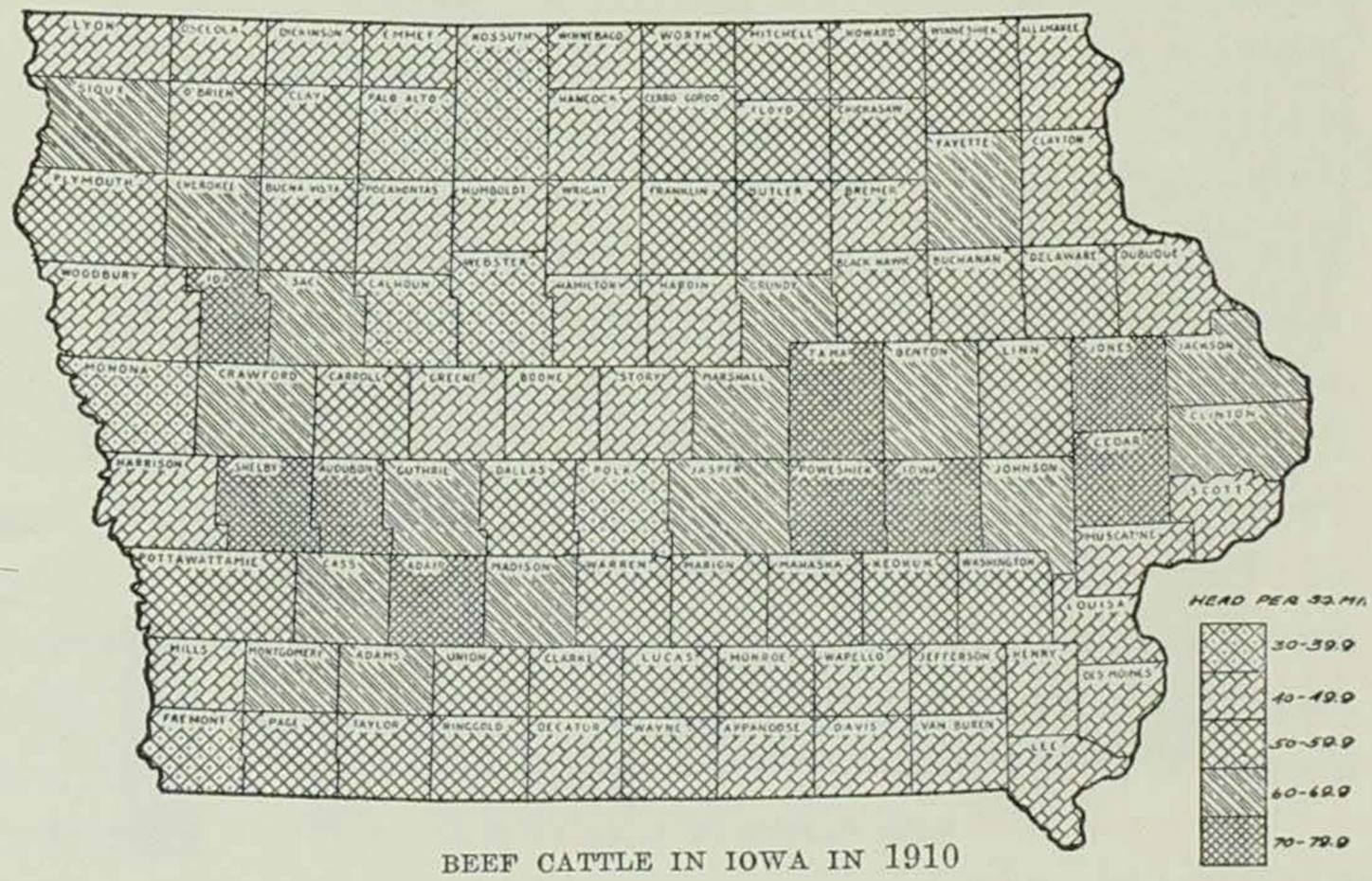
Fremont to Buchanan County there was a density of from sixty to ninety per mile. To the northwest there was a belt

extending to the line established by Monona and Floyd counties, in which the density approximated sixty or sixty-



BEEF CATTLE IN IOWA IN 1900

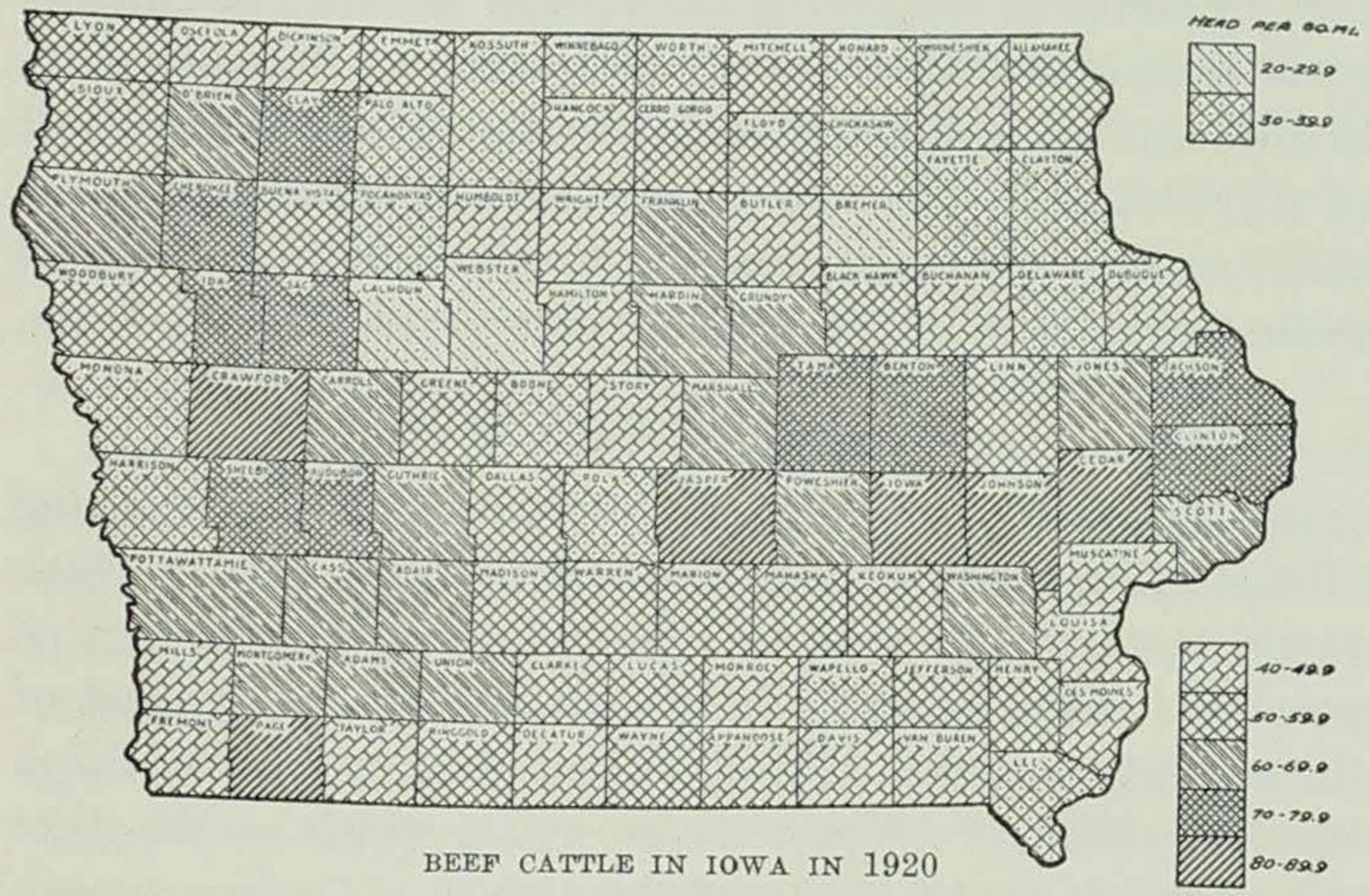
five; and finally in the northwestern corner of the State, there was a density of from twenty to fifty per square mile.



BEEF CATTLE IN IOWA IN 1910

The southeastern corner of the State now began to show that it did not have a carrying capacity for cattle as great

as the central part. After the central part of the State was passed, the density of the cattle population began to shade off to the north and west as one approached the more sparsely settled sections.



BEEF CATTLE IN IOWA IN 1920

In 1900 the density of cattle had increased most in an area parallel to the Missouri River and two tiers of counties to the east. The area which had the greatest density in 1890 continued to contain more cattle than the areas on either side. A crescent shaped section in the eastern part of the State from Grundy County through Poweshiek and Johnson to Clinton County had also increased considerably in density, though not to the same extent as the western section.

In 1910 the census showed no marked change in relative density from 1900. The absolute density as given by the census of 1910 was considerably less than that of 1900. This, however, is largely due to the fact that the census of 1910 was taken as of April 15th, while that of 1900 was taken as of June 1st. Had the 1910 census been taken as of June 1st, it would have shown a much greater density than

it did. Both the census of 1900 and that of 1910 was taken too late in the season to show many of the feeding cattle,[87] which are mostly sold during the winter and early spring months. The census for these reasons is not very satisfactory either in measuring the volume of cattle production or in comparing the relative importance of the enterprise in different parts of the State. The data of the Department of Agriculture is likewise unsatisfactory, especially in the earlier years. It is necessary to use the two together, and to interpret each in the light of any other available data.

BREEDING FOR BABY BEEF

In the breeding of cattle the interest after the beginning of the century was largely in developing beef cattle which would mature and could be fattened at as early an age as possible. This was largely in response to the demand of the market for smaller cattle with as good or a better finish than previously.[88] The need for cattle which would make more efficient use of feed, and the results of feeding experiments which showed the advantage in feeding young stock was also of influence here. This problem had been before the breeders for some years before 1900, and considerable progress had been made. In 1900 C. E. Leonard, President of the American Shorthorn Association, said regarding early maturity of the Shorthorns:[89] "such progress has

[87] In the *Thirteenth Census of the United States*, 1910, Vol. V, pp. 526, 527, the value of cattle and calves sold or butchered in Iowa is given as $92,862,139 and of hogs sold or butchered as $93,802,016.

[88] "A characteristic feature of the (cattle) trade for the entire year was that medium weight cattle of good finish were always preferred and generally brought a higher price than the heavier kinds. . . . . Another feature was that high grade steers invariably brought a good round premium over the price paid for animals without breeding."—*The Iowa Homestead*, January 10, 1901.

[89] From an address before the American Shorthorn Breeders Association in Chicago, December 5, 1900, in *The Iowa Homestead*, January 3, 1901.

been made in this respect that up to date Shorthorns are as well matured at two years as formerly at three.''

The improvement in the grade cattle had been even more marked than in the purebreds according to all reports. Of course the grades depended on the purebreds for their improvement. But the use of purebred sires had increased a great deal, and with the passing of the open prairie the inducement to improvement, as well as the possibility of improvement had also increased. The scrub cattle, which as the Irish settler said, ''were pretty old for their size'', were passing out of fashion and out of existence.

The possibility of breeding cattle which would be good for both purposes, dairy and beef, was again brought forward as a possible solution of one of the farmers' hardest problems. The price of feeds was rising. The margin between the price of feeder cattle and that of fat cattle was apparently becoming smaller. The ordinary cattle of the State were fairly good as beef, but poor as milk producers. If a breed or a strain could be developed which would fill both purposes satisfactorily, it would greatly reduce the cost of calves since there would be another product of the breeding herd besides the calves to help bear the expense of maintenance.

The dual purpose question had been discussed before, but the first six or eight years of the century saw it reopened and thoroughly aired in various papers, and at farmers' meetings. One group pointed out the necessity of milking the dams of the beef calves if the farmer was to make both ends meet. Another group showed that inferior beef was produced by good dairy cattle. More or less of an agreement was reached that it seemed impossible to produce a breed which would excel in two purposes as widely divergent as the production of the best beef and of large quantities of milk. But it was also agreed that the milking of

the beef cows as much as possible was by all means to be desired as a way of reducing the cost of beef production.

THE PUREBRED BOOM OF 1918-1919

The number of beef cattle in Iowa in 1914 was approximately 2,555,000. By 1918 it had grown to 2,919,000. In 1919 there was a slight falling off, followed by a renewed growth to 3,474,000 in January, 1920. There was no great change in the location of the areas of greater cattle density in the decade from 1910 to 1920.

The improvement in the breeding of cattle in the State continued. By 1914, there were few farmers who did not own a purebred bull if not a few purebred cows in addition. With the increasing profitableness in the production of beef when prices began to rise in 1915, there was awakened a greater interest in purebred stock.[90] Men who were induced by the profits of cattle raising to go into the business, furnished a larger outlet for the product of purebred producers, and gave impetus to the boom.

The prices of purebred stock were already such as to be lucrative to the producers.[91] In 1917 and 1918 purebred prices moved upward at an even greater rate than the prices of fat cattle. The boom reached its peak in the fall of 1919. While it lasted there was heavy and often indiscriminate

[90] "There are many indications of a revived interest in livestock husbandry. Among other things may be noted the brisk demand that exists for pure-bred live stock as indicated by the prices paid for the good cattle of all breeds during the last six weeks or two months. The interest does not center wholly in the pure-breds, because many inquiries have been received by this paper from subscribers who are changing from grain farming to live stock raising, their aim being to convert their grain and roughage into animal flesh and market it in that form."— *The Iowa Homestead,* July 8, 1915.

[91] "It has been very apparent for three or four years that of the two leading parties in the making of a steer, the breeder and the finisher, the breeder is the one who got the lion's share of the profit."— *The Iowa Homestead,* November 18, 1915.

buying, partly by other breeders and partly by farmers. The reputations of the breeders counted often for as much or more in determining prices than did the conformation of the animals sold.[92]

With the beginning of the decline in the prices of cattle in the markets, the purebred craze came to an abrupt end. The legitimate producer of purebred stock, who had confined his activities to the selling of the stock he produced was not seriously injured. But the speculator who had bought recklessly, thinking he could sell at still higher prices, was seriously hurt.[93] Prices tumbled and purebred speculators tumbled with them. There was again a problem of finding out what purebred cattle were worth as sires and dams of *beef* rather than of *pedigrees*.

V

THE GRAZING INDUSTRY IN IOWA

The first settlers of Iowa found a great area of fertile land waiting for them. Nature had been prodigal in stor-

92 "The insistent demand for beef, both at home and in foreign countries, is being daily reflected at the auction sales of pure-bred cattle throughout the grain-belt states. Price records are being established one day only to be surpassed the next. There seems to be almost no limit to the prices breeders are willing to pay for choice animals of the right breeding."—*The Iowa Homestead,* May 29, 1919.

A successful breeder in Iowa expressed disappointment at the lack of discrimination shown during the boom. He had seen a bull calf sold at a sale, by a widely known breeder, for $15,000 but believed that as good calves, and with as good pedigrees had been sold by breeders who were not widely known for $500.

93 "The spectacular pure-bred prices of last year are now a matter of history. Values have declined from 50 to 75 per cent and in some instances more. . . .

"The breeder of pure-bred cattle who has not allowed himself to speculate during the last few years is not afraid of the future. He is still making money and will continue prosperous. His business is on a sound basis, not so lucrative as it has been in the last two years or so, but nevertheless very

ing up food for plants in the soil here, and in converting it into feed for animals. Early settlers were filled with awe at the sight of the virgin prairie, covered with tall, thick grass as far as the eye could see.

The land in early Iowa could be secured at a low price. Labor, on the other hand, was scarce and high for few men would work long for others when they could easily secure land for themselves. Capital was also scarce, and if it was borrowed, the rate of interest was very high. Land alone was cheap. Therefore, the more land and the less labor and capital the farmer could use in early Iowa, the better off he was in comparison with producers in the older sections of the country where labor and capital were cheaper, but where land values were higher. Under these conditions the growing of crops as the principal enterprise in Iowa was for the time being out of the question. Live stock, which could be grazed and raised mostly on the feed of the prairies, brought the largest returns for the labor and capital expended.

Of the kinds of live stock which could be raised, cattle were by far the most satisfactory. Except where oak woods with plenty of mast were abundant hogs were not satisfactory. They could not be raised on prairie grass, but needed more concentrated and less bulky feed. Sheep were not satisfactory because there were animals such as wolves to prey on them. Cattle, on the other hand, needed just such bulky food as the prairie grass, and they were large enough to take care of themselves.

Not only is the labor required to care for a herd of cattle probably the smallest per acre of land of any form of agricultural production, but the amount of capital invested in

profitable. It is the man who was carried off his feet by high prices and who thought there was no limit to what men would pay and, therefore, who bought freely at sky-high prices, confident that he could resell at still higher figures, who is hurt by present declines.''— *The Iowa Homestead*, December 2, 1920.

cattle, under grazing conditions, is also one of the smallest per acre. This was especially true on the frontier where cattle were cheaper than in the older settled regions. Therefore, the grazing of cattle filled the need for a productive enterprise to fit the peculiar conditions of the frontier.

The principal product of the early settler, before the building of railroads into Iowa, also had to be one which could easily be transported to market. The markets for the agricultural frontier were far to the east, and facilities for transportation were lacking. Grains, such as corn or wheat, were impossible as market crops, except within short distances of the rivers down which they could be shipped to St. Louis. Cattle were not only a saleable commodity of high specific value, but they could actually provide their own means of transportation. Their legs could carry them to market.

The principal difficulty which the settler in Iowa faced for some time was that he did not have sufficient capital to keep as large a herd as the land would support. Most settlers, therefore, were forced for a time into less profitable enterprises, and raised a few acres of crops, most of which they fed to hogs or cattle.[94]

CHARACTERISTICS OF THE GRAZING INDUSTRY IN IOWA

There were various ways in which the open prairie lands of Iowa were used for grazing. These depended on local conditions, on the wealth of the settler, on the number of cattle in the neighborhood, and on the stage of development which the section had attained. The principal methods may be grouped into four approximate divisions, and other systems considered as combinations or modifications of these. These are: (1) the grazing of the few cattle belonging to

[94] Much of the data for this chapter was obtained from interviews with old settlers in various parts of Iowa.

new settlers who as yet had not been able to build up a herd, (2) the grazing of large herds in the neighborhood in which the owners of the cattle lived, (3) the herding of cattle throughout the season beyond the denser settlements and at a distance from the farms of their owners, and (4) the grazing of herds which were in transit to markets from sections of the country farther west or south.

As has already been stated, the settlers at first had very few cattle because they were not rich enough to own more. A settler's live stock usually consisted of a yoke of oxen and two or three cows to furnish milk for the family. There were, of course, some who had more live stock, but they were the exception rather than the rule during the early pioneer period in Iowa.

A few early settlers, in order to provide grazing for their cattle and save the trouble of looking for them every day, built fences around enough land to provide pasture. But this was seldom done on the frontier. Usually the cattle were turned loose on the prairie. They were sometimes tended by boys who were not old enough to do much work around the farm. Since considerable time and effort were required to build a fence, and the time of the boys cost nothing, this method of tending the cattle was less expensive. Many settlers instead of having their cattle watched, especially if they had no small boys to do this work, simply turned them loose in the hope that they would not stray far, and hunted them up each evening to milk. As long as there was good pasture, the cattle seldom wandered away, although once in a while some of them would start off and would cause their owner a hunt of several miles before he found them. Along rivers, and where there was timber or rough land, cattle which were not in the milking herd were often turned out in the spring and seldom seen again until their owners hunted them in the fall. But the farmer usual-

ly tried to look them up once in a while to be sure they had not strayed away too far, and to give them salt.[95]

Larger herds also were sometimes turned loose on the prairie. In Delaware County, in 1867-1868, according to a man who settled there at the time, there was an area of open prairie for fifteen miles to the west of his place. On this he pastured his cattle which at one time numbered between three and four hundred head. These cattle got very little attention during the day, but were rounded up and corralled at night.[96]

The second method of utilizing the prairie pasture was by the coöperative herding of cattle near the homes of their owners. These herds were made up by each settler contributing a few head of cattle. As settlements grew, the wandering of cattle into the crops, which were usually unfenced, became a serious menace and a cause of much damage. The hiring of a man to watch the cattle of a large number of settlers was a cheap method of protecting the crops, and of avoiding trouble with the neighbors. In some sections all the cattle were put into the herd, which was collected in the morning and returned at night to be milked. This was particularly true of the herds belonging to the inhabitants of small towns and villages. In the country the farms were usually so far apart that it would have been impossible to collect and return the cattle each day.

The herds made up by farmers usually included the dry stock only. They were usually collected in the spring by the herder, who got from one to two dollars per head per season, and were driven to an unoccupied section of land in the neighborhood. Here they were kept until fall. The herder usually had a corral near his shack, into which he drove the cattle at night to prevent their straying off.

[95] Interview with an old settler at Agency.

[96] Interview with an old settler at Manchester.

When the land in a community was all taken up, it became impossible to herd there any longer, and the men with large numbers of cattle found themselves with insufficient pasture. For a few years after this condition arose in each section of the State, there usually remained unused prairie land within short distances to the west or north. The cost of herding was so low in proportion to the value of the cattle, and so much cheaper than keeping them on land in the settled sections, that the older settlers continued to send out herds as long as cheap or free pasture land could be reached. These herds were collected in the spring and driven beyond the denser settled districts to open prairie. The methods of caring for them were much the same as described above. They varied in size from a little over a hundred to as high as fifteen hundred, the highest number reported to the writer.

The cattle in these herds, as well as others in early Iowa communities, were identified by means of brands or ear marks. Nevertheless, there was some loss by stealing. This practice was likely to develop in any part of the State. In some sections it caused an early decline of herding, but this was not often the case.[97]

The pastures of Iowa were also used for short periods by cattle which were being driven to Chicago or other markets to the east. From the end of the Civil War until after 1870 there were herds of cattle on the way to market from Texas which were driven into Iowa, usually into the southern and south-western counties. They often came into the State in the spring or early summer and were kept there until fall, in order to put on more weight before being driven to Ottumwa, or other shipping points.[98] This practice stopped about 1870 or very shortly thereafter. By this time the rail-

[97] Interview with an old settler at Jefferson.

[98] Interviews with J. B. Harsh of Creston and T. D. Ashby of Lucas.

roads reached entirely across the State and the prairie in the southern part was mostly taken up so that there was little opportunity for herds from other sections to find pasture there.

CHRONOLOGICAL SKETCH

The southeastern part of the State was quickly settled, and by the late fifties or early sixties herding had been driven out of this section by the density of settlement. Indeed, herding in this region never reached the development later so common in the western counties. The settlers in this section came mostly from densely settled States in the East; they did not spread out over the prairies as did later settlers, did not have many cattle, and did not make up herds to drive into the open prairie. Most of the cattle in the southeastern counties were kept near their owner's farm, and were watched by boys, or were kept in fenced inclosures.

In the south central part of the State, usually a period of three or four years elapsed after a newcomer settled before he had enough cattle to contribute to a herd. Often, too, it was three or four years before he had any neighbors. Consequently he was concerned only about his own cornfield and his own cattle. If he was fortunate in having some children, and pioneer families were usually large, the problem of keeping the cows and the corn apart was easily solved. As other settlers moved into this region, and cattle became more numerous, there arose a need for herding the cattle, or restraining them in some other way. In Wapello County there was herding during the later fifties, but it stopped because of settlement of the prairies about 1858.[99] In Jasper County there were enough cattle for herding to start between 1860 and 1862. Here settlement was slower

[99] Interview with R. W. Moore of Cedar.

and there were herds as late as 1870.[100] In Delaware County, to the east and north of Jasper, there was unused land in the late sixties, and cattle ran loose on it as mentioned above. In 1868 there was a large influx of settlers who took up most of the open prairie. As new settlers moved into a region land values rose sharply. For example, in 1867, a settler in Delaware County bought a section of land for $6.25 per acre. With the increase in settlement, the price of land increased so rapidly that he was able to sell the section a year later at $25.00 per acre.[101]

The custom of herding developed along the outskirts of the more thickly settled eastern counties. News items to this effect occur frequently in the local newspapers of the time.[102] The disadvantage, even to the owner, of turning cattle loose on the prairie was becoming obvious. A writer in *The Iowa Homestead* in 1872 said, "stock can be herded anywhere in the state, by good, reliable herdsmen, at a cost not to exceed $2.00 per head for the season. In such case they can be salted and cared for, and be subject to the inspection of the owner at any time; while if turned loose, on the prairie, the time spent in hunting, together with the loss by straying, would amount to more than two dollars per head. . . . This is now becoming the practice in many counties where farmers have not range left in the vicinity of their homes."[103]

[100] Interview with M. A. McCord of Newton.

[101] Interview with an old settler at Manchester.

[102] The following item from the *Adair County Register* for October 5, 1867, is typical. "The citizens of this township met last Friday evening and organized a herd company; nearly all the cattle owners in the town going into it. A boy is employed to take charge of them who will take them away at seven o'clock in the morning and return them at sundown. Quite a large herd was made up at the meeting and others can be put in at any time. With the number already made up the expense will be light on each one."

[103] *The Iowa Homestead*, February 9, 1872.

In Black Hawk County, west of Delaware County, there were a few herds in the sixties. In the seventies, herding stopped in Black Hawk County, and herds were driven from the neighborhood of Cedar Falls to Cerro Gordo and Kossuth counties for summer pasturing.[104] At the same time, between 1875 and 1880, the transition from the practice of keeping herds in the home neighborhood to that of driving them to newer sections was in progress in Lucas County in the southern part of the State and farther west along the Mormon Trail and the Chicago, Burlington and Quincy Railroad. The same practice occurred about five years later, or between 1880 and 1885, in the territory westward, including Mitchell, Franklin, Dallas, Cass, and Pottawattamie counties. In the interim herds from counties immediately east of this area were being driven into it for summer herding.[105] This was a district that was rather rapidly taken up, and the herding of cattle raised in it lasted only five or six years in most cases. After this for a few years, herds were driven to the west and north for pasture. Each section of the State that had not yet been settled remained for a time a grazing ground for the settled regions just to the east.

By 1885 practically all of the State which was not in homesteads was being grazed to some extent, and persons who wished to establish new herds were likely to find themselves competing rather strongly with herds already established. There were herds of several hundred built up in some sections by this time by men who started out with a very few head a dozen years before. But they realized that the herding business in Iowa would not be a permanent one.

104 Interviews with C. A. Round of Cedar Falls; Nathan Northy of Waterloo, and with an old settler at Cedar Falls.

105 Interviews with D. W. Mott of Hampton, Tom Foster of Clarinda, H. W. Fulton of Atlantic, and with old settlers at Adel and Dallas Center.

The infiltration of settlers into all parts of the State prevented the belief that herding would last many years, and the owners of the herds did not attempt to establish themselves on a permanent basis. It was realized that an increase of settlement and the extension of railroads into the still unsettled parts of Iowa would change conditions, and that the land would no longer be available for herds.

By 1873 there was little open prairie east of the Des Moines River. By 1880 there was only a herd left here and there in the three southern tiers of counties, in the small areas which were rough topographically, or undesirable for some other reason. These provided pasture for several years after the more desirable land was taken up. In 1880 cattle were being driven to pastures to the west and north of Fremont, Cass, and Dallas counties. Until about 1885 herds from Black Hawk County were being driven to Cerro Gordo, Kossuth, and Hancock counties.[106] From Cass County they were being driven into Shelby and Audubon counties,[107] and from Page into Audubon and Shelby, and also into nearby counties in Missouri.[108]

These herds usually numbered from one to two hundred head, though sometimes they were much larger. They were made up in the spring as soon as there was pasture, and were driven to a location where there was good grass and water and not too far from the home neighborhood. The herder lived in a shack near the grazing ground. He tended the cattle during the day, riding horseback to get over the ground faster and with less effort. At night he usually drove the stock into a corral near the shack in order to avoid their straying off or stampeding.

[106] Interviews with E. H. Mallory of Hampton, and Frank B. Miller of Cedar Falls.

[107] Interview with H. M. Fulton of Atlantic.

[108] Interview with John Farquhar of Coin.

There were a few herds which belonged entirely to one man. These were more numerous in the western part of the State, where there was more time for the herding business to develop. This type of herd showed that Iowa was beginning to develop a range industry of its own. The development did not go far, however, for it was generally recognized that the pasture lands of Iowa would soon be taken by settlers.

In the northwestern part of the State herding lasted longer than in the older sections, and became more of an established industry. Until about 1890, cattle were being driven from Green County into Calhoun County for grazing from about the first of April to the first of October. In Calhoun County some herds contained as many as eight hundred head.[109] In the section along the Chicago and Northwestern Railroad through Green, Carroll, and Crawford counties, and in the region farther north along the Illinois Central Railroad, herding seems to have come to an end between 1882 and 1885. In the more thinly settled sections between the railroads it lasted three or four years longer.

The herders often owned some of the cattle they tended. There was a real opportunity for them in the business and sometimes they used it to good effect. In 1879 Robison Baxter bought up a hundred calves in and around Delaware County in the eastern part of the State. He drove these calves to Ida County, where, with the assistance of one other man, he tended a large drove of cattle collected from the farmers of that section. At one time he was herding nearly fifteen hundred head. The calves were kept at very little expense until they were four years old. They were then sold, during the period of high cattle prices in 1882, at $6.50 per cwt., bringing nearly $100.00 per head.[110]

[109] Interview with an old settler at Jefferson.

[110] Interview with Robison Baxter of Ida Grove.

In addition to herding there was some fencing of large pastures in these areas, the pastures ranging in size from less than a section to as many as six sections.[111] But usually when fencing began herding stopped.

The process of pushing the herds farther and farther to the northwest continued. By 1885 herds had disappeared from Greene, Crawford, Ida, and the counties to the east and south. From these counties cattle were being driven into Clay, Sioux, and other counties in the northwestern part of the State. Shortly after 1885 herds disappeared from these counties and were to be found in the counties in the northern tier, and in the western part of the State. Some cattle in the late eighties were being driven beyond the limits of Iowa into Minnesota. Some men took their herds west into South Dakota or Nebraska to settle again in range country as the practice of herding came to an end in Iowa.[112]

In its migration across the State, the grazing business developed a number of characteristics which made it similar in some respects to the corresponding industry found earlier in the States to the east, and likewise to the range industry which was developing in the country to the west. It is hard to tell just what practices were transplanted from sections in Illinois where the same sort of conditions existed prior to its development in Iowa. While there were a great many settlers in Iowa who came from Illinois, they did not necessarily come from sections in which cattle herding was, or had recently been, in progress.

Most of the practices were such as might have grown up within the State. The easiest and simplest way of caring for the cattle under the circumstances was nearly always the one used. Many of the methods resembled those of the

111 Interview with Nathan Northy of Waterloo.

112 Interview with an old settler at Rock Rapids.

eastern part of the country more than any which developed in the range country to the west. It was in fact a condition more nearly similar to that of the early days in the northeastern States, where there were community herds, than in the west where the herds belonged to a few large owners. The cattle in Iowa, after they became numerous, were not turned loose to shift for themselves. Because of the settlers' crops, and because each man who contributed to a community herd in Iowa had only a few cattle and could not afford to lose any of them, it was necessary to keep a man with each herd so that each animal might be looked after. Even the large herds which belonged to individuals could not be turned loose because of damage they would have done to crops, and because no system of rounding up strayed cattle was developed in Iowa. It is quite possible that some of the methods which were used by Iowa cattle owners, such as branding for identification, may have been introduced into the State from the south and west more than from the east. Although the practice of branding was in use in the Carolinas nearly a century before, it is noteworthy that its use was much more often reported in the districts of southern Iowa than in eastern Iowa. It is likely that it was introduced from Missouri more than from Illinois. Cattle raising developed on an extensive scale in Missouri earlier than in Iowa, and the Missouri industry seems to have been more nearly a lineal descendant of the industry of the Carolinas than was that of Iowa. In Illinois the industry was more nearly on a farm than a range basis. But there were settlers in Iowa from nearly every section of the country, and the interchange of ideas was carried on freely. It is likely that each settler brought with him some ideas from his own section, and that these were modified and blended into the existing customs, thus giving rise to a body of practices not entirely like any other.

THE STRUGGLE BETWEEN HERDING AND CROPPING

In earlier chapters it was pointed out that the herds furnished feeder cattle for the corn growers in the more thickly settled sections of the State. Of course, the cattle in many of the herds belonged to these same farmers, and were with the herds because this was a cheaper way to keep them during the summer. Cattle from other herds were also sold to the corn raisers. But there were large numbers, too, which were sent to market directly in a grass fat condition.

Feeding the cattle from the herds on grain was particularly profitable because of the very low value of corn during this period. Grazing and feeding were combined only by the small farmers who had cattle in the community herds. The big herders often did not grow corn because they did not have enough capital or labor to provide it for their large herds. As long as they could secure the use of land for little or no cost, there was no reason why the herders should spend their time growing low priced corn on a few acres when they could raise higher priced cattle on a much larger area. But when the land became scarce and labor more abundant, the people were forced to apply more intensive methods of production, and to produce more per acre even if it amounted to less per man. This meant a complete change in the system of production.

The struggle between the two systems of production as the more extensive one was pushed westward took on various forms in different parts of the State. In the eastern sections the transition was not attended by any particular struggle. The settlers could afford to pay more for the land for raising crops than could the herders for grazing, and there was plenty of other land for the herds. The herders often took up homesteads, or bought the land on which they lived, but did not buy land for the herds.

The laws passed in the seventies compelling the restraining of live stock forced a closer watch on the cattle and to some extent put the herders at a disadvantage. Furthermore, the practice of fencing, as it grew, prevented the use of many vacant fields which herds had been using before. Under these conditions, with the settlers putting the responsibility on the herders of keeping their cattle out of the crops, the business came to have more and more unpleasant features as time passed.

The settlers were in the habit of planting crops with very little protection in the way of fences. Consequently, if a nearby herder was careless in letting his cattle wander over the neighborhood he very soon found a strained relationship between him and his neighbors. The settlers were also in the habit of cutting prairie hay for their stock wherever they found it growing most abundantly. If the cattle of the herders wandered into the wild hay which a settler intended to use for his winter's roughage, trouble usually followed. As the settlers grew in numbers and the land available for grazing became exhausted, the herder was forced to move farther west. During the last year or two of grazing in the western part of the State the struggle between the adherents of the two types of agriculture became very unpleasant.

In Pottawattamie County, in the late seventies and early eighties, there were herds of cattle which belonged to large cattle owners who lived in the southwestern part of the State. Settlers had by this time taken the larger part of the land. The herds, which were watched by hired men, ranged over the unenclosed wild hay of the settlers, trampling it down and eating it. Occasionally there was some damage done to crops. Some settlers, it is reported, attempted to stampede the herds. Meetings were held by the settlers to devise means of getting the herds out of the

section. The herders on the other hand had no place to go with their cattle. All the other land around them was now in the same stage of settlement. The Missouri River was to the west, and across it eastern Nebraska was rapidly filling up. Hostile encounters occurred between committees of settlers and the herders. In a few of these, parties of the two factions met with firearms ready to do battle. Fortunately, the encounters never seem to have gone beyond verbal tilts. The herders were warned to take their herds out of the county, and being greatly outnumbered by the settlers, they complied after much protest.[113] In most localities, however, the herders retired without such a show of resistance.

The disappearance of the herds was followed by the growing of more crops and the feeding of cattle which were either raised in the community, or were brought from herds to the north, or from west of the river.

VI

THE PLACE OF BEEF CATTLE IN THE FARM BUSINESS

The beef cattle enterprise can not be considered separate from all others. Beef cattle are not kept solely for the purpose of producing marketable live stock, but also for making use of what would otherwise be waste roughage, for converting grain into a product which can be taken to market at a smaller charge for freight than if it were shipped as grain, for utilizing labor at slack times of the farm year, for contributing manure to keep up the fertility of the soil, and in various other ways to help in the organization of a well rounded farm business, so that the farmer may get the greatest possible return from the resources which he has at hand. The place of beef cattle

[113] Interview with an old settler at McClelland.

on the farm has changed from time to time with the economic status of agriculture in each part of the country. It is the purpose of this chapter to trace in a broad and general way the evolution of the beef enterprise in its relationship to the organization of the farm business.

CATTLE AMONG THE SETTLERS

As has been mentioned previously, the settlers, when they first came to Iowa, seldom had more cattle than a few head of cows and a yoke of oxen. The cows were of the low grade general purpose type, and one of their important functions was to supply milk for the settler's family. The first cattle were commonly turned loose to shift for themselves for a great part of the time, or were watched as they grazed on the prairie by the settlers' children. As their number increased their function as beef producers became more important, and they were given a greater proportion of the settlers' attention.

As described in the *Report of the Iowa State Agricultural Society* for 1866 the method of caring for the cattle was a very simple one. It consisted in giving them the run of the prairie in the summer, with salt once a week. In the winter they were given the run of the cornfields when the ground was frozen. When it was not frozen they were kept in the barnyards and fed mostly on prairie hay.

The principal feed at first was prairie grass. Later as the number of cattle increased it was found that the prairie grass, or "blue stem" did not stand heavy pasturing, but died out where it had been closely cropped and trampled. It was also killed by frost earlier than the blue grass which was beginning to appear in the older parts of the State.

The blue grass came in very slowly and for the most part without being introduced consciously by the settlers. It was very seldom planted in pastures, although some seed

was brought from Kentucky to be scattered in places where the prairie grass had been trampled out.[114] There were also some lawns planted in blue grass, and it naturally spread from them to the prairies. Except for these methods of propagation it seems to have been introduced mostly by accident, the seed clinging to the settlers' effects or in the coats of animals. By 1870 it had appeared only in small patches in the eastern and southern tiers of counties.[115]

Shortly after settlements had been made, timothy was planted in most sections to take the place of wild hay and to provide a better forage and a larger yield per acre. Timothy was the first crop to be planted for hay in almost all parts of the State. In Wapello County it came into use about 1855.[116] Farther west and south in Lucas County timothy and Hungarian grass were planted about 1858 or 1859.[117] In 1861 a settler from near Chariton took some Hungarian grass seed into newly settled territory in Missouri for sale, showing that this crop had been raised for at least one or two years. The planting of timothy spread very rapidly. In 1857, it was said, there was only one man in Poweshiek County who was growing timothy, and he had only about ten acres of it. Within two or three years it was being grown as far west as Lucas County.

Both in yield per acre and quality of feed, clover is much superior to timothy, but it was seldom planted in the parts of the State first settled until eight or ten years after timothy had been introduced. Inoculation of the soil was necessary before good crops of clover could be grown, although that was not known at the time. Repeated efforts

114 Interview with R. M. Moore of Cedar.

115 Interview with C. J. Cain of Chariton, and with an old settler at Leon.

116 Interview with R. M. Moore of Cedar.

117 Interview with C. J. Cain of Chariton.

to raise clover were necessary before the soil was sufficiently inoculated. Timothy, which needed no inoculation and was well adapted to the soil, provided good crops from the very first. This explains the lead which timothy obtained over clover in the early years. In *The Prairie Farmer,* David Sears, of Jackson County, reported that he planted ten acres of clover in 1853, and spoke as though clover was well established in his section by 1865. In Decatur County a few patches of clover were planted about 1860, but it was not well established there for nearly a decade.[118]

During the period of settlement the cattle of Iowa had very little shelter in cold or inclement weather. By 1860 a few barns had been built by settlers who came from older parts of the country where there was a barn on every farm,[119] but for the most part the cattle had only such shelter as they could find in groves or under a "straw shed", which was composed of rails laid across the tops of posts and covered with straw or slough grass.[120]

Up to about 1870 in the southeastern part of the State, and to a later time, even to 1890 in the northwestern part, the production of beef was fundamentally a matter of pasturage. In the frontier communities the amount of grain fed was relatively unimportant.[121] Among the earlier settlers a large part of the corn was cut and shocked. This practice involved more labor than picking,[122] but it also

[118] Interview with an old settler at Leon.

[119] Interviews with H. C. Weir of Mt. Pleasant, and R. M. Moore of Cedar.

[120] "Many are not sheltered, others have grass covered shanties to go into during stormy weather. Small and large frequently run in corn-stalk fields with attention of salt, perhaps once a week."—*The Iowa Homestead,* August 13, 1869.

[121] Interview with H. C. Weir of Mt. Pleasant.

[122] Husking the ear from the stalk as it stood in the field.

provided roughage for the winter. The practice probably owed its origin to the same custom in older parts of the country from which the settlers came. The corn was commonly fed to the cattle in the fodder which was thrown on the ground in the feed lot. In the seventies and eighties the use of snapped corn (ear corn with the husk on it) came into use and the use of corn in the fodder declined somewhat.

It was not until late in the period of settlement that there were railroads near any of the new sections. Corn was worth practically nothing until after it was turned into beef or pork.[123] In Iowa, therefore, as in early Ohio, cattle and hogs were used as a means of transporting corn. Once in the form of beef the corn or other crop became well worth taking to market.[124] The early methods of feeding were very simple and seemed intended only to get as much corn into a steer as possible.[125] Only in a few sections was there any other way to dispose of the corn at a profit. In the late fifties and sixties some farmers along the Mormon Trail, or other main routes of travel for westbound immigrants,

[123] A correspondent in Adair County wrote as follows: "The Farmers are turning their attention to stock raising, in fact nothing else can be done to an advantage, as we have nothing but a home market for our grain."—*Report of the Iowa State Agricultural Society,* 1859, p. 166.

[124] Daniel McCready, a farmer near Fort Madison, Iowa, wrote as follows: "*Neat cattle.*—Cost of rearing until three years old, $7; usual price at that age, from $10 to $15. Cows sell in the spring from $16 to $20; in the fall, from $14 to $18. As to the pounds of beef one hundred pounds of corn will produce, I think from about eight to ten pounds would be near the amount."—*Report of the Commissioner of Patents for the Year 1852,* Part II, p. 336.

[125] "There should be 60 bushels or more of corn put up in the shock for one steer, or one acre and a half of common corn. The cattle should be smooth, thrifty, 3 or 4 years old, to be taken up before they begin to fall off and furnished with good lots to change in, running water, timber or broken ground to the west or north. If possible salt once a week, and after the first week give them as much corn and fodder as they can eat. In case of ailment split the tail and give them soot and salt."—Letter from C. Robertson in *The Prairie Farmer,* September, 1866.

were able to sell their corn to immigrants. This short period in which settlers got their income by ministering to the wants of the newer immigrants was typical of the frontier in most parts of the United States and Canada, but it usually lasted only for one or two years.

On the frontier it was not necessary to figure as carefully on the rates of grain or the quantities of feed used as it was a few decades later.[126] There was little or no fattening and finishing in the modern sense. Prairie land was free or nearly so, and the cattle could get a living without much attention from their owners. A cattle man of that period declared: "Many of them eke out their living on prairie pasture and prairie hay; little grain is fed; cooked and ground food is among the myths; and at the end of three years the steer is put in market, and much of his price is considered clear gain". While these conditions continued it was not necessary to give much thought to improved methods of feeding. But as the number of settlers increased and the amount of land per man became less it became necessary to make a more intensive use of the land. This meant the growing of more crops, and the feeding of these crops to the cheap cattle raised by more recent settlers to the northwest, rather than to home grown cattle. As the prairie was put in crops the cattle used the rougher land as pasture. As soon as corn was available in the fall, the cattle which could be prepared for sale in the winter or spring were put on feed. This provided the farmer with a use for some of his spare time. His problem was to keep enough cattle to make use of the land which he had at his command in excess of the acreage which he could put in crops. He was also compelled to keep enough cattle or hogs to consume his corn and roughage crops.

[126] See, for example, the estimate on the cost and profit of feeding cattle, by Isaac A. Hedges, in *The Iowa Homestead*, March 10, 1871.

CATTLE IN THE DEVELOPING COMMUNITY

With the settling up of the State, the importance of the cattle enterprise tended to decline. A new phase in development was reached. Cattle were no longer needed to consume the almost superabundant prairie grass, but they were now needed to consume some of the low grade feeds produced on the farm, to pasture the waste land, and to save freight in the transportation of grains. Cattle raising was on the decline, but cattle feeding was increasing. Cattle which had been raised in newer sections to the west were beginning to come into Iowa to be fattened on corn before continuing their journey to market. In sections where there was an abundance of corn land but only a moderate proportion of rough pasture land, the feeding business developed rapidly between 1880 and 1896. The more forward looking Iowa cattlemen were coming to realize that the cheaper lands of the ranges possessed an advantage over Iowa land in the production of feeders.[127] Though the Iowa land could produce more cattle per square mile than the land of the ranges, it was even more valuable for the production of other crops. The crop with the smaller relative advantage, therefore, came to be left more and more to the rougher and less productive sections, while Iowa farmers turned their attention more to the production of hogs and the feeding of the cattle already grown to marketable age on the ranges.

A writer in 1878 declared: "In the older settled districts there is a considerable extent of sown pasture, but by far

[127] "The result of these gradual movements both on the plains and prairies is the bringing of the ranchman and the farmer into new relations, and their interests instead of being clashing are now practically one. . . . Cornfields lie between the pastures and the markets, whether at home or abroad, and hence, cheap grass, cheap corn, and cheap transportation will furnish a solution of the problem of cheap food for the beef and mutton eaters of the world."—*Wallaces' Farmer,* May 14, 1897.

the greater part of the grass area of the State is natural prairie, affording good pasture in summer, but little that is of even fair quality in winter. On these pastures and on 'stalk' fields . . . . cows and young stock are kept all the year round, receiving a little hay when the grass gets buried amongst snow.''[128] By 1890 blue grass pasture was prevalent in the southeastern half of the State. But the area of pasture was on the decline.

In the older sections the calves were ordinarily allowed to run with their mothers during the summer and fall, and were not weaned until they were five or six months old. In winter all the stock ran in the stalk fields until they exhausted this source of food. They also had the run of the straw stacks, and were usually fed some prairie hay or, if it was available, clover or timothy. Little grain was used except in fattening, except that in winter an effort was usually made to feed some ground grain to small calves.

The cattle were seldom fattened for market before they reached an age of three or three and a half years. Pasturage was still cheap and plentiful in the newer sections until about 1890, and it did not cost much more to keep a steer for an additional year. Various experiments were made in the finishing of cattle at younger ages, but cheap pasturage in the northwestern part of the State still outweighed the smaller feed cost in the fattening of the younger animals.[129]

[128] MacDonald's *Food from the Far West,* Ch. XV, p. 121.

[129] ''A close reader of the cattle market will notice the unusual number of yearlings put on the market and also the high price of medium priced cattle.'' But the writer did not consider the sale of yearlings ''wise even at prices within 45 cents of the very top of the market. To fit a calf for market at twelve months old is too expensive; that is it requires too much corn and does not utilize enough grass. Let us analyze the item of expense. First there is a year's keep of the cow and the service of the sire. This cannot be put at less than $18.00. For the first six months the grass eaten is very small. To fatten them at twelve months requires a heavy grain ration,

One evidence of progress in the care of the cattle is found in the growth of the practice of dehorning. It was said in the *Report of the Iowa State Agricultural Society* for 1887 that the "practice of dehorning cattle is a recent innovation in Iowa, and is being carried on with gratifying results in many localities."[130] This practice gained rapidly in popularity and stopped much of the injury that had previously been caused by the horns. It also facilitated quiet handling of the stock.

CROPS AND THE CATTLE ENTERPRISE

Wheat was usually the first crop of importance after breaking the prairie. It had, however, no very close relationship to the beef industry. It did not, like corn, furnish a feed for the cattle. The straw was of relatively little value although used to some extent both as forage and as bedding. The wheat supplemented but did not complement the beef enterprise. The two together used all the land available, and provided the farmer with more constant employment than either one could do alone. But neither was directly dependent on the other and the two did not provide a well balanced farm organization.

In the *Report of the Iowa State Agricultural Society* for 1875, a writer from Mitchell County said: "Until quite recently wheat has been the staple crop and the only source of revenue. Now a diversified industry is beginning to be appreciated; more cattle, hogs and horses are grown."[131] More cattle and hogs meant, of course, more corn. In 1875 and 1876 there were very poor wheat crops. As a result of the reductions in yield after wheat had been grown on the same

and that during a season when there is no chance for grass."—*The Iowa Homestead*, May 20, 1877.

130 *Report of the Iowa State Agricultural Society*, 1887, p. 47.

131 *Report of the Iowa State Agricultural Society*, 1875, p. 438.

ground for a number of years, there was a large reduction in the acreage of wheat planted in the late seventies and the eighties. The displacement of wheat by corn brought the crops and the cattle into mutually dependent relationship. This process marked a milestone in the progress of agriculture. It occurred in the sixties and seventies in the southeastern part of the State, and reached the northwestern part in the late eighties and early nineties.

In the eastern part of central Iowa, despite the increase in the planting of crops, cattle were still raised mostly on grass. One of the largest cattle feeders in Mahaska County in 1880 reported that he had only about forty acres of corn and forty of oats on a four hundred acre farm. The rest was in pasture or hay.[132] This was undoubtedly a larger proportion of grass than was to be found on most farms in the neighborhood, and was a great deal more than could be found on a similar farm a decade later when more corn was being raised.

In the northwestern counties it was thought for some time that corn could not be grown successfully. Many farmers were slow to plant it. The first few crops of corn were small, twenty bushels per acre being considered a fair crop.[133] In the nineties much of the land in the northwestern part of the State was in the hands of speculators. These men were anxious to have corn grown on their land to make it appear more valuable. Some of them, in renting their land, stipulated in the lease that a certain acreage of corn was to be grown on each farm or quarter section, thus hastening its adoption as a crop.[134]

About 1900 there was considerable interest for a time in

[132] Interview with R. W. Moore of Cedar.

[133] Interviews with J. H. Wolf of Primghar, J. J. Murray of Rock Rapids, and with an old settler at Rock Rapids.

[134] Interview with J. J. Murray of Rock Rapids.

the practice of soaking the corn for feed.[135] This was not a new practice, however, as it had often been done in the spring or summer when the corn was dry and hard. An important development in the use of corn, which occurred for the most part after 1900, was the more careful use of the stover. The stover had been used more by the early settlers, who for a time cut and shocked most of their corn, than by the Iowa farmer of 1880 or 1890. During the years of abundant prairie hay and cheap corn it was not necessary or profitable to spend time in taking care of such a cheap commodity as corn stover. Between 1900 and 1910 it became apparent that it would be necessary to use the stalk as well as the ear, if the farmer was to make both ends meet under the condition of narrow profits that had arisen.[136] Farmers began to make fuller use of the stover.

[135] "Nearly all farmers agree that it pays to soak the corn for cattle on grass. In an ordinary summer corn is hard and the teeth of the cattle that have been grazing on soft grass for some time are unfit to properly masticate this hard corn. Therefore, it is better to soak it. Care, however, must be taken that it is not allowed to become sour."—*Wallaces' Farmer,* June 26, 1903.

[136] "The corn belt farmers who are not dairymen can not be greatly blamed for wasting this (corn stover) during the last fifty years. In fact, so long as we could get all the cattle we wanted on the range, it was often better to waste the corn fodder than to save it. Corn fodder has no actual value unless fed on the farm; and whether there were cattle or livestock of other kinds, the waste of labor involved in cutting and in husking was greater than the waste of the fodder. Besides, until within the last comparatively few years, we had no corn harvesters, no corn shellers, no silos.

"A great change has come over our agriculture in the last fifteen years. Land both on the prairies and on the plains has trebled in price. We can no longer depend on the great national stock ranges for feeding steers. More and more we shall have to grow them on high priced lands. To do this we must utilize the stalk of the corn as well as the ear, 100 per cent instead of 60 per cent. To utilize this immense waste we must get cattle somewhere. For while sheep and horses, and even hogs can utilize some fodder, cattle are the only class of live stock that can utilize it to any very great advantage. They are built that way.

"If we can not buy them we must grow them. To do so we must grow less corn and more grass, less grain and more roughage. We must change our

A few cut corn so it could be fed from the shock. The majority began to make fuller and more careful use of the stalk pasture.

Between 1870 and 1880 blue grass began to appear in the southern and eastern third of the State as far west as Union County. In the northwestern part, north of Ida and Webster counties, it did not become very common until well along in the nineties. Although the method of its introduction into most sections was quite obscure, there was an occasional effort to plant it intentionally. A settler in Ida County planted a meadow with blue grass in 1880. Two years later, desiring to harvest some seed, but not knowing just how to go about it, he cut the grass while in seed and cured it and piled it in cocks like hay. Before he could haul it, there was a flood which picked up the cocks and carried them off down stream, spreading blue grass seed as it went.[137]

As a hay crop timothy was usually the first tame grass to be planted. The reasons have already been mentioned. No inoculation was needed for timothy and good crops could be grown from the start. Clover seems to have followed timothy at intervals from two years in some of the northwestern sections to a decade or more in some of the sections first settled. In the southern part of the State, clover had been planted in small patches east of the Des Moines River before 1870, but it did not come into general use until the middle of the eighties. Actual dates for the

methods of feeding cattle; and before we can change our methods we must change our ideals. Thirty years ago we grew cattle on cheap land mainly to market our corn. About fifteen years ago we began to feed grain to cattle and hogs and make beef and pork. From this on we must grow grass and roughage, grow our cattle on these, and feed enough corn and other grains to make our roughage-fed cattle marketable.''—*Wallaces' Farmer*, June 12, 1914.

[137] Interview with Robison Baxter of Ida Grove.

beginnings of such crops, however, are very difficult to secure.

Although little was then known regarding microbiology, and the relationship between certain bacteria and members of the legume family was not known to the ordinary farmer; still, by observation and empirical rule, they often accomplished soil inoculation with as good results as have been secured in recent times by scientific measures. As early as 1862, J. B. Harsh, of Creston, Iowa, who was then living in Bureau County, Illinois, shipped a two bushel sack of earth from an old clover field to his brother in Union County, Iowa. This earth was scattered over a field intended for clover, and a good stand was obtained.[138] Such an early introduction of an improved crop like clover was a decided advantage to a community, as it ordinarily took some years after the need was felt before clover became established. Most of the clover planted in new sections received no inoculation other than bacteria which might be clinging to the seed planted.

Clover moved to the northwest across the State, accompanying the intensification of agriculture. In the middle of the eighties it was established east of the line formed by

138 "While I did not know all that is now known about the inoculation of the soil, I did know from observation in and around my home in Bureau County, Illinois, that when farmers went afield on the prairie and broke up a new piece of virgin soil that when they wished to seed it to clover they scattered clover hay over the field, and especially I knew from observation in Union County, Iowa, having often visited there from '59 to '62, that where movers camped at night and left clover hay about their camping place that clover sprang up in abundance on the spot.

"So I argued there was some connection and therefore in 1862 I shipped a two bushel grain sack of earth, taken from a clover field, to my brother, P. L. Harsh, who then lived in Highland Township, Union County, Iowa. There was no railroad station at Afton, at that time, but I shipped it to Eddyville, Iowa, and from there it was taken by freighting wagons to Afton, where my brother received it. He sowed it on his field intended for clover and got a good stand the first time tried."—Extract from a letter from J. B. Harsh, of Creston, dated November 4, 1922.

Decatur and Winneshiek counties, or approximately in the southeastern third of the State. In a region from this line to another about four counties to the west it was just being planted. By 1895 it had become established in the northwestern part of the State.

About 1903 alfalfa began to be tried out on a larger scale than before.[139] It was supposed at this time that it could be grown only in the extreme western part of Iowa. Its introduction had been gradual, as had that of clover. The first alfalfa in Buena Vista County, in the northwestern part of the State, was said to have been planted in 1907. Between 1907 and 1910 it was introduced into other counties in that region. By 1913 it was a crop of considerable value, although its acreage was small as compared to that planted since. Alfalfa grew best and spread most rapidly in the western section, but by 1910 it was also being grown in small acreages in most other parts. By 1914 its use was becoming common among the beef producers of western Iowa. In 1924 the Iowa Weather and Crop Bureau reported 276,000 acres of alfalfa in the State.[140]

Another improvement taken up by Iowa stock men during the period from 1900 to 1914 was the silo. It was not an altogether new idea in 1904 but there were very few silos in the State at that time.[141] Farmers and farm papers

[139] See the *Iowa Year Book of Agriculture*, 1903, pp. 380-394, 1905, pp. 783-808.

[140] *Iowa Year Book of Agriculture*, 1924, p. 347.

[141] "It is now more than twenty years since agricultural papers and agricultural meetings began discussing the advantages of the silo. The conviction has become quite settled in the minds of the public generally that the silo is in a manner essential to successful dairying. . . . It is only, however, within the last very few years that the silo is regarded by the most advanced thinkers as important, if not essential to the production of beef cattle."—*Wallaces' Farmer*, May 20, 1904.

were just beginning to talk about silos seriously. Between 1904 and 1910 they began to be used for feeding beef cattle. By 1914 they were being built rapidly. In fact, about this time there were a great many silos built which were used only a few times thereafter. The silo found its greatest use in the eastern Iowa feeding area, or in other sections where alfalfa was not widely grown.[142]

In the late nineties and shortly after 1900 gluten meal, oil meal, and cottonseed meal came to be used much more widely as nitrogenous supplements to the grain ration for fattening cattle. These supplements had been used since the early nineties, but only by a few feeders and in very small amounts. They were often sprinkled lightly over the corn rather than used as an important part of the ration.[143] About 1905 they came to be common feeding stuffs for the ordinary feeder. They permitted more rapid gains and the more complete utilization of the grain ration, which consisted largely of starchy feeds such as corn. They helped to put a better finish on the cattle and thereby helped the owners to secure a better price.

The effort to grow more feed per acre was becoming

[142] As an example of the unqualified endorsement given silage at this time, a writer in *The Iowa Homestead*, July 10, 1913, declared: "Few facts in agriculture have been more clearly and conclusively established than that the silo is a necessity to the stock farmer. . . .

"Corn silage should be put into the feeding program of every Iowa beef producer if he wants to fatten cattle economically and efficiently. That corn silage is our most profitable cattle roughage has been clearly demonstrated at the experiment station as well as upon hundreds of Iowa farms.

"The addition of corn silage to the ration not only decreases very materially the cost of gains, but usually makes them more rapidly. The steers are finished more quickly and ordinarily sell for a higher price than where clover is used as the roughage.

"Fattening cattle of all ages utilize silage as their roughage ration. It is as good for the calf and yearling as for the two and three year old. All profit from its use."

[143] Interviews with M. S. Finch of Ida Grove, John Jelden of Everly, David R. Munro of Keota, and Ralph Clingman of Chariton.

more widespread in other States as well as in Iowa.[144] Various new crops and new combinations of crops were being tried. In Iowa the practice of planting rape, or soy beans, or cow peas among the corn was increasing.[145] The object was to grow as much feed per acre as possible and then to save labor by turning cattle or hogs into the field to harvest the crops for themselves. The idea was not new, but the need for economy was forcing its adoption.

In the late eighties and the nineties drainage began to be used to make the low lying lands tillable. This added still further to the increasing productive capacity of the State. The transition to a type of farming in which highly nutritious and high yielding crops were grown went along with a change both in the type of cattle produced and in their function in the farm organization. The dependence of the cattle enterprise on the type of crops available for feed and the mutual dependence between the cattle and the crops form an important chapter in the story of beef cattle production in Iowa.

BEEF CATTLE AND DAIRYING

One of the important functions of the first cows in newly settled sections was to furnish milk for the settlers. Therefore the early cattle were considered at least partly as dairy cattle, and were of unspecialized types, being neither high grade beef nor dairy cattle. But the profit in raising beef cattle on the open prairies soon provided an inducement for the development of the beef type of animal. There

144 "Stockmen are taking advantage of the heavy forage crops that can be raised on a limited acreage. The cultivation of kaffir corn and milo maize is extending into northwestern Oklahoma and northwestern Texas; while in Western Kansas and Nebraska, in Colorado, New Mexico and Arizona, the growing of alfalfa for beef cattle has long passed the experimental stage." — *The Iowa Homestead,* March 13, 1902.

145 Interview with an old settler at Ireton.

was little inducement to dairying beyond the needs of the pioneer community. The labor available could be used more profitably in tending beef cattle than in taking care of a dairy. There was little or no market for dairy products in the young agricultural communities, and transportation to the older communities was poor. Even in these older communities dairy products were still cheap.

In the northeastern part of Iowa there was little dairying except for home use prior to 1875. At about that date a few farmers began to make more butter than they could use or dispose of locally, and to pack it in summer for sale in the fall,[146] although it must have been a very inferior product by that time. About this time creameries and cheese factories began to be built in the more favored sections.[147] Farmers also began to bring cattle of the dairy breeds into Iowa in larger numbers than before. The bull calves were ordinarily castrated, and were either raised for beef or were raised to feeder age and sold to be fattened in other sections.

The interest in dairying which developed in the seventies spread over nearly all of the more thickly settled sections of the State. The northeastern part was well fitted to become a dairying section. This was not due to any particular advantage which it possessed, but rather because it was at a disadvantage in the production of crops. The topography and the soil fertility were such as to cause a large acreage to be left in pasture. In the remainder of

[146] Interview with E. L. Beard of Decorah.

[147] A report from Black Hawk County said: "Dairying is becoming one of the important pursuits. Two cheese factories have been erected and successfully conducted during the past year, and arrangements have been perfected for opening a third one. The cheese, made at the factories was excellent and found a ready home market". A report from Buchanan County declared: "Three cheese factories are in successful operation, and one butter factory doing a prosperous business."— *Report of the Iowa State Agricultural Society,* 1874, pp. 324, 330.

the State the interest in dairying soon died out because of the greater advantage in the raising of crops, and the smaller labor requirements of beef cattle.

After 1900 the cost of producing young stock in Iowa was observed to be increasing, and as a consequence attention again came to be given to the possibility of raising beef cattle from dairy herds. Dairying was spreading from the sections in which it was established. But this was very slow. Indeed there was an actual falling off in the number of milk cows reported in the State after 1909. The quality and productive capacity of the cows, however, improved. And it is probable that much of the reported decline in numbers was due to a refinement of the term "milk cow", so that many cows which had been milked but little for farm use, and which were not kept primarily for dairy purposes, were no longer reported as such after 1909.

The problem of combining the dairy business and the production of beef has been attacked again and again, but not with pronounced success. Attempts to make both equally the aim of the business have seldom lasted long. The milking of the cows of the beef herd has provided a possible means of increasing the farmer's income. This has been resorted to for the most part in times of agricultural depression, both in the recent and the more remote past.[148]

Another possible combination lies in raising the bull calves of the dairy herd for beef. Dairy calves are not highly popular with the producers of beef, but they can be used if the beef prices are high enough and the price of calves is low. Where the herd is not of a highly specialized dairy type, the objection to using such calves for beef is not

148 "It is alleged that dairying is declining in Iowa. . . . With the class who were driven into milk production as a kind of side issue when beef cattle were low, there has probably been a decline".— *The Iowa Homestead*, May 3, 1900.

necessarily strong.[149] This gives an opportunity for the dual purpose herd.[150]

In the northeastern counties where dairying is now the principal live stock enterprise, feeder cattle were produced during the early years of dairying. But after 1908 or 1910, when the stock had come to be strongly of dairy type, the cattle from this section became less popular with the feeders. Feeder cattle are still produced here but not from the better dairy herds.[151]

SHELTER FOR CATTLE

In the organization of the early farm but little trouble and expense was incurred in providing shelter for live stock.[152] Straw stacks, straw sheds, and groves continued

[149] "The last three or four years have been eye-openers. The close margins which feeders have been obliged to accept have taught them that there is no profit in the calf of the special purpose cow. . . . Now they are looking for the man who can offer them cheap cattle and that man is the dairyman who uses the Short-horn grades, sells his milk or cream to the creamery, and grows his calves by hand. Either this man or the ranchman must furnish the great bulk of the feeding steers for the future. These are the only two men that can furnish them at a price that will justify their feeding, and herein lies the opportunity for a new race of Shorthorn breeders. . . . The great demand of the dairyman now is for bulls of the dual purpose type".—*Wallaces' Farmer*, April 21, 1899.

[150] "The man who raises his own steers, and therefore keeps a cow for the calf she will produce, must on high priced land, in the future market his steers at the age of about twelve or fourteen months. If he will let them suck and feed them all the grain they will consume they will weigh from 1000 to 1200 pounds at this age and will bring the top notch price if they are bred right. The cost of the cows' keep will be from $10 to $18, and you can sell a calf a year at from $50 to $60 — sometimes for 25 per cent more than this. In this way ten bushels of grain will bring the calf to this age, while if you carried on under low pressure feeding until he was three years old he would consume 100 bushels."— *The Iowa Homestead*, November 10, 1904.

[151] Interviews with E. L. Beard of Decorah, and C. A. Round of Cedar Falls.

[152] "Iowa has remarkably little house accommodation for cattle. As a rule, the common cattle are provided with no shelter whatever, save what they may find around a hay-stack, or in that elegant erection designated an 'Iowa Barn', a building of some fame in the Far West". It was made as follows:

to do service on most farms and over the greater part of the State until late in the nineties. In some of the older sections barns were built at a relatively early period, but most of them were intended for horses, or milk cows, and not for beef cattle. Much was written about the need for barns and better shelter for the cattle. Actually they needed but little shelter except on very cold days or during storms.

An old settler of Ida County relates that about 1880 he built a shelter for his cattle, most of which had been raised with little or no shelter. It was of the usual "straw shed" type, that is, it was constructed by laying poles across the tops of upright posts and these poles were then covered with prairie hay. The hay was not out of the reach of the cattle, and the shed served both as a shelter and a hay rack. The cattle in question, even after being driven into the shed, usually left it as soon as they could, and lay in the snow. For a while their owner got up in the night, if it was cold or stormy, to drive them back into the shed again. But the cattle continued to use it only as a hay rack. At last, disgusted at their stupidity, but concluding that they did not need the shelter badly anyhow, he let them lie in the snow if they wished.[153]

Some reports would indicate that sheds and barns were common in much of the eastern part of the State before the last quarter of the nineteenth century,[154] but these reports,

"Drive two opposite rows of posts into the ground, leaving eight or ten feet between each post each way; lay a net work of sticks across the top of these; cover that with a liberal coating of straw held down by sticks, and you have an Iowa barn in all the glory of its original grandeur!"— MacDonald's *Food from the Far West*, Ch. XV, p. 121.

153 Interview with Robison Baxter of Ida Grove.

154 "The straw and hay covered sheds — so long famous on the farms, are giving way to large and commodious barns, and stock is securely protected from the fierce blasts of winter."— *Report of the Iowa State Agricultural Society*, 1873, p. 387.

which are relatively few in number, seem to have magnified greatly the actual number of barns. In Delaware County straw sheds were the prevailing shelter for cattle until about 1890.[155] In Greene County there were very few barns before 1885.[156] In Sioux County barns and sheds, except straw sheds, were not generally built until about 1895.[157]

There was a justification for doing without barns or substantial sheds until a section was well settled. In the newer regions, capital, especially in the form of material for building was scarce. What capital was available yielded the larger return when invested in cattle rather than buildings. Crops were cheap and could be fed freely. The advantage of buildings for cattle is largely in that such shelters save feed by preventing the waste of some of the animals' bodily heat. They also prevent some winter loss, but that could be done by cheaper shelters than barns. Until capital invested in buildings would yield approximately as much as that invested in other forms of capital goods, the buildings were not justified economically. It is probable that other than economic motives — humanitarian ones — prevented the lapse of very much time between the first economic need for buildings and their actual erection.

THE CATTLE ENTERPRISE AFTER 1896

The year 1896 may be taken as the beginning of a fairly stable period in the agriculture of Iowa, and the beginning of the third phase of development of the cattle enterprise. While the enterprise retained some of its earlier functions it now took on another. The cattle enterprise now became a means of utilizing low grade forages, waste products of other crops, and rough land which it was not yet profitable

155 Interview with an old settler at Manchester.

156 Interview with an old settler at Jefferson.

157 Interview with an old settler at Ireton.

to put in crops. It now became something of a salvaging enterprise in an intensive farm organization, converting into a saleable form waste products or low grade by-products of some other enterprises.

During this later period the relationship between the relative prices of farm commodities and their production became more obvious than before. It became clear that the price relationships between cattle and the materials and labor which enter into their production bring about a rather delicately balanced equilibrium in farm organization. If the relative price of beef cattle increased it became profitable to produce beef under less favorable conditions. If the price of one of the productive agents increased, it became necessary to use that agent more sparingly or to find a substitute. The relative prices, for instance, of corn, cattle, and hogs, determine how much of the corn raised on a farm should be sold as grain, how much should be fed to hogs, and how much should be used in supplementing roughage fed to cattle. It must not be imagined that price relationships were unimportant in adjusting the farm enterprises prior to the period we are now discussing. But the greater stability of agriculture and the continuing fluctuations in price relationships caused attention to be focused on prices and costs more than before.

By 1896 the process of settlement was completed. The evolution of a settled agriculture from the pioneer type had practically come to an end except in a few small areas. In the years immediately following 1900 there was a rise in the price of corn as compared to that of cattle. This stimulated several important changes in the methods of producing beef and in the place that beef cattle occupied in the farm organization. Cattle had been high as compared to corn from 1896 to 1900, and the production of beef had therefore been profitable. But with a reversal of this price

relationship, the cattle enterprise lost its advantage over the sale of grain or the production of hogs, which were likewise rising in price.

But from 1900 to 1914 the number of beef cattle in Iowa increased. Therefore the price relationships can not be taken alone as explaining the variations in the number of cattle during this period.

In the rougher sections of Iowa there was an incentive to keep some cattle to use rough land for pasture. Other uses could have been found for much of it, and less would probably have been used for cattle had it been necessary to feed as much corn as before in finishing the cattle. But with good crops of clover hay displacing some of the grain ration and bringing the cattle through the winter in better condition than prairie hay could have done, it remained profitable to produce young cattle in the rougher sections.

There was a change in the method of producing beef as well as in the raw materials used. Ever since farmers began to realize in the late eighties and nineties that cattle could be finished for market at the "tender age of thirty months", there was a constant tendency in the direction of raising "baby beef". On an increasing number of farms this provided a profitable means of using pasture for the breeding herd, and a profitable means of feeding a part of the corn crop together with good grade roughage.

THE CATTLE ENTERPRISE DURING THE EUROPEAN WAR

The changes in price relationship during the European War demonstrated the extent to which it is possible to alter the farm organization. The rise in the price of cattle added a speculative factor to the business of feeding and of raising cattle. The relationship between corn prices and cattle prices of the same day did not measure the advantage in cattle feeding. Even though corn was high priced when

fed, later increases in cattle prices might result in a profit when the cattle were sold.

Early in the war there was a short period when cattle prices held an advantage over corn, but this was followed by a more rapid rise of the price of corn over that of cattle. There was, therefore, a tendency to restrict the size of the cattle enterprise where it could be done without involving a waste of pasture on rough land, or of forage of the by-product type. Cattle were sold at younger ages and in lighter weights. The corn which would, under normal price conditions, have gone to make the additional weight was often sold separately. After 1915, cattle became more than ever consumers of roughage. This continued until 1921, when the fall in the price of corn again made it profitable to turn as much of it into beef as possible.

The changed demand of the market for beef furthered the tendency to sell cattle in poorer finish. A high quality of beef was not demanded by the army and navy. With the rapid rise in the price of beef, even civilian consumers began to take lighter cuts and to buy cheaper qualities during the early part of the war. But later when the wage earners of the cities began to get higher wages, they took to buying the choice cuts rather than the cheaper ones which they had used in the past.

Little that was new was developed in feeding methods during the period from 1914 to 1922. There were a few developments in the directions already established by earlier tendencies. The growing of alfalfa, which was not believed to be economically possible by many farmers in some sections of the State, constantly increased in these places. Continued attempts to grow it, and consequently a more thorough soil inoculation, together with a better understanding of the soil needs of the crop all hastened its planting.

Between 1914 and 1923 the silo became more strongly established in the eastern feeding area. In the western area it made little if any gain. Here alfalfa grew well and provided a high grade forage, so that silage was not so much needed. Also there was usually less labor available in the western than in the eastern area, making the labor demand at silo filling time a greater handicap.

The practice of feeding cattle during the summer was growing in favor in most sections. The cheapness of gains on grass and the smaller amount of grain required to finish the steer made this method a profitable one. Cattle which were to be summer fed were usually bought late in the winter, or, if bought in the fall, were carried through the winter mostly on roughage, and with very little grain. After they were put on grass the grain ration was gradually increased until the cattle were usually getting as much corn as they would eat. This method saved not only grain but labor as well, compared to the labor requirement of cattle fed in the winter. A disadvantage was that the labor was demanded more in summer by other enterprises. A great deal of the summer feeding, however, was done by men whose principal business was the finishing of cattle. These men usually carried on a year-round feeding enterprise and combined summer and winter feeding. By doing this, they were able to make fuller use of their equipment as well as of the special skill which they had developed.

The big feeder was able to combine the most economical methods. He could gain by conducting business on a larger scale. Handling more cattle he was able to pick out steers of a more uniform finish when he sold, keeping back the "tail enders" to sell with a later lot. He could feed with a smaller labor requirement per steer. And he developed a higher degree of skill in buying and selling. On the other hand the little feeder could use a larger propor-

tion of roughage which would partly, or largely, be wasted if not fed to the cattle, and his labor was usually of a sort that cost little during the winter. The little feeder seldom bought much of the feed he used. Consequently, in the event of a bad year, he usually came through in better shape than the big feeder because his loss, as far as feed was concerned, was merely the lack of an opportunity to sell his grain instead of feeding it. The big feeder on the contrary, had paid, or had obligated himself to pay hard cash for a larger part of the grain which he fed.

VII

THE DEVELOPMENT OF THE METHODS OF FINISHING CATTLE

In a previous chapter it was said that beef sold in Charleston late in the eighteenth century from cattle which had been raised in the Piedmont region on grass alone was "neither fat nor of good taste", while the meat of cattle from the same region, after they had been fattened on corn in Pennsylvania, was of good quality.[158] This improvement in corn fattened cattle results not so much from the added fat as from the so called "marbling" of the flesh. This means that fat is deposited on and around the bundles of muscle fibers themselves, a condition which adds greatly to the tenderness, juiciness, and palatability of the meat, as well as to its digestibility.[159] People

[158] Hopkins's *Economic History of the Production of Beef Cattle in Iowa* in THE IOWA JOURNAL OF HISTORY AND POLITICS, Vol. XXVI, p. 74.

[159] "The accumulation of fatty tissues, as such, is of secondary importance in fattening, the main object being to improve the quality of the lean meat itself. To some extent during growth, and especially during fattening, there is a deposition of fat in the lean-meat tissue. A small portion of this may be deposited within the muscular fibers themselves, but a much larger part is stored between the bundles of fibers, constituting the so called 'marbling' of meat. This deposition of fat adds to the tenderness, juiciness, flavor, and di-

are willing to pay a higher price for meat from well finished cattle than from those which have not been in the feed yards.

The prices farmers receive for different grades of cattle may not be exactly in proportion to the consumers' preferences, because other economic factors help fix prices. Moreover, the preferences of consumers are subject to some degree of change. In a period of business prosperity there is likely to be a wider spread between the prices of the better and the inferior cuts of meat. As the business cycle wanes, and it becomes necessary for the consumer to watch his expenditures more closely, the spread in price between different grades of meat becomes less. The farmer begins to notice that the thicker, better finished cattle are no longer selling at as great a premium as usual. If he is wise he will take the hint, and sell his cattle in poorer flesh than usual, because the last increment to the finish costs more in feed and care than the earlier improvement. If high finish is not in demand, the last fifty or hundred pounds may easily cost more than the market is willing to pay for them.

METHODS OF FEEDING PRIOR TO THE ESTABLISHMENT OF THE BUSINESS IN IOWA

Cattle feeding in southeastern Pennsylvania, late in the eighteenth and early in the nineteenth centuries, seems to have been done mostly in barns, or if carried on in the yards around them, was more nearly like the stall feeding type than that from which the methods of early Iowa were derived. There was some feeding of corn in the fodder, but the corresponding mid-western practice appears to have been derived from a different section.

gestibility of the meat, besides increasing its nutritive value. There is also an increase in the soluble protein and in other extractives of the muscles, resulting in a further betterment of the quality of the meat as an additional advantage from fattening.''— Henry and Morrison's *Feeds and Feeding,* p. 94.

The method used in Virginia, where some cattle were fattened on corn early in the nineteenth century, has already been mentioned. Cattle were fed twice a day in open lots of ten acres or more. The feed consisted largely of corn in the fodder which was thrown on the ground.[160] The cattle were followed by hogs to clean up the waste. This method corresponds very closely to the system used in early Iowa and was probably the source of the Iowa practice though in an indirect way.

Conditions in the Virginia feeding area at this time were in some respects quite similar to those in Iowa just after the middle of the nineteenth century. Corn was plentiful and cheap. Cattle from the grass regions to the south and southwest could be secured cheaply, and furnished the most satisfactory way of marketing the corn. The climate, however, was milder than in Iowa, which led to feeding out of doors with little or no shelter. The Virginia practices were carried to other States.

In the feeding regions in Ohio, from about 1830 to 1860, feeding methods developed similar to those used later in Iowa. Prior to the building of the railroads across Ohio, the method of feeding had been much the same as in Virginia. It is very likely that the methods were taken to Ohio from Virginia by settlers from the older State. The Ohio cattle, like those in Virginia, were fed corn in the fodder which was thrown on the ground in the feed lot. Little or no shelter was used.

Before the railroads were built into Ohio, it was the practice to feed the cattle on corn for the larger part of two winters.[161] They were started on corn at three or four

[160] *Eighth Census of the United States* (Agriculture), 1860, p. cxxx.

[161] "When the business of feeding cattle on the Scioto river was at its height, say from 1840 to 1850, to make A No. 1 lot of fat cattle, the best grades were feed some ten to twenty bushels of corn in March and April when they were three years old, and other cattle at the age of four years; they were

years of age, and were then grazed through the summer and fall. Then they were fed all the corn they would eat during the winter. They were started east to market between the first of the year and early spring. Such was the situation before the coming of the railroads.

When the railroads were built there was a change in the feeding methods because of the new outlet for grain. Cattle were no longer fed so heavily nor kept so long as before. One winter's feeding came to be the rule instead of a winter and part of another. The feeding was now started in the winter before the cattle were three years old and lasted well into the spring, when the cattle were sold. This led to a complaint in some quarters that the cattle were being sold at too young an age thereby involving an absolute waste of "raw material", in that the animals were not allowed to get their full growth. Exactly the same sort of complaints were made a couple of decades later in Iowa when the price of corn increased in relationship to cattle, and the Iowa feeder began to reduce the age at which he finished his stock.

In the feeding areas which developed in Illinois, as those in Ohio declined, there was no great change in the

then grazed throughout the whole summer and fall in the best manner, then fed from four to five and a half months all the corn they would eat — say full half bushel per day each before starting to market; cattle that had no corn the previous spring were well grazed and fed from five to six months. Now, cattle handled as the former would begin to go to market by the 1st of July, and all or nearly all would be in market before the 1st day of January. Quite a common way of prosecuting the business now is to commence feeding the cattle in January or February, *when less than three years old*, on corn in limited quantities, substituting more fodder or other rough feed, but increasing the quantity of corn in March or April, often to full feeding, say from twenty-five to forty bushels in the aggregate, per head, and these cattle will commence to be sent to market by the 1st of June, and by the 1st of October by far the greater portion of them will have gone; comparatively few of them, perhaps, having been detained to be fed on corn for a month or two before starting them."— *Eighth Census of the United States* (Agriculture), 1860, pp. cxxxi, cxxxii.

methods.[162] Conditions were much the same as they had been in Ohio a few years earlier. There was, however, a noticeable reduction in the age at which the cattle were finished, corresponding approximately to the reduction that had taken place in Ohio. The Illinois cattle seem to have been finished usually at between three and four years.

FINISHING OF CATTLE IN EARLY IOWA

In early Iowa there was but little feeding of corn. In each section feeding was forced to wait for a few years until corn began to be grown in sufficient quantities to be used

[162] McCoy's *Historic Sketches of the Cattle Trade of the West and Southwest*, pp. 166, 167, contains a description of the methods used in feeding cattle in Morgan County, Illinois. Part of this description is as follows. "A few weeks before the grass in the pasture fails, the feeder begins to give his cattle corn, at first but little, gradually increasing the amount until the cattle become thoroughly accustomed to it, without gorging or foundering. When the pasture becomes bare of grass, the cattle are brought into the feed yards, and there daily fed for from four to six months. The feeder's outfit is usually an ox team of one or more pairs of cattle, which are attached to a wagon, upon which is placed a long, rude, strong rack, much like a hay frame, upon which the shock corn is thrown, then drawn from the field to the feed yard. Entering the yard with his team, the feeder mounts the load, and with a stake or standard from the rack, throws the corn to the ground, first upon one side then upon the other, while the team moves around a beaten circuit which they soon become accustomed to follow, and which is soon marked by a high ridge of corn stalks, which in muddy, rainy times, forms a dry spot or circle, as well as an excellent bed in cold weather.

"The ground is literally floored or paved with corn stalks in the feed yard, and the cattle are allowed to eat as much as they desire, and that too of the best ears of corn. An average sized bullock will eat and waste, one half bushel of corn each day, and will become, in time, very fat. The usual gain in from four to six months feeding, is from two to three hundred pounds. Extra good feeding of extra good cattle will often make greater gains. Many feeders prefer to feed husked or snapped corn, which is fed in boxes or troughs. There is less waste of corn, but this method requires feeding hay or straw for roughness.

"When shock corn is fed, two yards are provided, in which the cattle are fed alternate days. Whilst they are being fed in one, a herd of swine are eating up the waste and offal in the other. One or two hogs to each bullock are thus made fat. The profit on the hogs fatted is no inconsiderable item in the feeding operation."

in this way. The cattle industry in Iowa was first one of producing cattle on pasture. Some of these grass fed cattle were sold to feeders in Illinois, and others were sold directly to the markets with no greater finish than could be secured from the prairie grass. As the growing of corn increased cattle began to be fed on it, but only lightly at first, because there were still more cattle raised than corn with which to feed them. Consequently they were not highly finished and many cattle were still sold off grass with no feeding of corn at all.

As early as 1851, some cattle were being fed in Henry County. The corn was fed in the fodder, as was then the custom in Illinois. The fodder was usually thrown on the ground in the feed lot, but was sometimes fed in racks.[163] In muddy weather there was a great waste, even though the cattle were followed by hogs. There was no great incentive to saving, however, with corn as cheap as it was. After a few years, the settlers from sections in the East who were accustomed to cutting and shocking corn began to discover that much labor could be saved by snapping or by husking the corn in the field. Thus in the southwestern part of the State in the fifties, and within a decade later in other sections, the fodder was largely supplanted by snapped corn or broken ears. The snapped corn, like the fodder, was fed on the ground for some time before bunks[164] were used.

In the late sixties the snapped corn began to be displaced to some degree in the south central part of the State by broken ear corn fed in bunks.[165] The practice, previously

[163] Interview with H. C. Weir of Mt. Pleasant.

[164] Broad troughs in which the feed is placed. They are ordinarily about three feet wide, ten to twenty feet long and six to nine inches deep, supported about two and a half feet above the ground.

[165] Interview with Frank Smith of Chariton, and C. F. Cain of Chariton.

mentioned, of using two feed lots was tried out about this time by some feeders. It involved feeding cattle on alternate days in different lots. The hogs were turned into the lot the cattle were not using in order to use up the waste. But with the low price of corn the advantages of this method over feeding both classes of stock in the same lot were not great.

The feeding period in Iowa was relatively long. In the seventies cattle were usually fed for six to eight months in sections where corn was being grown to any considerable extent.[166] Some were allowed to run in the corn in the fall to save labor.[167]

The cattle were put on feed when three or even four years old. For a few years after settlement corn fodder was used as the principal roughage. As corn came to be husked or snapped from the standing stalks, the fodder was replaced by prairie hay, and later by timothy, then clover. Very little shelter was used other than the straw stacks and groves.

MARKETING CORN THROUGH BEEF

From 1870 to nearly the end of the century the production of corn increased rapidly, and the price was generally low. This favored feeding it to cattle. The freight rates on corn from central Iowa points to Chicago consumed approximately one fifth of its value. Corn averaged about forty-five cents per bushel during this period, and the freight was from seventeen to nineteen cents per one hundred pounds from Boone to Chicago. On cattle, on the other hand, the freight consumed only about one twentieth of the value. The price of fat cattle in Chicago averaged

[166] Interview with H. M. Fulton of Atlantic, and with an old settler at Jefferson.

[167] Interview with an old settler at Oskaloosa.

about five dollars and the freight about twenty-five cents per hundredweight. This difference in the proportion of the value of the product consumed by freight greatly favored cattle feeding. There were many cases in which cattle were fattened on snapped corn alone, the husks taking the place of roughage.

Except for the heavier corn ration, there was little change at this time in the methods of feeding. It was considered not only desirable but even necessary to keep the steer to an age of three or four years before he was fattened. It was thought that the life of the steer was naturally divided into two parts. During the first part he could only be expected to grow and attain the necessary frame and size for finishing. Farmers believed that a steer could not be properly fattened and finished until this period was passed, while in the second part of his life he could easily put on fat and the necessary finish. This idea was the basis of the prevailing practice of keeping the animal on cheap grass until he was three or four years old, and then feeding him heavily on corn for several months before he was sold.

The cattle which were to be sold were usually started on feed in the fall and kept on a rather heavy ration throughout the winter. They were frequently started on green corn fodder, then changed to snapped corn, on which they were fed for a couple of months. They were then changed to ear corn, and finally to shelled corn. The shelled corn stage might be omitted entirely and the cattle finished on ear or even on snapped corn. The feeding period varied from five to nine months. The cattle usually weighed more than the prevalent type in the markets for the past dozen years, often 1300 to 1400 pounds, and sometimes considerably more. Sixteen hundred pounds was not an unusual weight for a finished steer, and between four and five years was by no means an unusual age.

It should not be forgotten that the majority of the cattle sold before 1890 were raised mainly on grass, and there were probably as many sold without having had any corn as were fed enough corn to be called really finished. In the seventies and eighties the cattle fattened on corn were usually fed prairie hay for roughage.[168] In the nineties clover was becoming common, and timothy had already displaced the wild hay in most parts of the State. Shelter was being improved during this time, but was not very elaborate for the cattle in the feed yard. The equipment used had undergone but little change. The difference between the equipment of 1870 and 1890 was mostly in that more feeding bunks and racks were used at the later date.

[168] "Away back when I first went into the business of feeding steers, forty years ago, we had no trouble to get all the good twos, threes, and fours we wanted right in our own state — in northern Iowa, and once in a while we would hike over into southern Minnesota and pick up a few big, dark red ones from the Danes. We got them fat off the prairie grass . . . . We picked 'em out in early October, weighing from 1050 to 1,150 pounds, good colors, fine straight steers, leaving the dogies and the 'yaller' ones for the other fellows. We got 'em for from two to three cents a pound, or on the grand average, I should judge, of about two and three-fourths cents weighed over the scales either at the place of the seller or at some nearby town. Then we drove the steers home and were at practically no expense whatever for the journey. Corn in those days cost from fifteen to twenty-five cents a bushel, say around twenty cents. We fed from 150 to 180 days and sold the steers thick-fat in Chicago, at from five to five and one-half cents a pound. We could cut prairie hay then, all we wanted, on the speculators lands and all it cost us was the labor involved. In those days steer-feeding was as stable a business as banking.

"That lasted us until about 1884 or 1885, when the northern Iowa prairies began to be broken up, fenced off and rented out to hay makers. It was then no longer possible to run big bands of steers at little or no cost all summer but the herder's wages, the keep of the ponies he rode and the salt the cattle licked. We started then to go to Colorado, Wyoming and even into Utah for our feeders and we worried along as best we could through the depression of the nineties. Ten or twelve years ago it became patent to every observing man that cattle were becoming scarcer and dearer, and that condition has progressed until today, any good feeding bullock cannot be bought on the market for less than $6.50 per cwt."— From an article by Peter Hopley in *The Iowa Homestead*, August 22, 1912.

There was no invention of any important new type of equipment.

CHANGED CIRCUMSTANCES AND NECESSARY ECONOMIES

In the nineties the possibility of raising cattle on cheap prairie grass came to an end. Land in the older settled regions began to have higher values, and in the newer ones it was on the boom. The price of corn was fluctuating, but it was recognized by 1897 that the general trend was upwards, and the land was valued on the basis of the anticipated prices of the corn it would raise a few years later. It was no longer possible to make beef profitably by keeping cattle until they were three or four years old before they were fattened. At the experiment stations it had been shown that it was much more economical to produce lighter steers than the old heavy type of the same finish.[169]

The demand of the market began to change at about the same time, and there was a demand for lighter cattle. It is difficult to tell just what caused this change in the attitude of the consumer. It did not precede the change in methods

[169] "It is but a few years since the prevailing practice among cattle raisers and feeders was to allow the steer the first three years of its existence in which to attain the standard growth, and supplement this by six months on a heavy grain ration for the fattening process. The two periods were regarded as essentially distinct, and it was firmly believed that they must always remain so. . . . In January, 1893, the Iowa Agricultural Experiment Station marketed cattle at 1,500 pounds that were rated 37½ cents per cwt. below 1700-pound cattle of the same quality. The buyers stated that they were equally as good in every respect except that they lacked the size required to furnish the cuts demanded by the trade. . . .

"A marked change has taken place within more recent years, however. These years have witnessed the passing of the large, overfattened steer and the supremacy of the well-fattened, medium weight carcass yielding better returns in the feed lot and more profit on the block, and it is probable that the old sort of heavy weights will never again outsell the compact tidy bullock of prime quality and medium scale."— Curtiss's *Some Essentials in Beef Production* in *Farmers' Bulletin* (United States Department of Agriculture), No. 71, p. 20.

of feeding by very many years. It is even possible that the change in the taste of the consumer was brought about by acquaintance with the product of the newer method of feeding.

The principal changes in the methods of fattening cattle between 1895 and 1907 or 1910 were in the finishing of cattle at a younger age, the use of better roughages and a smaller proportion of corn in the ration of the fattening cattle, and the use of nitrogenous supplements in the ration. Something has already been said concerning the fattening of younger animals. The change was partly a result of the improvement of the stock by the breeders. By 1908 or 1910, the common cattle of the State came to be as well finished and as heavy at two years of age as they had been at three years or over during the mid-nineties. Thus the improvement in breeding followed closely the conditions which demanded more efficiency in the use of feeds.

The change in types and grades of roughages grown for cattle was highly significant. Had it not been possible to change to the growing of such roughages as alfalfa and silage, the substitution of hogs for cattle in the farm organization would have proceeded at a much greater pace. The feeder was forced to make two changes in his feeding methods — one was in the use of less corn, the other was in substituting cheaper feeds for some of the grain. Both of these changes were made as far as an opportunity was offered.

The use of better roughages permitted greater gains with less corn. In the western feeding area, alfalfa became an important feed. Better gains could be made on alfalfa and corn than on timothy or prairie hay, or even on clover hay with a heavier feeding of corn. The practice of roughing young cattle through the winter in the expectation of making very small gains on them until they were again turned out on pasture was now used much less than before. With

clover or alfalfa hay, they could be kept growing at a rapid rate through the winter as well as in the pasture season, and that without a heavy feed of corn. This helped reduce the length of time required to bring a steer to a given weight, and was doubly economical. It is probable, however, that alfalfa in the western and silage in the eastern area would not have been economical much before 1890 or 1895. There was, at these earlier times, so much wild hay which cost only the trouble of cutting and hauling, that the additional labor and expense necessary in getting a good stand of alfalfa, or in cutting corn and filling a silo would have resulted in a higher cost of production.

Another method by which a greater return was secured from the corn was by the use of nitrogenous supplements. Corn is relatively high in carbohydrates and relatively low in protein; it does not form a well balanced ration and the gain from it is limited to some extent by the protein content. Where alfalfa or even clover is used as a roughage this lack of balance in the ration is largely overcome, since the leguminous forages are rich in protein. Nitrogenous supplements such as linseed oil meal, cotton seed meal, and, to a lesser degree, gluten feed began to be used in the nineties. Between 1900 and 1907 or 1908 the use of these supplements became common. In the early stages of adoption the oil meal or other supplement was fed very lightly. It was sometimes sprinkled over the corn and was used more as an appetizer than a feeding stuff. Later it came to be a well recognized part of the ration, and was fed at a rate of two, three, or more pounds per day.

In the equipment used in feeding in Iowa there was but little change. The use of racks in which to feed roughage increased as the value of the roughages became greater. The use of bunks in which to feed corn became almost universal, and the supplements and silage were usually fed in

the same bunks. The feed bunks varied somewhat in construction with the purpose for which they were used. They usually stood about three feet above the ground and were three feet wide, constructed of two inch planks, with a plank about six inches wide around the outside to hold the feed in. The depth, however, varied. Where much snapped corn was fed the bunks were sometimes made nine or twelve inches deep instead of six. The use of self feeders also became more common between 1895 and 1910. They were built of different sizes, holding from one to a dozen loads of corn. They were usually filled from the top and the corn ran out a narrow opening into a trough around the bottom, keeping it partly full. The self feeders were adopted by many of the larger feeders and permitted the saving of a great deal of labor.

The necessity for economy also resulted in the increase in summer feeding. This was practically unknown in the early nineties. In the late nineties feeders began to use a corn ration on grass. This permitted greater gains at a smaller cost, and increased rapidly in popularity. The cattle to be summer fed were usually started on a light grain ration during the winter.[170] In the spring they were put on grass and the grain ration was continued through the pasture season, the cattle getting as much corn as they would eat. The cattle made more rapid gains under this method of handling and could be sold in the early fall. They were sometimes wintered on a light grain ration or were bought in the spring and started on grain after they had been on pasture for some time.[171] In this case they were usually finished in the fall.

The most radical innovation in methods was in the production of baby beef. This was begun in a small way dur-

170 Interview with E. H. Mallory of Hampton.

171 Interview with Louis Wellandorf of Schleswig.

ing the nineties, but was not used by very many producers until about 1910. The dates are very hard to fix definitely because there was some baby beef produced each year since the nineties, and the method was taken up with varying rapidity in different sections of the State. About 1903 such papers as *Wallaces' Farmer* and *The Iowa Homestead* began to contain numerous inquiries concerning the new type of enterprise.

The economy of feed in baby beef production quickly became apparent. It also helped to occupy the farmer's time in seasons when there was but little demand for labor. Its disadvantages were that a higher grade of skill was required in handling the cattle in order to keep them on a heavy feed, and better equipment was required than where the cattle were "roughed" through the winter. It was necessary to give more attention to the younger stock, and to give it more constantly.

All farmers were by no means able to meet these conditions. Consequently many made no attempt to go into baby beef production. Many who tried the business did not succeed and soon dropped out. The new type of enterprise, therefore, grew but slowly.

As baby beef production increased, calves from good breeding stock were started on a grain ration as soon as they would take it.[172] A mixture of corn and oats was often the first feed. It was usually ground and put where the calves would have ready access to it while on the cows. During the summer the calves which were born in the spring were usually run on grass with their mothers. In late summer they were started on a ration of ground corn, or corn and cob meal, or corn and oats or bran. As soon as the calves were on full feed there might be a change of all, or part of the ration, to shelled corn. Some feeders con-

172 Interview with William Simm of Paullina.

tinued to use ground feed throughout the feeding period. The heifers were usually finished and sold in the early summer, before reaching an age when they would be discriminated against in the market. The steers were commonly sold in the late summer. The production of baby beef was a specialized business, but usually was conducted on a rather small scale, and as a part of the general farm business rather than as the principal enterprise. Its advantages were that it permitted relatively large and efficient gains in proportion to the amount of feed used, and permitted the selling of heifers on a more advantageous basis compared with steers, since the baby beef heifer was not usually discriminated against as much as the older heifer. It also produced a higher grade of beef which commanded a premium.[173]

THE RESULTANT PRODUCTIVE COMBINATION

The methods of managing and feeding cattle in Iowa underwent a continuous and logical development. The methods existing at a given time were such as the cattle producers of that time found to be most economical taking into consideration the forms and costs of the productive factors available. Few men, probably, began to produce beef merely because they liked to work with cattle. At any rate, it is safe to say that the industry was never increased much by such a motive. The producers of cattle engaged in the business because they decided that cattle offered the most profitable method of disposing of available crops. The cattle formed a constituent part of a productive organization. The changes in the system of producing beef came in nearly all cases as results of changed economic conditions. Even the discoveries which resulted in more efficient

[173] *Farmers' Bulletin* (United States Department of Agriculture), No. 811, pp. 4, 5.

methods of feeding usually came from conscious efforts to solve problems arising from price changes or other conditions. It has already been pointed out that the system which may be most efficient and most economical at one time need not necessarily have been the best one a few years before. Changes were not always adopted because the farmers learned more, and had been ignorant of better methods previously. Usually the new system was adopted because the conditions had changed and demanded a new kind of treatment.

Even considering the methods of feeding cattle that were used after 1920, it can not be said that Iowa, as a whole, developed a standardized method. The methods used varied rather widely in the different feeding sections, and with different feeders. In the western tiers of counties alfalfa grew well, and here little silage was fed. In the eastern feeding area alfalfa was grown but little, and silage was used more heavily. In most sections of the State there was little grinding or crushing of corn that was used as feed for steers. But in small sections, as in a part of Ida County, a rather large proportion of the corn was ground or crushed.[174]

On some practices most of the feeders were agreed. For example, the larger number of feeder cattle were bought in the fall, from August to November. This was the time that the greatest number from the ranges were coming on the markets. At this period, too, they could usually be bought cheapest. More important, perhaps, from the viewpoint of farm management, this was the period in which the corn became available for feeding and the stalk fields for pasture. Unless some use was made of the stalks at this time of the year, snow and rain would spoil the greater part of their feeding values. Furthermore fall saw the closing of the

174 Interview with R. A. Fowler of Battle Creek.

season for field work and thereafter, until spring, the farmer had time to take care of cattle or other stock.

The cattle were usually turned into the stalk fields for varying periods, depending on the intended length of the feeding period. When the nubbins were cleaned up in the cornfields, the cattle were put in the feed lot and were started on their grain ration. This often consisted at first of corn in the fodder. This method of feeding was more common in the eastern than in the western feeding area, but the practice of using fodder was slowly spreading.

The cattle were usually started on grain in the feed lot sometime in December, although the time varied by a couple of months. In the lot they were usually started on snapped corn, then changed to ear corn, and as spring approached and the corn became hard and dry, it was replaced by shelled corn. The amount was gradually increased until within two to six weeks they were on full feed. The quantity the cattle consumed per head per day depended largely on their size and the skill of the feeder. A steer of between nine hundred and a thousand pounds weight might be expected to consume a third of a bushel of corn a day, while one of a thousand to eleven hundred pounds, under heavy feeding, might eat a half bushel after the middle of the feeding period. But the feed consumption might be expected to decline somewhat towards the end of the period. If silage was fed, it was ordinarily at a rate of fifteen or twenty pounds per day. If no silage was used hay was fed more heavily, perhaps at the rate of ten to twelve pounds per day for a thousand pound steer. With silage the steer would get about two-thirds of this amount of clover or alfalfa hay.

The length of the feeding period varied from two to about eight months as extreme limits. The ordinary period was from four to six months. The cattle bought in the fall would be sold between late March and June.

SOURCES OF FEEDERS AND VOLUME OF FEEDING

The only available material on the volume of production of beef in Iowa prior to the time when the Department of Agriculture began to collect such data in 1919 is that published in the *Iowa Year Book of Agriculture* for 1909 and for 1910. These reports claim that there were 301,896 head of cattle shipped into the State in 1909, and 1,153,805 shipped out in 1910. In 1926 there were 577,426 feeders shipped in and 1,899,275 cattle shipped out. Table IV shows the number of feeders shipped into Iowa, and the total feeder movement for the whole country from 1919 to 1926. Data for this table was obtained from the *Year Book of the United States Department of Agriculture* for the years cited.

TABLE IV

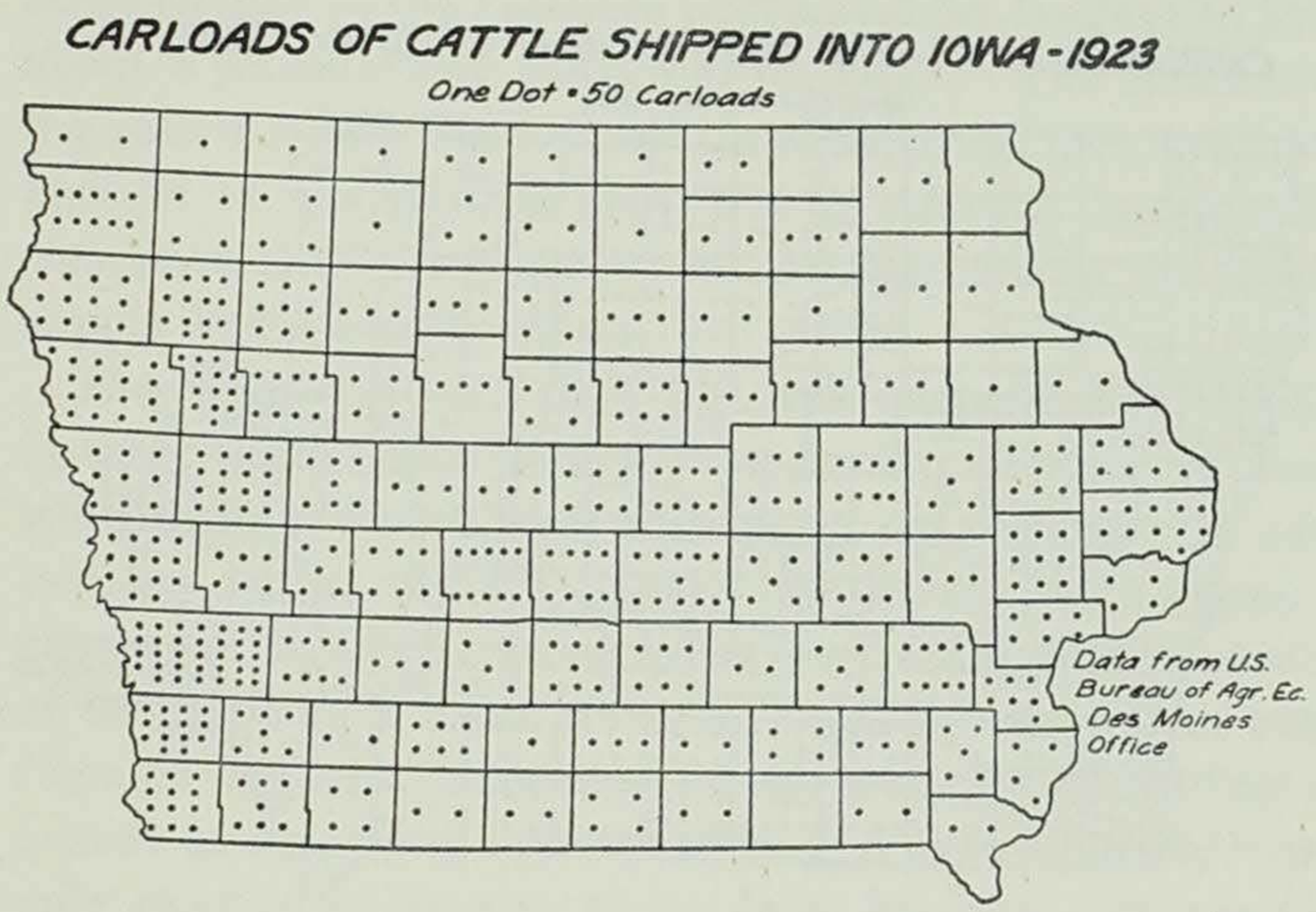
ANNUAL SHIPMENT OF FEEDERS FROM STOCKYARDS

YEAR	NUMBER OF FEEDERS SHIPPED TO IOWA	TOTAL IN THE UNITED STATES	PER CENT TO IOWA
1919	700,479	5,286,000	13
1920	471,091	4,102,000	11
1921	467,858	3,504,000	13
1922	843,911	4,864,000	17
1923	741,437	4,553,000	16
1924	570,050	3,978,000	14
1925	487,334	3,823,000	13
1926	577,426	3,712,000	16

Of the cattle shipped in for feeding, a third went into the two tiers of counties along the Missouri River south of Sioux and O'Brien counties. A fifth went into a wedge shaped area in the eastern part of the State, with its base extending from Louisa to Jackson County and its apex in Poweshiek County.

In the production of cattle as measured by the number sold for slaughter, the distribution is more uniform. There

are two districts with relatively small density of production. One of these comprises the three northern tiers of counties east of Clay County. It corresponds to the dairy district of the northeastern corner of the State, and the



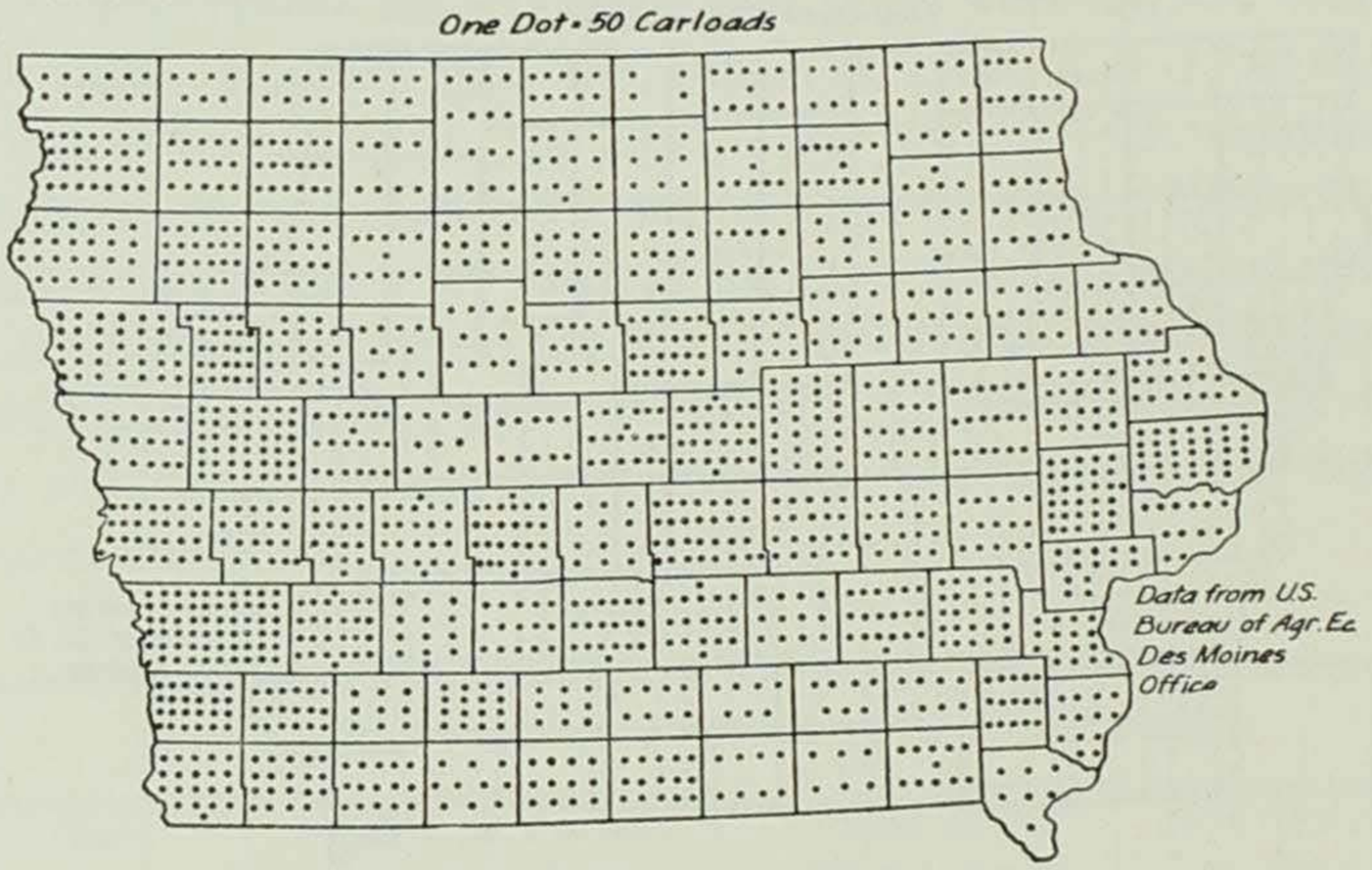
area in north central Iowa in which grain is produced heavily for sale and shipment. The other area which shows a deficiency in the production of cattle is in the southern part of the State. It covers the rough land east of Wayne and Monroe counties. In most of this section the land is of inferior quality as compared to the rest of Iowa. And in part of the district sheep are kept instead of cattle.

According to the data above, over twice as many cattle were raised in the State in 1909 as were shipped in to feed. In the period from 1920-1925 the number raised in the State was from twice to three times as large as the number of feeders shipped in.

It is not possible to trace accurately the size of the cattle feeding business prior to 1914. In the first place there is no accurate information on the feeder movement. In the

second place, little data on the home raised stock can be found.

Concerning the approximate rate of increase or decrease in the demand for feeder cattle, something can be gleaned



from the reports of agricultural societies from year to year. But this is only a reflection of the price relationships of the times, the size of the crops available for feeding cattle, and the general business outlook.

After 1896, with corn low in price and cattle relatively high, it became more profitable to produce beef than it had been formerly. Accordingly feeder cattle were bid up, and bought up much more closely than before.[175] This condi-

[175] "Cattle are coming into Iowa at a great rate in these days. We have already noticed that they are coming from every western State, and territory, from the Pan Handle and Oklahoma, as far south as the government quarantine against Texas fever will permit. And of late they are coming in by the thousands from Canada. Some 2800 head of these have been brought into Adair, Cass, Taylor, and Union counties in the last three weeks. The Canadian cattle are for the most part fairly well bred Shorthorns, under sized for their age as compared with our cattle, but of good form and fully as well bred as our own. Farmers are buying them at what seems long prices to put on grass.

tion brought about much complaint among the feeders, few of whom seemed to realize that it was largely their own bidding for the thin cattle induced by the higher prices of fat cattle, which made them so high. It did not take a very large change in the numbers purchased for feeding to bring about a considerable change in the price. The demand being rather stable and inelastic, a withdrawal of a small proportion of the normal supply may cause a considerable change in the prevailing price. An increase in the normal supply has a similar effect.

The method of feeding at this time changed from feeding in large numbers by a few men to the feeding of small bunches by the man with an average sized farm. In some sections in the eastern part of the State, there seems to have been an actual reduction in the feeding and producing of beef cattle.[176] It is probable, from the reports of other farmers, however, that much of the reduction in feeding reported as occurring between 1900 and 1905 or 1910,[177] was only relative to the size of the farm business. It was taking on other interests which grew to overshadow the cattle enterprise. As contrasted with the prevailing practice of buying feeders of nearly two years of age, the buying of

. . . So extensive has been the importation of cattle from other states and Canada into southwestern Iowa, that for the first time in the last three years the pastures are being filled up, and we found it a matter of some difficulty to secure the rental of an additional eighty acres which we had supposed could be picked up anywhere.''— *Wallaces' Farmer,* May 14, 1897.

''For some weeks past there have been practically no difference in the price of the better class of feeding steers and the lower grades of fat cattle. Some times in fact packers can scarcely get the number of fat cattle they require because of the demand for practically the same quality for feeding purposes.'' — *Wallaces' Farmer,* October 1, 1897.

[176] Interviews with C. A. Round of Cedar Falls, D. J. Schnittger of Delhi, and J. L. Hall of Mt. Pleasant.

[177] For example, see the data published in the *Iowa Year Book of Agriculture,* 1900, p. 471.

calves or yearlings to put on a feed of five or six months was becoming popular.[178]

There was much talk during the years from 1900 to 1908 concerning the necessity of raising the feeders in Iowa instead of buying them from the range. It was pointed out that the range supply was falling off because of settlement. Still, the general tendency seems to have been to increase the purchases from the stockyards because of greater convenience and the greater profit in so doing.[179]

The greater part of the feeder cattle were grown in Iowa and were either fed on the farm where grown, or were sold to neighbors to feed. Of the cattle shipped into the State by far the greater number came from the West. Prior to 1900, markets and packing plants had been established along the Missouri River at Kansas City, St. Joseph, Omaha, and Sioux City. These markets were between the ranges and the corn producing country. A large part of the cattle which were shipped eastward in condition to kill

178 "An Iowa correspondent writes that he can buy choice steer calves at Kansas City weighing 400 pounds, at from 4 to 4½ cents and if some heifers are taken, a little cheaper. . . . We have recently talked with a number of feeders who have followed this method for some years with success."—*Wallaces' Farmer,* September 2, 1904.

179 "It is less trouble to go to the stockyards, pick out a load of cattle suitable, topping several carloads if necessary and paying the difference in price if they desire to get a fancy bunch, than it is to go around among the neighbors, or hire some man to do so, and bunch up a lot of steers and heifers indiscriminately, getting them of all colors and breeding, being often obliged to throw out not merely the heifers but the unsatisfactory steers. The bunching will usually cost from 50 cents to $1.00 per head.

"Another reason is that the buyer is liable to get a better shrink from cattle in the stock yards. On the other hand, it will require more time to get cattle from the range used to farm conditions than those that have been under these conditions all their lives.

"The main reason, however, is that they can usually get better bred cattle from the best ranches than they can from the farms, and the reason why they get better bred cattle (we may as well state the facts) is because ranchmen have been buying better bulls than the farmer."—*Wallaces' Farmer,* September 19, 1902.

were sold at the slaughter houses along the Missouri. Cattle which were not yet in prime condition were also shipped to these stockyards. These were bought by feeders and were distributed to the eastward over the corn producing country to be finished. These cities naturally became the markets to which the cattle feeders of Iowa went to secure for feeding such cattle as were not produced in their own neighborhoods.

There were other sources of feeder cattle besides the stockyards. Some large feeders went direct to the ranges. The volume of this business would be very difficult to estimate. In late years there have been efforts by farmers' organizations to buy feeders for members coöperatively. In 1922 the Farm Bureau Federation of Iowa organized a department for buying stockers and feeders for members. There was also a movement set on foot at this time by which some cattle from range sections in the southwest were shipped into the State for feeding without actually being bought by the feeders. The value of the gain and a a margin of two cents per pound on the weight at the beginning of the feeding period went to pay the feeder, but the cattle remained the property of the ranchers.[180] Beginning about 1914 there has been a class of men who buy feeder cattle in the stockyards at Kansas City or Omaha, and take them into feeding sections where they dispose of them at auction. In some sections local dealers have followed the same practice. This method has not proved highly satisfactory to the farmers, because the stock sold at these auctions has seldom been of the highest grade. The "scalpers" or dealers usually buy cheaper cattle to allow more chance for profit to themselves, but the farmers prefer to secure better stock.

[180] For a discussion of this practice see *The Des Moines Register*, November 8, 1922.

VIII

THE FINANCING OF THE CATTLE BUSINESS

The early settlers of Iowa possessed little capital. As a matter of fact their need for capital was small. The prices of such implements as they required were low. Cattle and other live stock were cheap. The price of land was negligible as compared to the price of the present time. Probably the settler's greatest need was for more cattle, but this was not easily filled. There was little or no capital to loan among the settlers themselves. The settlements were a long distance from sources of surplus funds in the older parts of the country, and there were few financial connections between them. As a usual thing the early banks had only small supplies of capital and a large part of what they loaned was borrowed by them from eastern sections of the country.

Later settlers in a new community frequently needed capital to buy land. Those already established needed funds to make improvements. Capital for such purposes nearly always came from the East, the mortgages being marketed in eastern sections by the banks, mostly private banks, or by persons acting as brokers. The same condition with regard to mortgages continued for many years, and still holds true to some extent. This provided one way in which new communities could get some of the credit they needed. The rise in the value of land and the development of a mechanism for borrowing on it made it easier to obtain funds. If a settler owned his land and needed equipment, it was not difficult for him to borrow the funds by giving a mortgage on the land instead of on the equipment or live stock. Much of the working capital in use in the early sections of Iowa was furnished in this way as security.

The early cattle feeders, during the eighties, usually bought their cattle in their immediate neighborhood, giving notes for the purchase price. The notes were taken to the local banks by the sellers and discounted if they needed the money at once. It does not appear that many of these short-time notes were rediscounted in larger cities or in the East at this time. The local banks often borrowed money from eastern banks, but it seems to have been on their own paper, or by selling mortgages. A little later the practice of selling paper in larger cities grew up so that credit channels were established from the local banks to sources of credit in the East.

The reputable borrower who wished to buy cattle usually was asked for no security but his note. If the note was a large one, or if the borrower's security was not of the very best, an endorsement by another farmer or business man was usually required. Chattel mortgages on the cattle were required only of the weaker borrowers. Most borrowers considered themselves affronted if asked for a mortgage. A large personal element entered into the transactions of the small local banks, more, probably, than at the present time. The banker usually paid as much attention to the character of the borrower as to the security he had to offer, and frequently more.

The interest rates in the early communities were much higher than at the present time. During the seventies and early eighties, fifteen per cent was a very common rate in Iowa, and often it was even higher.[181] By the early nineties, the rate had declined somewhat, but the scarcity of capital kept it from falling far, and it was only after confidence was restored and the causes for the depression removed about 1896 that it declined very much. Between

[181] Interviews with J. B. Harsh of Creston, Patrick Griffin of Leon, and S. M. Leach of Adel.

1900 and 1903 the rate on short time loans reached eight per cent in most sections of Iowa, and continued at approximately that rate for some years.

THE DEVELOPMENT OF CATTLE CREDIT FACILITIES

During the nineties and the first decade of the new century, capital in Iowa accumulated at a rapid rate. The local banks were able to furnish a greater part of the local needs from these accumulations. Borrowing and rediscounting in eastern cities became much less frequent, but there was still considerable borrowing on mortgages. Short time needs for which satisfactory forms of security could not be given to persons outside of the community still called for most of the available local capital. Therefore, it was loaned first to the higher paying, short time users, leaving the long time credit function to be filled by eastern capital which could be obtained more cheaply than capital in Iowa.

There was, as may be expected from the above, more capital loaned to feeders than in the previous decades. But from 1890 to 1902, or thereabouts, the business of cattle feeding grew faster than available capital accumulated in local banks. Other farm needs were making demands on the local banks for loans to buy breeding stock and machinery. It was easier to shift the demand of the feeding business for capital to other sources of credit than in the case of some of the other farm needs. This does not mean, however, that the greater part of the cattle credit was not handled by the banks. In rural communities they continued to furnish the greater part of it, but other institutions grew up which took over part of this credit and gave a new direction to its development.

Between 1893 and 1897 the rural banks were short of money and cattle feeders were trying to obtain the needed

funds through commission men.[182] To relieve this situation various packer interests and banks in stockyard cities began to organize cattle loan companies. The companies were affiliated with banks and were usually owned by the same men who owned the banks.[183] They usually had of-

[182] "It is announced that arrangements have been made by the organization of the Cattle Feeders Loan Company, incorporated under the laws of Nebraska, to supply practically unlimited quantities of money to Western feeders who are able to furnish gilt-edge paper, secured on cattle and sheep that are on feed in Iowa, Nebraska, and other western states. . . . The corporation has a capital stock of $500,000, and the indications from the list of officers and directors are that the institution is chiefly in the hands of the Cudahy and Hammond packing companies. . . . The motive which leads to the organization is stated to be found in the fact that throughout the West the demand for feeding cattle is largely in excess of the local banks' ability to furnish money with which to purchase them. The intention of the new organization is to take care of the excess paper which the local banks cannot handle".—*The Iowa Homestead*, August 6, 1897.

[183] One of the well known commission firms of Chicago wrote as follows: "During the money panic of 1893-4 a good many men who wanted cattle to feed could not get the money of their local banks and obtained it of commission firms in the various Western markets at a high rate of interest. It was the means of developing a branch of the business in which it seems to me that the man who does the feeding takes all the risk and stands all the loss. A great many live stock commission men have made a specialty of furnishing feeders and stockers to farmers. In many cases they charge a commission for buying, a high rate of interest and include a commission for selling in the notes. It is safe business for the commission man who takes a mortgage on the stuff as there has almost never been a season when a fattened steer would not bring as much when marketed as he cost as a stocker or feeder, but it has had the effect of advancing the cost of stock cattle or feeders so that every man who wants to do business himself or has sufficient credit at his home bank to obtain the funds has been forced to pay more for his feeders than has been necessary if he had had only legitimate competition. . . .

"There has been considerable of this sort of purchasing at this market but there has been a great deal more done at Kansas City, Omaha, St. Joseph and Sioux City, and we think it would be well for you to investigate the matter thoroughly in all the markets, but particularly those further west.

"We are informed that there are fifty or more firms in the cities mentioned whose main, and often exclusive business is to sell cattle to farmers on time, and their transactions during the year amount to hundreds of millions. If the farmer has the yards, the corn, and the hogs, he has no difficulty whatever in buying cattle wholly on time or with borrowed money, whether he knows anything about the business of feeding cattle or not. He goes to a commission

fices in the same building, and made use of the same credit machinery as that already set up by the bank. The cattle loan company either made loans direct to the cattlemen or else acted as a broker, taking cattle paper which had been made out by commission firms. In the latter case the loan company indorsed the paper thus taking the responsibility of collecting the amounts due from the cattlemen. There was usually a margin of about two per cent between the borrower and the investor. This covered the operating expenses, losses, and profits. Contrary to the practice of the rural banks at the same time, the cattle loan companies required chattel mortgages on the cattle as security for the

merchant in any of the cattle markets, gives his note secured by mortgage, and the commission for buying the cattle, the interest for three or six months, and the commission for selling the cattle are included in the note. This note draws interest after maturity, the rate of interest counted in with the principal and to follow maturity, varying with the locality, usually eight per cent in Kansas and Nebraska and ten in the sections further west.

"No commission firm begins to have enough capital of its own to carry on a business of any magnitude, and hence these notes and mortgages are sold to brokers, many of whom deal exclusively in this kind of paper, known as 'cattle paper' or 'Kansas City cattle paper' to distinguish it from the cattle paper or notes given to the local banks for money to invest in cattle for feeding purposes.

"The broker again sells it to the banks or capitalists in any part of the United States or Europe, discounting it as may be agreed upon, sometimes at five per cent, where money is abundant, but generally at six per cent in the more western sections. The bankers at Des Moines who purchase large amounts of this paper estimate that the amount held in this city is about $1,500,000 during the year, their security being first the mortgage on the cattle; second, the guarantee of the commission man or the broker, or both. This is the origin of what is known as 'Kansas City cattle paper' so called because more of it originates at that point than at any other. . . .

"The first effect of the system was to make the accumulated capital of the East, and even of Europe, available in the remotest farm yard where cattle are fed, and to make the cattle feeder independent of the local banker who often charged him an excessive rate of interest.

"The second effect was to stimulate the feeding of cattle wherever there is corn or alfalfa, and therefore to lead thousands of farmers to engage in the business who had neither the knowledge nor the experience to make success even [probable] profitable."—*Wallaces' Farmer*, September 28, 1900.

notes. The loans were of three general types: loans on feeder cattle; on stockers, which might be cows or young stock; and loans on dairy cattle. The loans on the stockers were for longer periods than on feeders. They were mostly on range cattle, and since there was a much greater chance of loss on these cattle from hard winters, droughts, and other causes, the lenders were forced to protect themselves more carefully and did not lend as large a percentage of the purchase price as on feeders.

On feeders the loan might be for the whole price provided the farmer already had the necessary feed on which to fatten them, and was a responsible and experienced cattle feeder. The cattle paper rapidly became popular with short time investors. It was, as a rule, amply secured.[184] The buyer had the endorsement of the loan company which guaranteed the principal, and back of this there was a chattel mortgage on the cattle which were presumably on feed, increasing in weight and value every day. The period for which the paper was made was conveniently short. The paper was self liquidating, that is, the security was approaching a condition in which it would be both profitable and, in fact, necessary for the borrower to market it. When marketed, the security was almost certain to be worth more than its price when purchased. These factors added to its popularity and resulted in a rapid growth of the cattle loan companies.

Before the beginning of the loan companies in the nineties, there had been firms of commission men who did a large business of this sort, but much of it was on range cattle. In the depression in the range business in the late eighties, some of these firms became bankrupt, or at least very seriously embarrassed. The number of these was not

[184] Larmer's *The Cattle Loan Company* in the *Journal of Political Economy*, Vol. XXVI, pp. 820–823.

so large as to deter other companies from doing the same sort of business a few years later and with no more security or caution. As a result, many of them were seriously embarrassed in the panic of 1893. After this many commission firms stopped their credit business, especially with the ranchers, and turned it over to the cattle loan companies.[185] The capital available for loans in rural banks in Iowa continued to increase, and the need for the commission man as a credit agent diminished after 1900.

The development of the credit mechanism just described affords an excellent illustration of the way in which a credit institution may grow up in the absence of outside or governmental encouragement. There was a demand for capital for a specialized purpose—the purchase and feeding of cattle. This business had become a profitable one which could afford to pay a remunerative rate for the use of capital. In the feeding areas necessary funds were lacking. In older parts of the country there was available capital. It was to be expected that an institution to bring together the capital and the men to use it would grow up in the markets where the feeder cattle were bought, and where the immediate need for funds to purchase them arose. It is probable that the practice of obtaining loans through commission men arose by their taking would-be cattle buyers, with whom they were well acquainted, to the nearby banks and vouching for them to the banker. Later the commission man, observing the opportunity for profit, probably loaned funds of his own to the buyers, and supplemented this by borrowing money to lend at an advanced interest rate. In the market cities, banks and packers, observing the demand for credit, organized the cattle loan companies. These, using the existing credit mechanism, mobilized and

185 Interviews with M. L. McClure of Kansas City, Missouri, and James Martin of Omaha, Nebraska.

made available to the cattle feeder supplies of capital in older sections where the owners were desirous of finding short time loans at rates which allowed a margin of profit to the loan companies and commission men.

As rural banks became stronger, accumulated capital, and strengthened their connections with eastern centers, the need for loan companies became less. Still they did not disappear. They were better adapted than banks to quick adjustment to changing conditions in the world of credit. They could find a wider market for their paper than could the small rural banks. They could operate at a smaller cost per dollar of capital loaned because of their larger volume of business. Their principal disadvantage in comparison with the rural banks was that they could not be so well acquainted with the cattle feeders, nor watch them as could the local bankers. The local banks themselves, however, made some use of the facilities of the loan companies. When they had surplus funds, they not infrequently bought cattle paper from these wholesalers of credit. This indicates that the loan companies had to some extent even displaced the banks in the handling of cattle credit. But as a usual thing the banks buying cattle paper were located in communities with but little feeding.

ADJUSTMENT OF CATTLE CREDIT FACILITIES TO THE WAR PERIOD

The adoption of the Federal Reserve Act of 1913 had little immediate effect on the cattle credit business. Most of the notes for the purchase of feeders were already being made for short periods which were acceptable to the Federal Reserve banks for rediscount. Furthermore, the use made of the system was not very extensive for a few years after its establishment. By that time there was a need for much rediscounting, the country was at war, and changes in the

form of the paper was a minor affair as compared to the increase in volume and other developments.

The cattle paper was admirably adapted to rediscounting. The notes were frequently made for three months and were then renewed until the end of the feeding period. The custom of renewal did not impose any particular hardship on anyone. The banker usually preferred a renewal rather than a note with a longer period. He seldom or never forced the selling of the cattle before they were finished and ready for the market. But he felt that he was in closer touch with the security if the feeder came into the bank occasionally to report on the operation.

With the rapid rise in the price of cattle after the war began, and with the increase in feeding that accompanied it, there was a demand for a greater volume of cattle credit. It is apparent that the inflation of credit which accompanied the financing of the war, was itself responsible for the greater part of the rise in the prices of cattle. But the prices of cattle and other farm products rose faster than those of most non-agricultural products. The increase in demand for credit on cattle was therefore quite large. There was no difficulty apparent in this extension of credit in the early years of the war. In the later years feeding did not maintain its growth in volume, and the available credit increased more rapidly than the demand. This was a further stimulus to a rise in prices.

In 1920 and 1921 there was a decided change in the attitude of the banks towards lending on feeding cattle.[186] Before those years they were very liberal in their loans. But

[186] "Corn belt bankers this year are probably exerting more influence than anyone else in determining the prices of feeders at the river markets. They have refused to stake hundreds of men except that they are able to buy a fairly good grade of feeders for less than 6 cents a pound. This attitude of corn belt bankers is in marked contrast to the position they occupied several years ago, when they financed nearly every one freely and the corn belt farmers went to the river markets and bid feeder prices up on each other, with the result that

now loans were scrutinized more closely than ever before, and were refused in many cases which would have passed unquestioned a year or two earlier. There were two principal reasons for this. The first was that many feeders had lost heavily on their feeding operations in 1920, and some were unable to repay the loans, although these were very few in proportion to the total volume of feeding. The bankers were fearful in 1921 of a repetition of this condition, and knew that if the same thing happened again, it would be much more difficult for the farmers to make good the loss than in the previous year when they still had some reserves from the profitable years preceding. They were, therefore, concerned both on the farmer's account and on their own.

The second reason was, in most cases, the more compelling one with the banker: there was little money in the rural banks to lend. During the period of rising prices the banks had not been as cautious as they might have been. Money had been loaned too freely on land at high prices, or to men who were speculating in land or other things. With the fall in the prices of the securities, these people were seriously embarrassed. They could not repay the loans, and if forced to sell the security immediately, the loss would probably be greater than if they were given more leeway and permitted to wait a year or two. At the same time the volume of deposits shrunk and reserves were seriously depleted. The banks were therefore forced to give these people more time and, meanwhile, to adopt a more conservative policy toward their other patrons. The banks usually claimed that they loaned what money was really needed by their patrons, and that they turned away no "legitimate borrowers".[187]

most feeders were doomed to serious losses as soon as they had bought their cattle."— *Wallaces' Farmer*, October 14, 1921.

[187] Interviews with Hugh Miller of Clarinda and H. F. Harsh of Creston.

The local banks received some help from the revived War Finance Corporation, which obtained funds from banks in the eastern part of the country. But the greatest help came from the Federal Reserve banks which rediscounted large volumes of paper held by rural banks. There were few banks in Iowa which did not make use of these facilities directly or indirectly. Banks which were not members of the Federal Reserve System frequently borrowed from those which were.

The commission men and the cattle loan companies also provided a means of tapping temporarily the more plentiful resources of the industrial centers. Their connections with the eastern cities were more direct than were those of the rural banks. Their paper had a good reputation, and their facilities were capable of a rapid expansion. As in the case of the rural banks the additional funds were attracted by means of a higher rate of interest. The rates rose from six per cent during the early part of the war to eight per cent late in 1920 and 1921. This was a greater increase than had taken place in the eastern cities, and it was this opportunity for making a higher rate of interest that caused the surplus of the older section to be transferred to the use of the western regions. It is not possible to tell just what amount of credit was shifted from the banks to the cattle loan companies and other agencies. No record was kept of the aggregate of the loans made through these institutions, nor of the volume of loans made by banks for the purchase of cattle rather than for some other purpose. But from the reports of the bankers, cattle feeders, and commission firms, it was probably between one-fourth and one-half of the amount usually handled by the banks.

There was also a "Stock Growers Finance Corporation" organized late in the summer of 1921 for the purpose of extending credit to cattle men. This was used more by the

ranchmen, whose paper was not so readily marketable, than by the cattle feeders of the corn belt region. About $20,000,000 of cattle paper was bought by this organization from banks in the Southwest. The funds for this pool were subscribed by banks in New York and other eastern cities.

THE INTERDEPENDENCE OF CATTLE AND OTHER CREDIT

The corn belt farmer seldom borrows to buy breeding stock. He is, therefore, slower to feel a scarcity of funds than the feeder who borrows a greater part of his capital, or the rancher who often borrows a part of the capital he invests in breeding stock. A change in the abundance of capital for short time uses is felt immediately by the farmer who is about to buy feeders. He finds, for instance, that money is harder to get, and therefore does not bid quite so freely for cattle. Or he may be a new hand at the business, and if money is tight, the bank or loan company will be less willing to take a risk on him, and may discourage him from feeding. If money is plentiful, they will be likely to loan to men who are poorer risks than otherwise.

If there is a shortage of credit, it will probably have a tendency to reduce the price of cattle, because, since fewer feeders are bought the market will be rather over supplied. At the same time the supply will be somewhat diminished by producers holding off in the hope that conditions will improve. On the other hand, if fewer cattle are put on feed, there will be a smaller demand for corn in the feeding sections, and cheaper corn will also enter into the equation which determines the price of cattle in the coming months. A shortage of credit, therefore, may be expected to have somewhat different effects depending on its severity, its duration, and the condition of other related farm enterprises.

The effect will likewise depend on the duration of the stringency. If it is brief, the only influence will probably

be brought about by the inability of some farmers to obtain cattle, as in the panic of 1907. This panic was more acute than the depression of 1920-1921, but was brief, and there was obvious cause to hope for quick recovery. The amount of feeling, therefore, declined but little. If, on the other hand, a depressed condition of business in general accompanies the stringency and persists for a considerable time, smaller production is likely to result from continued losses to the producers.

If the shortage of credit is a part of a general reaction from over expansion in other industries, it is likely to be accompanied by declining prices of beef for another reason. As large numbers of men are out of employment during the readjustment of the labor supply, their demand for beef is reduced. In this case the shortage of credit is only one of a large number of factors incidental to a general readjustment. As in 1920, it may prove actually beneficial to some of the producers for a while. In 1920 the men who were prevented by the shortage of credit from buying feeder cattle were saved from losses from the continued fall of cattle prices during 1921. Late in the period of stringency, however, when recovery was beginning, the opposite was true. Those who were able to get cattle to feed at this time made profits because the stringency and other causes prevented many men from feeding.

Cattle prices are also influenced by adjustment of the marketing mechanism. The farmer receives cash when he sells his cattle, but at least two weeks elapse before the beef is actually in the hands of the consumer, and this does not necessarily mean that the consumer pays for it at once. The packer, or other buyer of the stock, must have enough liquid capital to cover the supply of stock, as well as his pay roll and other operating expenses until he receives remittances from the retailer. By no means all of the capital

used in the purchase of live stock necessarily belongs to the packer. Varying amounts of it are borrowed. If there occurs a severe stringency so that the packer is unable to obtain the usual amount of capital, he may be forced for a while to reduce his purchases of live stock. This happened for a day or two in 1893 and again in 1907.[188] On

[188] "Under normal conditions the packer makes up the statement for the retailer Saturday and does not include the Saturday's purchases. They go over to the next week's bill. During the stringency the statements were delayed long enough to get the Saturday's purchase on the bill, and the dealer who did not pay his bill before Wednesday found his Thursday order sent C. O. D. no matter what his financial standing. . . . The live stock market is a spot-cash market calling for a payment to the farmer of a million dollars a day at Chicago and an equal amount at the other packing centers. When a financial disturbance or anything else cuts down his sales, the packer is soon forced to borrow at the banks and if funds are not available, to curtail operations. Under ordinary conditions when prices fall slightly below the normal he is ready to take all the hogs and cattle offered and put them in the coolers until conditions improve. Under the conditions existing through October and November, 1907, he could not borrow and has been forced to confine his operations to the demands of current consumption. He has put nothing in his cellars, although normally he should begin to fill them at about this time and he did begin as soon as it was possible to obtain funds. . . .

"The hard pressed packer was able to derive a special advantage from the panic situation by keeping prices to the retailer on the old level for a month while he was buying the raw material much cheaper than he had been able to get it since 1905. This wide margin of profits which the strict collections from the retailer which he insisted upon enabled him to carry on a moderate volume of business without assistance from the banks. This process was continued long enough and the margin between purchase and selling price made wide enough to secure the packer profits sufficient to pay off some of his notes and reduce his line of credit to more manageable dimensions. . . . Until November 25, retail prices did not decline. Hogs had declined $1.50 by November 21 with a gradual increase in the number killed by local butchers and more rapid increase in the number shipped to eastern markets. With the sharp break in prices the butchers and shippers became more aggressive. Men who had been out of the market for months began to buy and kill hogs instead of buying their meat from the packers. They had cash or credit to pay for $4.00 hogs even if the big packers did not, and this competition during the last week in November put prices up a dollar a hundred to the farmer. Their competition or other cause also reduced prices of fresh meats to the retailers, showing rather conclusively that the market is not in the control of any trust or combination."— Hill's *Relation of Packers' Credit to Panic and Prices* in the *Journal of Political Economy*, Vol. XVI, pp. 97–102.

the other hand, the packer was sometimes able at such periods to derive an advantage from the situation. In 1907, and again in 1920, the packers were able to keep the prices of meat to the retailer and the consumer on practically the old level for a short time after the prices of cattle started to decline.[189]

It is not surprising that the prices of cattle fall first in such times. The packer, like other business men who are watching the situation closely, can usually perceive the drift of the market before the consumer begins to cut down on his buying. If he has large stores of meat products on hand he will probably be relieved of the necessity of buying as much as he sells for a few days. This is no more than ordinary business caution, but its effect on the prices of live stock may be serious, coming at a time when the market is uncertain and faltering. The packers ordinarily go on the market and buy up the surplus stock to put in their coolers if the weakness of the market promises to be of a temporary nature only. But if indications point to a long continued decline in prices and depression in business, such a policy would mean disaster. The smaller the inventories are under such conditions the better for the owners, as some packers discovered in 1920-1921. The same caution rightfully prevents the farmer who has bought cattle from laying in a heavy supply of corn if he thinks that either corn or cattle prices are about to decline.

THE SPECULATIVE FACTOR IN CATTLE FEEDING

Little has been said concerning the speculative factor in the feeding of cattle. From the nature of the business, however, it is obvious that this is an important item. A

189 "The packers . . . . in the bankers' panic of 1907 were embarrassed for a week or ten days only, when they were able to start the supplies they had in cold storage abroad, sell their foreign exchange against such shipments, and thus entrench themselves for continuing their purchases upon the market, and

very large part of the profit or loss on the operation depends on the movement of prices of the particular class of cattle the farmer has in his feed lot between the time he buys and the time he sells. Very few farmers are able to produce beef on corn at a cost which would return them a profit on the gain in weight even with all possible economies by the joint production of pork and manure. For their profit they depend on the margin or increased price on the weight of cattle bought.

Since 1902 the average spread between feeders and 1200 to 1500 pound fat steers at Chicago has been between two dollars and two dollars and a half, but this is probably somewhat more than the average margin received by the farmers, because this fat cattle price was for a grade somewhat better than the average. In each year the extreme fluctuations of price in this grade have been greater than the normal margin, but this includes differences in quality of cattle as well as the up and down fluctuations of the market. The fluctuations within the year on the same grade of cattle are usually sufficient, however, to make the difference between profit and loss to many feeders.

The greatest speculative loss or gain occurs when there is a continued movement of price in the same direction while the cattle are being fed. The more violent the fluctuations in price, the greater the speculative factor becomes. During the feeding season of 1908-1909 the change in the average price of 1200 to 1500 pound steers was only about fifty cents per hundredweight. Under this condition, the feeding business contained but little opportunity for gain or loss except from the skill of the feeder, and the relationship between feeder and fat cattle prices.

During the years of the war, the price of each grade of

thereafter the markets were well supported.''— *The Bankers Magazine*, Vol. XC, p. 360.

cattle was fluctuating rapidly, and the feeder was aware of this condition and of the risk incident to it. In the feeding season of 1917-1918 the average monthly price of fat cattle varied by as much as five dollars per hundredweight. Within nine months, falling from $14.50 in September, 1917, to $12.00 in December, and then rising to $17.00 in June, 1918. Considering that this fluctuation amounted to about $50.00 on a thousand pound steer, there was a chance for the feeder to make or lose considerable money if his feeding operations were heavy.

This risk is due to the fluctuations of the price as caused by the attempts of the producers to adjust their production to the most profitable levels, which also change continually with the business cycles, the season, and the changes in the technology of production. The presence of the time factor in the process of production makes the risk unavoidable. If the process was instantaneous, or if the feeder could contract for the sales price at the time he buys the cattle, he would have no risk except that incident to his ability as a feeder. He could then be certain that the market situation which obtained when he bought his feeders, would be the one to determine his profits. Even if the risk could be shifted, it would still be necessary for someone to carry it, as the time element, and the probability of change in market conditions can not be eliminated.

The only attempts that have been made to shift the risks in feeding have been in occasional cases where cattle were fed on contract. In these cases the feeders got the value of the gain and a margin agreed upon with the owner of the steers. This did not reduce the risk, but only placed it with one farmer rather than another. From the nature of the product, it is not possible to contract for future delivery at a stated price as can be done with grains. The variation in quality and finish of beef cattle is so great that

they must be bought and sold individually. No method of dealing in them by standard grades has yet developed.

PRESENT CREDIT NEEDS AND HOW THEY ARE MET

The raiser of cattle needs a larger investment per dollar of output for his business than the feeder, and needs it for a longer time. He must keep a slightly greater number of cows than the number of cattle he sells each year. In addition to this he must have enough capital to keep the calves to an age between one and two years. The amount of investment varies with the price of cattle, and good breeding stock costs more than the market price of cattle for beef. There is more likelihood, too, of wide variation in the price of breeding stock during the period of their usefulness. The breeding stock is also a depreciating asset, which, unlike the feeding steer, seldom increases in value as the end of its stay on the farm approaches. The breeding herd is kept continuously, whereas the feeders are kept for only a few months. The credit need of the owner of a breeding herd is, therefore, very different from that of the feeder.

Little capital is borrowed solely for investment in breeding herds. Banks can not extend credit for such long periods, and are seldom willing to take notes which they would have to renew so many times. There were no other credit mechanisms which could issue credit for such intermediate periods until recently when the Iowa Farm Credit Corporation was established, and the intermediate credit mechanism was set up by the government. As a usual thing farmers view the capital at their disposal as a unit, and if it is necessary for them to borrow any of the capital needed, they generally do so on their land, as they are able to get better terms on long term than on short term loans.

The need of the cattle feeder is for a relatively large loan

for a short time, and the loan is a self liquidating one. These circumstances are peculiar in agriculture to the feeding business. They are most nearly paralleled by loans for the purpose of making a crop. The difference between this sort of a loan and one which is made for a long time investment in permanent improvements or land is a wide one. Furthermore the types of investors interested in the two forms of credit, the inducements offered by each, and the form of credit mechanism needed in the two cases differ greatly.

The rural banks in cattle feeding sections usually extend credit for the larger part of the feeding business. These banks lend for this purpose whatever funds they have which are not in use or necessary for their reserves during the period of the year when needed by the cattle feeders. The function of the banks in this connection is primarily one of mobilizing for the use of the feeders the available capital of the community. Their business in selling cattle paper to other sections is small, and they seldom require a chattel mortgage on the cattle. Mortgages are required only of the feeders with relatively weak credit. However, more mortgages are required to-day than before the depression of 1920-1921, which made the bankers much more cautious. The loan to the farmer is usually made on his note, after he has convinced the banker that the purchase of the cattle will be a wise investment for him, that he is experienced or competent as a feeder, and that the price which he intends to pay for the feeders will allow reasonable safety in the financial operation. The note is usually for three or six months—more often for three than for six—as the banker usually prefers to have the farmer come to the bank to give some sort of a report on the feeding operation, and likes to have his records show as large a proportion of short time paper as possible.

Next to the banks, the commission firms and cattle loan companies are the most important sources of feeder cattle credit. As the business of these organizations has been discussed above it will merely be summarized at this point. The commission firm or the cattle loan company lends the cattle feeder the whole or the greater part of the price of the cattle, taking his note and a chattel mortgage on the cattle. The mortgage often covers in addition an amount of feed sufficient to finish the stock. The term of the note is usually for six months, but it may be paid at any time the feeder decides to sell. The function of the loan company is to mobilize available funds from sections outside of the feeding area and make them available to the cattle feeders. This is done by selling the notes, after the commission firm or the loan company has endorsed them to add its security to that of the farmer. The market for the cattle paper is found in banks which have surplus funds to invest for a few months and with others who wish short time securities.

The difference between the rate paid by the cattle feeder and that received by the investor is usually about two per cent. At times the spread has been even more than this, seven per cent cattle paper being sometimes sold to yield only four and a half to the buyer.[190] This seems to be the weak part of the system in that it permits too wide a spread between the borrower and the investor. Another defect claimed to exist in the system is that firms lending money to feeders to buy cattle from them have been said to sell the stock at somewhat higher rates than those for which the same grades of cattle could be bought outright.

An interesting attempt to perform the function of institutions which ordinarily finance the feeding business was the feeding of cattle by Iowa farmers for cattle raisers in

190 Interview with Leon Goodman of Des Moines.

the Southwest. The Iowa Farm Credit Corporation arranged in the fall of 1922 for the shipping of about 4000 head of cattle from New Mexico to farmers in Iowa. These cattle were to be fed by the Iowans on contract with the cattle raisers.[191] The price for the added weight plus two cents per pound on the original weight was to go to the feeder. This amounts to the financing of the feeder by the raiser of the cattle, and the retention of all risk by the raiser. Similar plans had been tried before but without great success. A sufficient margin was seldom given the feeder to permit him to break even. The owner of the cattle was likely to be dissatisfied with the finish put on the cattle, and each party was likely to overestimate the share in the profits which was going to the other.

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191 "Steps toward developing a method of handling cattle by co-operation between breeders and feeders were taken here last week at the request of the War Finance Corporation. They took the form of an arrangement made between the Iowa Farm Credit Corporation, and the Agricultural and Livestock Loan Company of New Mexico for the shipment of 4,000 Hereford and Shorthorn cattle from New Mexico to Iowa feedlots on contracts which do not require the Iowa farmer to make any cash investment.

"C. W. Hunt, vice-president of the Iowa Farm Credit Corporation, and president of the Iowa Farm Bureau, who handled the deal, said it opens up the possibilities of eliminating the destructive competition that has hitherto existed between stock raisers and feeders. It is provided that the stockmen of New Mexico shall bear all the costs of shipping the cattle on transit billing, while the added weight plus 2 cents a pound, which results from the feeding operation in Iowa will be the profit of the feeder. This system obviates mutually disadvantageous haggling over prices by the stock raisers and feeders in the central markets, and at the same time expedites the movement of cattle from the ranges to the feedlots".— *The Des Moines Register*, November 8, 1922.