PIONEER FARMERS AND INNOVATION

*By Allan G. Bogue**

In recent years the rural sociologist has become extremely interested in the way in which farm people accept new ideas.[1] Such interest has grown from the desire to see improved agricultural practices diffused among the rural population as rapidly as possible, but the approach of the sociologist may also be of use to the historian in helping him to understand the processes of change in the rural community. The sociologist lists stages through which the individual farmer moves while adopting a new practice or idea—awareness, interest, evaluation, trial, and adoption. Information comes to the farmer along a number of channels including those which the social scientist calls mass communication media, through neighbors and friends, through salesmen and commercial dealers, and finally through agricultural agencies like those sponsored by the federal and state governments.[2]

Many factors apparently influence the speed with which modern farmers modify their practices. The degree of disturbance in the farm organization which a new practice will cause, the amount of profit expected from a change, the ease with which the advantages of a new idea are demonstrated, all seem important. The characteristics of the rural community and the groups within the community also play a part in speeding or delaying change. Tradition-bound groups hesitate to alter their farming

*Allan G. Bogue is associate professor of history at the State University of Iowa.

[1] This article grew out of study and research undertaken during 1955 and 1956 while I held a post-doctoral training fellowship, awarded by the Social Science Research Council. I also wish to acknowledge the assistance and advice given during or after the fellowship period by Professors Ray E. Wakeley, George M. Beal, Joe M. Bohlen, and Robert Hamblin of the department of economics and sociology, Iowa State College, and by Professor David Gold of the department of sociology and anthropology, State University of Iowa. Responsibility for errors of fact or interpretation is, of course, mine alone.

[2] The North Central Rural Sociology Committee has prepared a helpful guide to research on the diffusion of ideas among farm people, *Bibliography of Research on: Social Factors in the Adoption of Farm Practices* (Ames, Iowa, 1956). In presenting a brief summary of such research, I have followed in general outline an earlier publication of the same group, *How Farm People Accept New Ideas* (Ames, Iowa, 1955), drafted by George M. Beal and Joe E. Bohlen.

methods, while innovation occurs more rapidly in groups where the emphasis is upon individualism and personal success. The leadership structure, the number and kind of social contacts enjoyed by farmers, localism, cliquism, and the extent of status differences all are involved in speeding or retarding change. As for the individual, his age, formal education, socio-economic status, and the number and kind of his social contacts all affect the eagerness with which he will adopt a new practice.

Some social scientists divide farmers into categories based on the speed with which they adopt new ideas: innovators, community adoption leaders, local adoption leaders, later adopters, and nonadopters.[3] The innovator experiments constantly with new practices. Community adoption leaders on the other hand, although not experimenters, are quick to use ideas whose worth has been shown. Today community adoption leaders have a wide range of social contacts, they tend to be members of farm organizations, and they have direct contacts with agricultural agencies. "They tend to have a higher level of education and read more bulletins, magazines and newspapers than do the average." The local adoption leaders have more sources of information than average in the community, but are much like their fellows in personal and social characteristics. These men are "informal leaders" whose neighbors value their good judgment, and it is their example or advice which most influences the bulk of local farmers in a decision to adopt a new practice.[4]

The historian who seeks to understand the changing patterns of farming in pioneer Iowa is less fortunate than the sociologist who can go into a rural community which has recently accepted a new farming method and interview residents until the channels along which knowledge of the innovation ran become clear and the role of the leaders in the adoption process evident. For the time being at least the farmers of pioneer Iowa are beyond

[3] Some years ago an agricultural economist and historian, Clarence Danhof, approached the same problem from a slightly different angle and tried to distinguish various types of entrepreneurship among agriculturists, suggesting the following categories: innovating, imitative, "Fabian," and drone entrepreneurship. Research Center of Entrepreneurial History, *Change and the Entrepreneur: Postulates and Patterns for Entrepreneurial History* (Cambridge, 1949), 20-24.

[4] A few historians other than Danhof have approached the problems of agricultural innovation also, although in somewhat different fashion. Particularly important are James C. Malin, *Winter Wheat in the Golden Belt of Kansas: A Study in Adaptation to Subhumid Geographical Environment* (Lawrence, Kans., 1944), and Earle D. Ross, "Retardation in Farm Technology Before the Power Age," *Agricultural History*, 30:11-17 (January, 1950).

the historian's reach and he must use data almost hopelessly incomplete by the standards of the sociologist. But the historian can isolate many of the questions which the pioneer farmer sought to answer and the sources of information which were available to him. The relative influence of early leaders on their fellows is fugitive, and some local leaders will escape completely, but the historian can identify many of them and suggest some of their social characteristics. These are the tasks attempted in this study of pioneer farmers in Hamilton County, Iowa, between the years 1855 and 1890.

The raw materials for a study of this sort must come mainly from five types of sources. First, the columns of the pioneer newspaper at the county seat contain the activities of readers from both town and country. As the town grew and the ambitions of its businessmen expanded, the concerns of the individual farmer would attract less attention from the editor; but before he reached this stage of sophistication he had recorded many useful facts for the agricultural historian. Second, the federal census taker, at ten-year intervals, enumerated the local population and recorded the agricultural production of the farmers during the previous year as well as the livestock on hand in the current year. In addition, the manuscript census rolls can tell much which lies hopelessly buried in the summations and averages of the printed census. Third, the county and township records make their contribution. From the deed and mortgage registers of the county recorder the student can discern the shifting patterns of land ownership in the county — patterns replete with both economic and social significance. Fourth, Midwestern publishing firms issued fat biographical histories of most counties in the late nineteenth and early twentieth centuries. Although these tomes were blatantly commercial in intent and erratically selective in choice of subjects, they reward the searcher, hardy enough to wade through hundreds of cliche-ridden biographical sketches, with a harvest of valuable facts. Hamilton County residents subscribed to three such biographical histories. Fifth, the secretary of each county agricultural society was expected to return an annual report to the State Agricultural Society which described the activities of the local organization in some detail and might include a general discussion of agricultural developments in the county generally. These reports were published in the annual *Report* of the Society. It is questionable whether a realistic picture of local conditions can be drawn from such reports, but in composite with other sources,

the reports of the local agricultural society are very helpful. These are the major sources; let us now turn to pioneer Hamilton.

Settlement in Hamilton County began generally along the Boone River in the mid-1850's and spread back from the stream. The federal census taker of 1860 reported that there were 139 farm units in the county during the previous year, averaging 205 acres in size. The number of farmers in the county grew rapidly during the late 1860's, but the area of the farm unit decreased so that the average size of 1,565 farm operations in 1880 was 112 acres. The latter trend soon reversed itself and the "average farmer" was tilling 162 acres in 1900. The Hamilton County farmer of 1860 raised four bushels of corn for every bushel of wheat. By the end of this decade, however, the ratio was only two to one. In the mid-seventies much more stress was placed on corn, and by 1889 the farm operator was harvesting 172 bushels of corn for every bushel of wheat. Beginning in the middle seventies also, local farmers began to raise more oats than ever before.

The farmers of 1860 had, on the average, cured some 30 tons of hay in the previous year. This amount would fall off in the sixties and seventies, but in 1889 local farmers cured 47 tons of hay on the average. Although interest in clover and timothy spread during the late 1870's, prairie grass still made up 79 per cent of the year's cutting in 1894. Hamilton County farmers harvested small acreages of barley, rye, and buckwheat during the pioneer period but never in significant quantities. Between 1874 and 1884 they developed some interest in flax, planting almost 1,500 acres in 1879, but the popularity of this crop was short lived. Most farmers planted a small potato patch, and many grew a little sorghum to provide molasses. Despite the 33,000 fruit trees reported in the state census of 1874, Hamilton County farmers never claimed more than 8,000 trees in bearing thereafter.

Not only did the farmers of 1860 have larger holdings than the average of later years, they owned considerably more livestock as well. The average farmer of 1863 owned 25 cattle, a figure surpassed only in 1890, while the farmers of 1870 claimed but seven. Swine numbers followed much the same pattern. Production of butter on farms was obviously related to the number of cattle on farms, but only in the 1860's was any quantity of cheese produced. The 33 sheep per operator of 1867 reflected a lively interest of local farmers in this animal, but it was transient. Only

1,500 sheep were to be found in 1890 as compared to 12,018 in 1867. The number of draft animals rose in a pattern similar to cattle and hogs, but the ox, so common in the 1860's, had almost disappeared by 1880.[5]

But the pioneer farms of Hamilton County were not all cut to the same pattern, as the manuscript census rolls clearly show.[6] The business of any one farmer might vary considerably from the county averages. Whether owner or tenant, he might place major dependence on a herd of milk cows, on feeding operations, on the raising of grain for sale, or, more usually, a combination of such enterprises. The size of farm units differed drastically, ranging from but a few acres to holdings of many hundreds.

In 1857 the Hamilton County Agricultural Society sponsored a competition among the local farmers to discover the best improved farms in the community. Although the society probably grew from the desire of Webster City promoters to "boom" the region, and although few, if any, "farmers" had been in the county for longer than three years, five settlers did invite the committee of judges to inspect their farms. As they performed their labors, the arbiters inquired whether the contestants had used manures to advantage. The proprietors of the two best properties, farmers Funk and Hill, affirmed that they had indeed; William Fraikes, whose acres only earned honorable mention, maintained that stimulation of this kind was still unnecessary.[7] In such conflict of opinion pioneer agriculture began in Hamilton County. As a generation of pioneer farmers carved farms from the timbered lands along the Boone River and its tributaries and from prairies which rank among the most valuable in Iowa today, their labors would reflect almost numberless decisions — rejection or acceptance of many ideas both old and new.

Of all printed matter, the local county paper was undoubtedly most important to the pioneer farmer as a source of information and ideas.[8]

[5] This summary was based on a detailed analysis of census data found in *Census of the United States*, No. 8, Vol. 2; No. 9, Vol. 3; No. 10, Vol. 3; No. 11, Vol. 18; No. 12, Vols 5 and 6, and in *Census of Iowa for 1880 . . . with Other Historical and Statistical Data* (Des Moines, 1883); *Census of Iowa for the Year 1885 . . .* (Des Moines, 1885); *Census of Iowa for the Year 1895* (Des Moines, 1896).

[6] The manuscript agricultural census returns for 1860, 1870, and 1880 are available at the State Historical Society of Iowa, Iowa City.

[7] Webster City *Hamilton Freeman*, Oct. 22, 1857. The name of this paper was changed somewhat on a number of occasions. Hereafter it will be referred to simply as the *Freeman*.

[8] In evaluating the role of the press in disseminating ideas, it is well to keep in

Between June 29, 1857, when Charles Aldrich published the first number of the Webster City *Hamilton Freeman*, and the end of the year 1885, four proprietors edited the paper. Under Aldrich the *Freeman* began as a "boomer" organ in which the editor sang the praises of a little county seat, "nestled down in one of the prettiest little nooks in creation—in the center of this rich and fertile region — one of the smartest and widest-awake towns in the West,"[9] at the same time that a traveler was sending a letter back east from the local post office dated, "four miles beyond Sundown and seven beyond the knowledge of God."[10] When war took Aldrich away in 1862, the paper languished until taken over by V. A. Ballou in 1864. Two years later John D. Hunter became editor and proprietor. Although Hunter transferred the paper to other hands for one year during the 1870's and handed over active editorial direction to subordinates at times, he remained in control of the paper for the remainder of the period in which we are interested. Both Aldrich and Hunter evinced keen interest in agricultural problems. Although he gave up the paper, Aldrich maintained a farm near Webster City for many years and for a time during the 1870's served as agricultural editor for a Chicago paper. Hunter could not make the same claims to being an authority on agricultural problems in his own right, but he came from a family of progressive agriculturists and he made real efforts to serve his farm readers.

The editor of a county seat newspaper could render the farm operators among his readers a variety of services. In the first place he could try to guide the farmers along paths which he believed would prove most profitable to them. Factual reporting of the activities of the farmers in the county could also aid the individual operator since he learned of developments outside his immediate neighborhood and gained vicarious experience. The editor also could open his columns to the opinions of others whose knowledge might assist the local farmers. Such writers might be local farmers who believed that they had worth-while information on crops and tillage to pass along, or they might be writers in the agricultural press, or

mind the recent contention of one agricultural historian. "Some historians have believed that editors by their individual efforts could change the practices or crops of a region. . . . Editors followed, rather than led, in any process of general change." John T. Schlebecker, "Dairy Journalism: Studies in Successful Farm Journalism," *Agricultural History*, 31:23 (October, 1957).

[9] *Freeman*, Jan. 7, 1858.

[10] *Biographical History of Cherokee County, Iowa* . . . (Chicago, 1889), 237.

the editor's exchanges whose offerings the editor clipped for the benefit of his own readers. Implicit in the editor's factual reporting and in the selections from agricultural journals and exchanges were preconceived ideas of what the good farmer should be as the days of pioneering at its rawest were left behind. These preconceptions, too, might have a subtle influence in preparing the mind of the individual farmer for decision making.

In 1858 the editor of the *Freeman* made his most sweeping recommendation to the farmers of Hamilton County when he suggested that the most profitable branch of agriculture was stock raising.[11] Corn had actually rotted during the previous fall and winter for want of livestock to eat it, and the prairies, he argued, provided unlimited pasture. "We have no doubt," he concluded, "that those of our farmers who devote their efforts to stock-raising will in a few years become our richest and most prosperous citizens." The editor showed real perception in this article, and in a sense his prophecy was borne out. Twenty years later, livestock would hold an important place in the farming patterns of the more prosperous farmers of Hamilton County. But livestock in any numbers represented a capital investment beyond the reach of most settlers who would arrive in the sixties and seventies. For these a farming operation which demanded smaller investments of capital was essential, and this was provided by a type of farming in which wheat provided a cash crop.

The action of Aldrich in offering a ten dollar premium to the farmer who raised the best acre of wheat and a similar prize to the settler who produced the best sample of sorghum sugar in the crop year 1861 was undoubtedly much more in accord with the realities of agriculture in the Webster City district than was his admonition to concentrate upon the production of livestock.[12] By the mid-1870's Hunter was swinging toward Aldrich's original position as the production of cash crops of wheat became less profitable and more emphasis was placed generally on livestock. Such stock moreover should be of high quality. It cost no more to raise a valuable horse than a "dunghill."[13] When Colonel John Scott of Story County proposed to sell fifty cattle "off the top of his herd," in the late

[11] *Freeman*, July 15, 1858. Professor Thomas LeDuc has been suggesting for some years that the major point developed in this paragraph applies generally to pioneer farmers in the Middle West during this period.

[12] *Ibid.*, Dec. 8, 1860.

[13] *Ibid.*, Apr. 21, 1869.

seventies, the editor suggested that it would be worth while for Hamilton County farmers to bring home every animal.[14] Although the activities of the cattle feeder drew more editorial comment than those of other agriculturists, the editor could by the late 1870's suggest that dairying was a more satisfactory kind of livestock operation for the man of small capital.[15]

Through the 1870's the editor's attitude toward the grain crops mirrored the change which was taking place in the county generally. When reporting the state of the crops during the previous decade, his primary concern had been the wheat crop. But in 1873 he would observe that "Iowa relies much on her corn crop," and four years later he wrote, "farmers are fast learning that there is more real profit in the corn crop than in almost everything else."[16] Where Aldrich had offered premiums in 1860 for the best acre of wheat and the best sample of sorghum sugar, Hunter, twenty years later, offered a special premium of ten dollars for the best five acres of corn.[17] In 1885 he affirmed, "the soil of Hamilton county is pre-eminently fitted for the growth of corn and our farmers are each year paying more attention to this crop, which is the sure road to successful farming."[18]

In Hamilton County cutting prairie grass for hay was a task for the August and September days during the pioneer period. In the mid-1870's the editor admonished his readers to make their hay early before the grasses went to seed so that a product of better quality might be obtained. As the unbroken prairies yielded rapidly to the plow in the late 1870's and the early 1880's, Hunter, with support from Aldrich, devoted some attention to the tame grasses, particularly timothy and red clover.[19] "Prairie hay," he wrote, "will soon be a thing of the past. . . . There is nothing the West needs more than an extension of the varieties of grasses cultivated. Especially do we need varieties that will stand as pasture during the usual droughts of July and August."[20] In the spring of 1879 he noted that clover and timothy seed were in greater demand than ever before. To the embarrassment of both the *Freeman* and Aldrich, much of the red clover

[14] *Ibid.*, Oct. 3, 1877.
[15] *Ibid.*, Nov. 8, 1876.
[16] *Ibid.*, May 14, 1873; Apr. 11, 1877.
[17] *Ibid.*, Apr. 14, 1880.
[18] *Ibid.*, Sept. 9, 1885.
[19] *Ibid.*, Apr. 10, June 5, 12, July 3, 24, 1878; Apr. 2, 1879.
[20] *Ibid.*, Aug. 15, 1877.

died during the winter of 1880, and discussion of tame grasses vanished from the columns of the newspaper for a time.[21]

Aldrich, Ballou, and Hunter were inveterate champions of fruit growing. Their Yankee origins had left them with a memory of pleasant countrysides, where every farm boasted an orchard. The fact that Mr. Downing in Cass township had a peach tree in bearing demonstrated to Aldrich that "peaches may be abundantly raised in North Western Iowa."[22] Ballou in 1864 maintained that "Iowa is the very paradise of small fruits," and hopefully forecast that "in a few years Iowa will become noted as a wine producing state."[23] Winter killing or the unfortunate experiences of local farmers with peripatetic nursery men might silence the editors for a time, but they invariably returned to the subject.[24] Hunter differed with one of the local experts in 1880 at some length:

> We have long believed that Hamilton county will be noted in the future for its large and excellent crops of apples; but now we hear that our venerable friend, Huitt Ross, avers that in ten years apples will be so plenty here that they won't be worth 25 cents per bushel! We rather differ with him in this regard. There will be an almost unlimited demand for Iowa apples, on the plains and in all parts of the Rocky mountains, from British possessions to Old Mexico. There will be improved methods of drying and preserving them for shipment everywhere. Hogs and cattle may be profitably fed upon them to almost any extent — if they ever get cheap and plenty enough. So, on the whole, without going into any argument about the matter, we are of the opinion that our farmers can do nothing more sensible than to keep right on planting apple-trees.[25]

Such premonitions on the part of the editor and his "venerable friend" would earn neither of them a prize for prophecy.

If importing purebreds or planting fruit trees won the approval of the editor, certain practices inspired his censure. He showed little sympathy for the man who allowed a scrub bull to roam, nor for the beast either. On the latter, improvement-minded farmers were to "use the knife un-

[21] *Ibid.*, May 12, 1880.

[22] *Ibid.*, Sept. 27, 1862.

[23] *Ibid.*, Sept. 10, 1864.

[24] *Ibid.*, June 3, Aug. 6, 1865.

[25] *Ibid.*, June 9, 1880.

sparingly" in what he called "heroic treatment."[26] A man who burned the prairies in September or October, the editor wrote in 1864, should be prosecuted.[27] Only a week later he supported his position with a story of local cattle badly burned or killed by a prairie fire.[28] Roughly a decade later he could repeat his advice with the additional admonition that it was now a violation of the law to burn the prairies in the fall. Quite aside from the risks of fall burning, the farmer could destroy young grasshoppers if he fired the old grass in the spring.[29] As early as 1872 the local editor warned against using the plow on steep slopes, and deplored the water erosion which resulted from such practice.[30] Unquestionably the editor of the *Freeman* served as a community conscience, but people often prefer to ignore the prompting of conscience.

The editor's ideal farmer seems to have been an industrious man, alert to improve his agricultural practices by applying the ideas which he might discover in the agricultural columns of the local paper and agricultural press or at the annual fair of the agricultural society. At the same time, however, he was cautious in expenditure. During the seventies the editor warned against increasing the size of the farm unit unduly and echoed the aphorism that it was better to farm a small farm well than a big farm poorly.[31] The editor believed that farmers could help themselves by discussing mutual problems, and the farmers' club organized in Cass township during the early 1870's undoubtedly owed something to his guidance.[32] At first he commended the Grange, but, as a power in the local Republican party, he could hardly approve the interest in politics which the members developed.[33]

Many of the agricultural items in the *Freeman* simply illustrated the reportorial function of the paper. One category of such items included discussion of plant and animal diseases or pests. Periodically Hamilton County farmers fought the potato beetle, chinch bugs, and grasshoppers, and the editor printed battle communiques along with critiques of the war plans.

[26] *Ibid.*, May 30, 1877.
[27] *Ibid.*, Oct. 1, 1864.
[28] *Ibid.*, Oct. 8, 1864.
[29] *Ibid.*, Oct. 11, 1876.
[30] *Ibid.*, June 12, 1872.
[31] *Ibid.*, Aug. 23, Sept. 6, 1876.
[32] *Ibid.*, Dec. 10, 1864; Feb. 23, 1870.
[33] *Ibid.*, May 20, 1872; May 14, 1873.

In 1877, for instance, "Uncle Jimmy Adams" was "making it red-hot" for the young hoppers in his wheat by driving them into windrows of hay which he then fired.[34] Recurrently during the period blackleg struck the cattle, horses suffered from pink eye and epizootic, and cholera attacked the swine. The editor passed along remedies to his farm readers with indeterminate success. Suggestions that burnt corn or jimson weed tea would cure or prevent hog cholera serve better no doubt as evidence of the level of veterinary science in the day than proof of aid given by the local editor in solving a farm problem.[35] But there were exceptions to this rule. In 1869 and again in 1871, he printed directions for applying paris green to control the potato beetle.[36] Although this successful treatment had been in use for only a few years at the time, the frontier farmer was by no means isolated from improved farming techniques, if their worth had been proved.

At times the editor reported the text of state laws which he thought of interest to the farmers. In the earlier days of the paper, such reporting merely filled space in part, but by the 1870's much more selection was apparent. At appropriate times of the year the editor might remind his readers that burning prairies in the fall was a crime or that the tumbling rods of threshing machines must be boxed under state law.[37]

Undoubtedly the editor was selective in reporting the activities of the farm population. He pandered to his readers' taste for the novel. When William Hook slaughtered a McGee hog which weighed 602 pounds at the age of nineteen months the *Freeman* challenged anyone else in the region to "show better figures on the hog question."[38] The reading fare of Hamilton County citizens was liberally garnished with big cabbages, double-yoked eggs, and tall corn.[39] Unusual crops or innovations provoked comment although they might be of little significance in the long run. On the other hand, farmers who followed progressive practices did receive mention some of the time at least, as an item of 1877 shows clearly. J. A. Felt, the editor noted, was becoming a large stock raiser and did

[34] *Ibid.*, May 30, 1877.

[35] *Ibid.*, Aug. 14, 1878; Sept. 3, 1879.

[36] *Ibid.*, May 12, 1869; June 14, 1871.

[37] *Ibid.*, Sept. 29, 1869; Aug. 12, 1874.

[38] *Ibid.*, Jan. 4, 1871.

[39] *Ibid.*, July 30, 1864; Sept. 23, 1885.

not "propose to fool away his time raising wheat."[40] The editor reported that the Odessa wheat of W. H. Riley threshed sixty-two pounds to the bushel, and the plug no doubt helped Riley in his plans to popularize this variety of seed in the county.[41] Community coverage in the *Freeman* improved somewhat during the late 1870's, when the editor succeeded in building up a staff of local correspondents, but these writers frequently took farming for granted and emphasized local social life.

The editors of the *Freeman* desired to make the paper a forum in which local farmers might discuss agricultural problems. Although farm readers never swamped the editor with letters, they supplemented the plow with the pen rather frequently during the 1870's when low prices and the encroachment of settlers on prairies hitherto used by the established farmers as commons produced a period of readjustment and questioning. A number of writers attempted to lay down the philosophy which the farmer should bring to his work. Do things in season; always plan ahead; use good seed; do not try too much; these were the admonitions of "Aitch" from Cass township.[42] His last bit of advice appeared in a variety of forms in these years, including simple repetition of "the old fashioned adage that 'a little farm well tilled' is the best after all."[43] Be honest, thrifty, and avoid both beer and agricultural implement salesmen was the counsel of others.[44] Although negative in tone, a letter written originally by Oliver Templer for the *Country Gentleman* reflects some of the more progressive attitudes of the time:

> One of the roads to poor farming is well traveled but not generally acknowledged — invest all your capital in land and go in debt for more. Hire money at a heavy interest to run the farm; have very little faith in farming and always be ready to sell out; buy the cheapest and poorest kind of stock and farming machinery; feed poor grain and hay to your stock, and you will have less repairs to make on your rickety fences and farm machinery, as fine horses and fat stock make sad havoc with the old wagon, plow, . . . and fences. Use the oil of hickory whenever your oxen need strength; it is cheaper than high feeding and keeps

[40] *Ibid.*, June 27, 1877.

[41] *Ibid.*, Oct. 8, 1873.

[42] *Ibid.*, Feb 19, 1873.

[43] *Ibid.*, Jan. 29, 1873. See also, Apr. 4, 1871; Aug. 30, 1876.

[44] *Ibid.*, Apr. 12, 1871; Apr. 17, 1878.

> the hair lively, and pounds out the grubs. Never waste time by setting out fruit or shade trees, as leaves rotting around a place make it unhealthy. Sell the best calves, lambs and shoats, to the butchers, as they will bring a little more, and the thin and poor ones will do well enough to keep.[45]

Even Templer, however, subscribed to the "little farm well tilled" gospel, although the census reports of 1890 would show that it had been overwhelmingly rejected.

Some farmers discussed the profit to be found in specific farm enterprises. Between 1870 and 1876 the returns to be expected from wheat were the subject of particular argument. Early in 1870 "Hamilton" was convinced that wheat acreage should be reduced sharply, that the proportion of other crops, especially corn, should be greatly increased, and that more and better stock should be raised. These points, he modestly suggested, constituted "*intelligent, discriminating, agricultural wisdom.*"[46] But three years later a number of the local farmers were challenging each other's figures on the cost of wheat production, and "A. G. N." charged "Prairie" with padding his accounts by including allowances for "poor plows, high-priced harvest hands, worthless machinery, worn out teams and wagons, gabbling, time killing teamsters, *etc.*"[47] Three years later "Alfo" concluded that farmers were "becoming satisfied of the folly of attempting to raise grain to ship," and the census returns of 1880 bore him out.[48]

Other letters ranged over a variety of topics, sometimes in polemical fashion. The manager of the River Bend Farm, owned by L. L. Estes, flayed Charles Aldrich for his support of the Jersey breed and argued that the Shorthorn was a superior animal for any local need.[49] In the mid-seventies those who opposed restraining stock under the terms of the state herd law submitted a series of strongly worded letters.[50] The most violent of these partisans hinted strongly that all of the advocates of the measure were selfish, if not dishonest, and divided them into a number of uncomplimentary categories which included land sharks, land agents, and

[45] *Ibid.*, Mar. 18, 1874.

[46] *Ibid.*, Feb. 16, 1870.

[47] *Ibid.*, Jan. 22, Feb. 12, 26, 1873.

[48] *Ibid.*, Apr. 19, 1876.

[49] *Ibid.*, Apr. 4, 1883.

[50] *Ibid.*, Mar. 6, 1872; Oct. 28, 1876; Sept. 19, 26, Oct. 3, 1877; Oct. 8, 1879.

lawyers.[51] Less dramatic and also less numerous were letters in which the writer advocated improved tillage and feeding practices or discussed livestock or plant diseases and pests.[52]

The Hamilton County farmer might learn of improved agricultural practices in the Middle Western agricultural press as well as in the local newspapers. The better-known farm journals advertised in the *Freeman* and occasionally excerpts from their columns appeared there as well. We cannot know the number of such journals which were read in any local community. One Hamilton County farmer claimed that he was receiving twenty periodicals during the late eighties, but such a man was obviously far from typical.[53] The problems considered in the farm press were similar to those discussed in the agricultural columns of the *Freeman*, but the material, of course, lacked local flavor.

The work of farm organizations and agricultural agencies was less obvious than in these days of federal solicitude. The agricultural society of 1857 expired quickly and quietly in Hamilton County, but another was organized during 1867. Thereafter this organization sponsored annual fairs, where the local farmers might inspect farm products and animals of superior quality as well as farm machinery exhibits. Early in the decade of the 1870's a farmers' club was organized in one of the townships, but little record of its activity remains.[54] During 1872 and 1873 Hamilton farmers showed that they were conscious of the economic, social, and political grievances which caused the Patrons of Husbandry to spread like a prairie fire through rural Iowa. The Grangers organized eleven local chapters in the county, although this number fell far short of that in many counties.[55] In the meetings of the Grange, discussion ranged widely in search of ways to improve the social and economic position of the farmer. The Hamilton Granges united to sponsor the services of a purchasing agent in order to obtain agricultural supplies and machinery at lower prices. An agricultural

[51] "R" in *ibid.*, Sept. 26, 1877.

[52] *Ibid.*, Mar. 22, Apr. 12, 26, 1871; Apr. 8, 1873; Apr. 1, 1874; Mar. 28, 1883.

[53] Sketch of Oliver Templer in *Biographical Record and Portrait Album of Hamilton and Wright Counties* . . . (Chicago, 1889), 241-2.

[54] *Freeman*, Apr. 12, 1871.

[55] Mildred Throne, "The Grange in Iowa, 1868-1875," IOWA JOURNAL OF HISTORY, 47:298 (October, 1949). The number eleven is based on a list given in the *Iowa Homestead*, 16:5 (November 28, 1873). Officers of only ten Hamilton Grange chapters appeared in the weekly listing of newly organized Granges published in the *Iowa Homestead*, and in one such instance only the name of the secretary was given.

paper of high merit served as the state organ of the Grange and undoubtedly had a wide circulation among the membership. The ardor of the Grangers soon cooled, however, and references to their activities became infrequent in the local paper after the mid-1870's. Local farmers, organized to help themselves, made up the agricultural club and the Grange chapters. The membership of the agricultural society was local also, but the state did provide a small grant which helped meet some of the costs of the fair.

By the 1870's the faculty members of the State Agricultural College were reaching out to their farm constituency in speeches, in addresses at fairs, and through the medium of the agricultural institute, but this work caused little newspaper comment in Hamilton County prior to 1885. Through the members of the Iowa congressional delegation the federal patent office, and later the bureau of agriculture, disseminated seeds to interested farmers, and some Hamilton farmers did test new varieties obtained in this way.[56]

Agricultural implement men formed a local group whose members did their best to "educate" Hamilton farmers. Local mechanics and blacksmiths produced plows, horse rakes, or other simple machinery, and might also purchase patent or agency rights for the manufacture or sale of machinery. More important were a number of agricultural implement salesmen who specialized in the sale of machinery made by more distant manufacturers. Evidently E. O. Stevens established the first agricultural implement store in Webster City during 1865, and a competing establishment was doing business little more than a year later. Such local men competed with traveling salesmen, operating from the larger centers of population in Iowa. If the *Freeman* is a faithful reporter, the competition among the agricultural implement salesmen in the period was bitter and not only brought the most improved types of machinery to the region shortly after each technical advance but made it very difficult for the pioneer farmer to remain ignorant of the implements available. Within the twenty years after 1860, horse rakes, patent mole ditchers, mowers, reapers, ditching plows, breaking plows, stirring, riding, and gang plows, the Marsh harvester, the header, the reaper with wire binding attachment, riding corn planters, a variety of cultivators — riding and walking — and several makes of

[56] For a general discussion of the topics discussed in the last few paragraphs, see Earle D. Ross, *Iowa Agriculture: An Historical Survey* (Iowa City, 1951), 71-116; Mildred Throne, "Book Farming in Iowa, 1840-1870," IOWA JOURNAL OF HISTORY, 49:117-42 (April, 1951).

threshing machines were presented to the farm population of Hamilton County. The message of mechanization was carried to the farmers in newspaper advertising, in farm-to-farm canvasses, in exhibits at the annual fair or at the local hotels, and by field trials on the farms of cooperative farmers.

A few regional or local problems of adaptation had some bearing on the agricultural machinery business in Hamilton County. Interest in drainage machinery appeared early in the history of the county. Residents of Lakin's Grove obtained one of Hammer's Patent Mole Ditchers in 1862 and began custom work with it in that year.[57] In 1867 the invention of a Hardin County man, John T. Miller's Improved Ditching Plow, was at work in Cass township.[58] Operated by two men with the aid of two yokes of oxen, this plow reputedly could cut from fifty to one hundred rods of ditch per day. William Howell of Webster City set himself to solve the problem of developing a plow that would scour in the wet, sticky soil of the county. The plow maker found it difficult to produce a plow which was hard enough to take a high polish and scour efficiently without making a brittle product. In 1868 Howell and Company ordered a plate of steel and iron welded together in Pittsburgh. With this material, Howell was convinced that the problem had been solved and sought a patent on his process. Whether he ever reaped the fortune that the *Freeman* editor had forecast for the man who could "furnish a plow that will scour," we cannot know, but the firm evidently did carry on an active business during the next few years.[59] The regional cropping adaptation in which Hamilton farmers placed greater emphasis upon corn in the mid-1870's was reflected by the widespread purchase of corn planters, riding corn plows, and corn cultivators in those years.

If a Hamilton farmer were interested in seeing new machinery at work and agricultural implement salesmen under stress, he could have attended field trials of mowers, plows, cultivators, hay rakes, harvesters, headers, and binders between 1865 and 1883.[60] Such tests often produced an aftermath of gloating and infuriated rebuttal in the local newspaper, as the agents of successful machines sought to capitalize on their success, and

[57] *Freeman*, July 19, 1862.

[58] *Ibid.*, July 17, 31, 1867.

[59] *Ibid.* Mar. 25, 1868.

[60] *Ibid.*, Aug. 6, 1865; July 27, 1870; June 14, Oct. 18, 1871; Sept. 27, 1876; Aug. 23, 1879; July 26, 1882; July 25, 1883.

worsted rivals sought to explain the reasons for failure. In 1882 W. B. Howard, agent for the Adams and French binder, explained that the local Deering agents had flagrantly broken the rules in a local binder trial by using a machine which had already been thoroughly tested under a variety of cutting conditions, while he, on the other hand, had adhered to the rules and brought a factory-fresh binder to the trial with unfortunate results. Subsequent Deering advertisements caused him to explode, "It is said that the ordinary commercial traveler possesses the greatest amount of cheek of any known species of the animated creation. The government mule next, followed by the politician and 'machine agent,' but judging from a recent article . . . one would naturally conclude that the 'machine man' might yet be exalted to the rank preceding Uncle Sam's old standby."[61]

Obviously, Hamilton County farmers might learn of new ideas in a number of ways. The local newspapers and agricultural journals of the Middle West might plant the seeds of change. Self help organizations like the county agricultural society and the Grange might serve a like purpose. To some extent the State Agricultural College may have disseminated new ideas to county farmers. Since the pioneer population was fluid and in this case recruited from many states, migrants from the older settlements brought knowledge of a number of farming systems to the county as did immigrants. Local residents might also learn of innovations in farming practice through contacts outside the community. Finally, local experience might generate new solutions. In the background, of course, stood the price and marketing system, for farming was after all a business, and the individual's eagerness to change frequently stemmed from lessons in the market.

The pioneer farmer of Hamilton County was participating in at least two distinct processes. In a "settling in" process he acquired a farm and improved it while seeking to adapt to local and regional peculiarities of environment which demanded different answers than those he had perhaps learned in his old home. At the same time he was caught up by changes in farm technology and in the marketing system for agricultural products which were almost revolutionary in scope. These processes provided the framework in which the Hamilton pioneer must plan his farm business. Some of the decisions which he made involved the combination of enter-

[61] *Ibid.*, Aug. 2, 1882. The trial was described, July 26, 1882.

prises on his farm — that is, the amount of emphasis to be placed upon certain crops or animals. Should the farmer concentrate on livestock production? If so, should he emphasize sheep, hogs, or cattle, or a combination of them? If a decision were made in favor of cattle, should the farmer make quantities of cheese, as Henry Ten Eyck's manager was doing in the 1860's, or butter perhaps, or even try to sell fluid milk in the county seat? Or should he concentrate rather on the production of beef? Or should the farmer concentrate on the production of grain for sale? To what extent in any case should wheat be raised in comparison with corn, oats, and barley? Should this wheat be of winter or spring variety? Should the farmer add a new crop perhaps — say flax? Should he follow the advice of that enthusiastic pomologist Huitt Ross and plant an orchard?

Another type of decision might stem from the desire to improve the quality or quantity of production by substituting new varieties of the same field crops previously raised or improved breeds of livestock for mongrel animals. Should the Hamilton settler purchase a purebred Shorthorn bull from Colonel Scott of Nevada, and should he take his mares to the new Norman stallion recently brought to Webster City by the Willson brothers? Ought the seed oats to be purchased come from one of the farmers growing a new patent office variety? The technology of agriculture provided the pioneer farmer with another galaxy of decisions. With what materials should he fence? If he were on the prairie, and favored hedge, should it be osage orange or willow? Would barbed wire really injure livestock if he decided to use this? Should he purchase one of the new McCormick mowers, or a reaper, or a header, or a binder, or a corn planter, or a riding cultivator, or one of the considerable range of plows available? Should he follow the lead of Charles Aldrich and start to tile the sloughs on his eighty acres? Such were some of the decisions that the pioneer farmer of Hamilton County had to make and some of them were faced not once but several times, as the economic weather blew fair or cloudy.

Decisions, one must remember also, were often of an interlocking sort. Most of the new machinery, for instance, gave the farmer time to till more acres. Must these be purchased, or might they be rented? How should these acres be utilized? A decision to drain would ultimately give the farmer land of a different character; how would this affect his combination of enterprises? A decision concerning livestock often affected a farmer's cropping patterns, particularly the amount of hay to be cured or corn

raised. He was opening his farm, after all, in a period of rapid technological advance in agriculture, while he was still uncertain of the potential of his acres, and we can forgive him if he had trouble making up his mind.

In his book *The Model Farms and Their Methods*, Samuel T. K. Prime described twenty farms, scattered through the state of Iowa at the end of the decade of the 1870's.[62] Although Prime's method of selection is unknown, we can agree that some one of competence believed that the proprietors of these farms were leaders in the task of making Iowa farming more efficient and profitable. The ideas and attitudes of these men can perhaps give us some assistance in identifying the leadership group in Hamilton County. Not all of Prime's farmers described the size of their holdings, but the average farm size among those who did was 355 acres in a year when the state average was 112 acres. They were cost conscious and often gave production cost figures, although these were in terms of crops or livestock rather than in terms of the farm business as a whole. Such men were interested in farm building design and in the plans of homemade machines, stackers, buck rakes, and the like. When they listed machinery inventories these showed them to be utilizing the new agricultural technology, as the size of their farm units, of course, demanded.

Prime's farmers grew the usual field crops, but there was much agreement that wheat was not a particularly profitable crop and that corn should be emphasized instead. A striking number were convinced that the most profitable way of handling home-grown grain was to feed it to stock. Most of them were growing timothy or clover, and some mentioned blue grass pastures, although in the northwestern quarter of the state prairie pasture and prairie hay was still the rule. More than a quarter of these farmers were growing a few acres of artichokes for hog feed. A few claimed definite crop rotations. About one-half mentioned that they had planted artificial groves on their farms and about the same proportion mentioned orchards or the growing of small fruits for family use. Only one farmer made the point that he did not use manures as yet; most mentioned their use, and one man testified that he was using clover as a green manure. Although the farms in the newer portion of the state were not all fenced as yet, hedge and plain or barbed wire were all mentioned as fencing

[62] Samuel T. K. Prime, *The Model Farms and Their Methods* . . . (Chicago, 1880), 425-533. Earle D. Ross has analyzed the book as a whole in "A Neglected Source of Corn Belt History: Prime's *Model Farms*," *Agricultural History*, 24:108-112 (April, 1950).

materials, with some reservations expressed about hedge fencing and the occasional assertion that barbed wire fencing was much the cheapest type. Although only about a quarter of the "model farmers" mentioned drainage, those who did emphasized its importance very strongly, with realization general among them that tile was a superior answer to simple ditching or to mole or "gopher" drainage.

A few of the smaller operators displayed no interest in improved stock, but a larger number of the model farmers emphasized the importance of purebred or at least high grade stock. One man was importing Poland China breeding stock from Ohio, and another made a practice of showing his animals at fairs. Several of those who fed numbers of steers preferred to force young cattle and to sell them when they were still a year or so below the four years at which most steers probably still reached the market. One farmer forecast that the four-year-old steer would soon be a thing of the past.

The columns of the *Hamilton Freeman* show that the attitudes and interests which marked the leaders of Samuel Prime were also present in Hamilton County. Here some men were alert to shift their combination of enterprises in search of larger returns, to use purebred or high quality stock and introduce new crops or varieties of seed. Some farmers tried different cultivation practices, installed tile drainage, used new types of fencing or methods of feeding stock. Some sought to improve the arrangement of their farm buildings and used improved machinery before their neighbors. A few corresponded with agricultural journals. The county newspaper, biographical histories, and agricultural society reports reveal at least 110 individuals between 1858 and 1885 whose farming operations were progressive in one or more such ways or who held major offices in the agricultural society or Grange. Here certainly appear the names of most of those whom we can term agricultural leaders in pioneer Hamilton County.

Farm operations differed in both scale and combination of enterprises, as we have already pointed out, but there were differences in purpose and in methods of control as well. During the pioneer period in Hamilton County, large-scale farms belonging to eastern owners appeared, there were farms run in conjunction with droving operations, and there were farms owned by businessmen from the county seat or other prairie hamlet. The tenant and manager was no stranger to the agricultural frontier. At least one operator probably regarded his operations as a source of agricultural copy.

In the majority, of course, were the resident operators seeking to maximize profits while providing a home for themselves and their families. In hope of discovering some clues to the process of innovation, let us survey the operations of some members of these groups who also appeared in the list of agricultural leaders.

In the early 1860's Henry Ten Eyck of Cazenovia, New York, began to develop some 6,000 acres of land in the southwestern part of Hamilton County which he had obtained from the Des Moines Navigation and Railroad Company. Ten Eyck's first western manager later claimed that he spent some $33,000 in improving the property and in the purchase of stock during the first five years of the decade. Much of the land was put into cultivation at this time, fences and several houses built and a blacksmith shop and sawmill erected. In these years Ten Eyck employed a force of ten or twelve men the year round. As many as 2,500 sheep grazed his holdings in the early years, and in Vermont Ten Eyck purchased the "celebrated thoroughbred Spanish buck, Union" avowedly for shipment to Iowa. His first manager also turned to cheese-making. In 1865 the New Yorker sent out a three-furrow gang plow and a Comstock rotary spader for use on his holdings. The local editor seized the occasion to commend Ten Eyck for his enterprise and his "confidence in 'progress and improvement.'" Three years later Ten Eyck sold a half interest in the Hamilton County farm to Colonel Charles Whitaker and apparently also turned to tenancy as a method of managing his holdings. In the 1870's he began to sell his Hamilton County land to resident farmers and had almost completed this task by the date of his death in 1884.

The titles of the Des Moines Navigation and Railroad Company were challenged by resident settlers in Hamilton, as well as in neighboring counties, but Ten Eyck seems to have been more successful than other company grantees in defending his title and maintaining the respect of the community. Efforts were made to burn the stacks of one of his managers, but the New Yorker's policy of buying quit claim deeds from those who contested his title may well have kept such action to a minimum. Certainly the local editor gave him an excellent press and was to call him a "man of much culture," and a "kindly whole-souled, gentleman."[63]

[63] *Freeman*, May 3, 1862; Apr. 29, 1865; July 3, Aug. 14, 1867; May 13, July 22, 1868; Aug. 2, 1871; June 27, Oct. 31, 1877; Apr. 16, 1884. The biographical sketches of Hiram Carpenter and I. M. Greenwood contain accounts of Ten Eyck's operations.

Ten Eyck's efforts were not unique, although on a larger scale than any comparable operation in the county. In 1860 Joseph F. Burr of Mount Holly, New Jersey, began to open up a farm of some 2,320 acres. Here he proposed to carry on a dairy and stock raising business. Like Ten Eyck he also believed that there were profits to be garnered in the production of cheese, and in 1861 Burr evidently sold a few barrels of Iowa cheese on the Philadelphia market. He reported at the time to an Iowa correspondent that he was convinced that cheese and butter could be shipped to the East from Iowa profitably if the product were a good one. By 1868 Burr had sold his Iowa property, but the farmer who took over also carried on the cheese business for a time.[64] Another illustration of the nonresident operation was provided by T. Y. Brown of New York who in 1877 hired a manager to break and improve a section of land in the county.[65]

Nonresident owners like Ten Eyck and Brown and Burr provided the local farmers with examples of large-scale operations which were strictly commercial in intent. Such men had adequate capital to test the profitability of a number of farm enterprises, and enough acreage to make the use of a good deal of machinery immediately advisable. In their emphasis upon livestock and in the scale of their operations, they forecast long-run trends in the agriculture of the region. We could wish to know much more of the reaction of the rank-and-file frontier farmer to such neighbors. Their employees and tenants looked east for orders; they were in, but not completely of, the community. In the case of Ten Eyck the conflict over land titles made his enterprise anathema to all those who sympathized with the riverland squatters. Even when land titles were secure, local feeling on the frontier was often bitter against the nonresident eastern owner. Although the choicest invective was reserved for the nonresident speculator who sought merely to hold unimproved land for a rise in price, the easterner who tried to develop his holdings might well encounter distrust as well. For these reasons men like Ten Eyck and Burr probably had less effect in guiding the changing agriculture of Hamilton County than one at first might suspect, although there was much in their example to provide valuable lessons for their neighbors.

See *A Biographical Record of Hamilton County . . .* (Chicago, 1902), 585-7, 481-2. The description of the land business is based on study of the *Deed Index and Registers* in the office of the Hamilton County recorder, Webster City.

[64] *Freeman*, June 2, 1860; Jan. 5, 1861; Apr. 3, 1867.

[65] *Ibid.*, June 20, 1877.

The farm community in Hamilton County included two men who were closely associated with agricultural journalism. During the 1870's Charles Aldrich wrote agricultural columns for at least one Chicago newspaper while trying to farm progressively to the north of Webster City. As early as 1871 the *Freeman* noted that Aldrich was keeping fine Poland China and Berkshire hogs on the farm which was then operated by his father. By the mid-1870's Aldrich was advertising "thoroughbred" Jerseys, Berkshire hogs, Italian bees, Dominique chickens, and black Cayuga ducks for sale. Aldrich planted timothy and clover seed on his acres and by 1880 claimed 1,200 thrifty trees in two orchards. Evidently also he introduced tile drainage in a county where much land was swampy in character, obtaining 3,000 feet of tile from a manufacturer in Chicago during 1878. The *Freeman* described such activities enthusiastically to its readers, and Aldrich himself occasionally contributed to the paper. His operations, however, were never on an impressive scale, and there was evidently some distrust of his ideas in the county.[66] We cannot know the number of Hamilton County farmers who had "an eye for blood" and took the advice of the editor of the *Freeman* to "avail themselves of the advantages . . . offered to improve their stock" by purchase from Aldrich, but certainly his farm operations and writing must have contributed to increased awareness among his neighbors of the value of blooded stock, tame grasses, and tile drainage.[67]

Much more the dirt farmer than Charles Aldrich was Oliver Templer who also was born in the state of New York. Although he first came to Iowa in 1857, Templer did not begin to improve the land in Ellsworth township, which his uncles had purchased for him in 1855, until the late 1860's. Then, in partnership with his brother, he improved his land rapidly and claimed that for several years they raised the largest amount of small grain in the township. By the late 1880's they had seeded their land and now claimed to be carrying on the largest stock business in the township

[66] J. W. Lee, *History of Hamilton County, Iowa, Illustrated* (2 vols., Chicago, 1912), 1:208. See the mocking reference to Aldrich by a political opponent on p. 209: "If his virtuous intentions had only taken shape and form in some law for the culture of blue grass, or the domestication of jay birds. . . ."

[67] There were numerous references to Aldrich in the *Freeman*. Items bearing directly on his agricultural activities are to be found in the issues of Sept. 6, 1871; Apr. 12, June 7, 1876; Oct. 10, 1877; Apr. 24, May 22, July 3, 1878; May 5, 1880; Sept. 20, 1882. A biographical sketch is to be found in *Biographical Record of Hamilton County*, 436-43.

with a herd of 140 graded Shorthorns. At this time Templer was correspondent for the *Country Gentleman and Cultivator*, the *Farmer* of St. Paul, and *Coleman's Occasional World*, as well as a contributor to the *Hamilton Freeman*. Templer received some twenty periodicals regularly himself and served as a state crop reporter.[68] The farming operations of the brothers conformed to the changing trends of local agriculture, and the scale of their business must have provided an impressive example to neighbors. Oliver Templer's wide reading undoubtedly made him familiar with new ideas in agriculture and responsive to local opportunities. Like Aldrich, he doubtless served as a conduit through which new ideas were spread among the pioneer farm population.

Active from very early days in Hamilton County was a group whose members might be called stock dealer farmers. Most impressive of this type in early Hamilton County was A. D. Arthur. In the mid-1860's he centered his droving business on Webster City, buying up cattle through the surrounding country and cutting large amounts of prairie hay for feed. By the early 1870's he was buying considerable numbers of cattle in Minnesota and in June of 1873 was grazing some 600 head on the prairies of Hamilton County for fall or winter sale. At about the same time in the next year the number in Arthur's grazing herd stood at 1,200, although these were held in partnership with Charles Fenton.

By 1879 Charles Aldrich described the large dairy farm which Arthur had established some five miles to the south of Webster City. Here were stanchions and stable room to accommodate one hundred cows. These Arthur purchased as mature animals after freshening, and then usually shipped them to Chicago for beef as soon as they went dry. While producing, the cows received rations of hay and pure corn meal. Aldrich wrote that Arthur planned to keep most of the farm in tame grasses and clover, purchasing whatever grain he required. In that year he had experimented with a fodder crop of mixed barley, oats, and flax with some success, but this was evidently a stopgap until the fields could be seeded with blue grass in the low lands and red clover and timothy elsewhere. The milk from the cows was skimmed and butter churned for shipment directly to a commission agent in New York City. Although he had purchased his farm before the collapse in land values of the mid-1870's and had also invested to a considerable extent in buildings as well, Arthur estimated that the farm

[68] *Biographical Record . . . Hamilton and Wright Counties*, 241-2.

returned 10 per cent on the investment after he had split the profits with his tenant and manager.

No further references to the dairy business appeared in the *Freeman*, but Arthur's operations as a stock dealer and feeder continued to draw comment. In June of 1879 he was pasturing some 1,200 head of cattle in Wright County, again in partnership with Charles Fenton. In November of 1882 he was feeding a hundred head of cattle on the farm south of Webster City. In the next year he took a carload of horses east to Massachusetts for sale. A few months later the editor noted that A. D. Arthur was "getting to be a 'cattle king'," having just sold 700 head of three-year-old steers to Chicago parties who proposed to fatten them at Peoria for the eastern market. At about this time Arthur widened the scope of his activities and established a ranch in Montana to which he shipped considerable numbers of young stock that he had purchased in the Hamilton County area.[69]

At times Arthur worked in partnership with Charles Fenton, and the latter's name also appeared several times on the list of leaders drawn up by the writer. Fenton was one of a number of local men, instrumental in bringing large numbers of sheep to the county in the early 1860's and prided himself on the quality of fleece produced by some of his imports. Subsequently he would be interested in purebred cattle also. In 1865 the partners kept two mowers in operation cutting hay for their stock at a time when this item of equipment was not too common in the county.[70] Unlike Arthur, Fenton seems never to have held one of the top positions in the local agricultural society, but a member of his family did so.

Although it is sometimes hard to distinguish between the active cattle dealer and the resident farm operator who carried on an extensive feeding operation, there were several other men who were primarily cattle dealers active in the Webster City area during this period. Charles Biematzki, Joe Roskopf, Alex Thompson, and Michael Sweeney were all evidently stock dealers at one time or another. Much of the pasturage used by such

[69] A. D. Arthur's business is mentioned or described in the *Freeman*, Sept. 22, 1865; Nov. 2, 1866; Sept. 25, 1867; June 8, 1870; Feb. 22, Mar. 1, 1871; May 8, Dec. 11, 1872; May 28, June 11, 1873; Mar. 18, Apr. 22, May 27, July 15, 1874; May 21, June 18, 1879; Nov. 1, 1882; June 13, Sept. 12, 1883; Mar. 24, Apr. 30, 1884; May 20, 1885. For a biographical sketch, see *Biographical Record . . . Hamilton and Wright Counties*, 290. I am also indebted to Mr. Herbert Arthur of Ames, Iowa, for information concerning the business of his grandfather.

[70] *Freeman*, June 24, July 29, Sept. 2, 1865; Nov. 2, 1866; Sept. 25, 1867.

men, of course, was provided by the unbroken lands of nonresidents or the public domain which remained in the counties to the north. Sweeney at least was prepared to provide local farmers with stock on a partnership basis, which allowed the local operator without capital to sell his labor in a feeder operation.[71]

Members of the stock dealer group were probably important as agricultural leaders to a degree far out of proportion to their numbers. They did considerable to shape the local market structure, since they bought livestock in large numbers and grain in considerable quantities from the local farmers, establishing personal bonds with many of them in this way. The prosperity and success of the stock dealer group marked them as men worth emulating. The importance of their example is well illustrated by an incident which occurred in 1870 when A. D. Arthur sold the reaper which he had purchased some time previously. The agent of the reaper firm thereupon obtained a letter from Arthur for publication in the local paper in which this stock dealer farmer certified that he had sold the implement because he had no grain crop rather than because he was dissatisfied with the operation of the machine.[72]

A number of men who can be regarded primarily as county seat businessmen were directly involved in farming. A druggist of Webster City, L. L. Estes, was dealing in cattle by the 1870's and maintaining a farm some nine miles north of Webster City in southern Wright County which embraced 1,120 acres in 1884. In the early 1880's he was grazing as many as 1,000 head of cattle on the open prairies of Wright County during the summer and bringing numbers of such steers to his farm for winter feeding in the fall. A reporter of the *Freeman* inspected the farm in October of 1882 and described 112 steers which had just been brought in from the range herd. They ranged in weight from 1,400 to 1,600 pounds and would, the manager expected, weigh as much as 2,000 pounds by the middle of February when it was planned to sell them on the "eastern market." Hogs and shoats were scavenging in the feed pen and doing well. Grazing in timothy and clover pasture fields was a milking herd of twenty-one cows and some one hundred head of yearling steers and calves. The latter represented the foundation of the grazing herd for the next summer, and their numbers would be increased to some 500 head by the next

[71] *Ibid.*, June 4, 1873; June 9, 1875; Sept. 14, 1876.
[72] *Ibid.*, May 18, 1870.

spring. Estes purchased large amounts of corn for the feeding operations from nearby farmers.[73]

Sumler Willson and his brother, Walter C., were the major town promoters of Webster City in the 1850's and continued to be active in real estate development and a number of business enterprises there throughout the pioneer period in Hamilton County. During the 1860's Sumler Willson was dealing in cattle as well as in town lots, and his direct participation in agricultural affairs apparently continued. In the mid-1870's he and his brother imported a Norman stallion from the East. On the second of July, 1879, a *Freeman* reporter visited Sumler Willson's farm, which lay just to the northwest of the town. Here he observed fifty acres of corn which had been drilled one way rather than planted in hills and which at the time stood over seven feet in height. Willson believed that the method of planting produced an increased yield of at least one-third, and the field impelled the reporter to exclaim, "If one could transport one of those old farmers from off the rocky hills of Pennsylvania, New York or New Hampshire, and set him down in the midst of such a field of corn as this, why, he wouldn't believe it! He would turn on his heel and swear that . . . it was some sort of fungus weeds that were growing there!" At this time Willson was improving his herd of grade Shorthorns by introducing purebred stock, and there were some dozen of the latter on his farm. A fine drove of hogs of the Poland China breed were enjoying the comforts of a "very convenient hog house," where a number of devices designed to make the feeding process as efficient as possible caught the reporter's eye.[74]

The biographical sketches of early Hamilton County residents reveal a dozen other pioneer Webster City business leaders who owned farms and, since the sketches were by no means all-inclusive, there were undoubtedly more. As in the case of the stock dealer farmers, these men were respected and substantial members of the community whose example would be noticed and whose personal influence was considerable. Their farms in the majority of cases, however, were farmed by tenants, and the effect which this might have in inhibiting innovation is debatable. Leasing terms could

[73] *Ibid.*, July 27, 1876; June 11, Oct. 29, 1879; Aug. 11, Oct. 11, 1882; May 9, Aug. 22, 1883; May 7, June 18, Aug. 6, 1884; *Biographical Record of Hamilton County*, 446-8.

[74] *Freeman*, July 14, Aug. 18, 1866; Jan. 6, 1875; July 2, 1879. Quoted passages are found in the last reference. See also *Biographical Record . . . Hamilton and Wright Counties*, 376-83.

be written to foster improved practices, but we do not know whether this was indeed the case. We can, however, isolate the group as one in which the members were interested in exploiting the opportunities for profit in agriculture to the maximum.

Some resident operators stood apart from the remainder because of the striking scale of their businesses. Such a man was Judge Rose whose name Rose Grove township now bears. A local historian described him in terms which catch the attention of anyone interested in innovation:

> As a farmer, he was an enthusiast, and always expected to receive large financial returns, while benefitting the community at the same time by introducing new crops or new methods. Everybody . . . in the county at that time remembers his attempt to revolutionize farming and hog-raising by the introduction of his Jerusalem artichoke. Nearly everybody caught the fever, . . . but the whole scheme flattened out and left him a great loser.[75]

Colonel Charles Whitaker purchased at least 720 acres from Henry Ten Eyck in 1868 and farmed in the southwestern corner of Hamilton County for some years. Whitaker maintained a large flock of sheep, was particularly interested in purebred Shorthorns, and took an active part in the formation of the Grange in his district.[76] In the 1870's and early 1880's three large farms were established whose proprietors specialized in raising high quality horses.[77] At the very end of the period, M. H. Brinton, a graduate of Allegheny College in Pennsylvania, came out to Hamilton County to assume control of lands purchased from the government by his father in 1856. When the first of the biographical histories of the county was published in 1889, the family still held 1,800 acres in the county, and young Brinton was managing the Keystone Stock Farm which boasted, so it was said, some of the best Herefords and Shorthorns in the state.[78] One is tempted to call large operators of the stamp of Rose, Whitaker, and Brinton, the early corn belt gentry.

When the nonresident, the journalist, the stock dealer, the prairie county seat businessman, and the large resident operator have been discussed, the historian is still left with the majority of the county farmers, the men

[75] Lee, *History of Hamilton County*, 1:152.

[76] *Freeman*, July 22, 1868; May 10, 1876; *Biographical Record . . . Hamilton and Wright Counties*, 318.

[77] *Freeman*, Apr. 2, 1884.

[78] *Biographical Record . . . Hamilton and Wright Counties*, 267-8.

whom Charles Aldrich hoped would be "strong-handed, practical, and economical."[79] Within this group some farmers catch the eye, either because of greater knowledge or because they were more articulate than their fellows. A Pennsylvanian by birth, Hiram Carpenter came to the Webster City area in 1860 and for five years directed the improvement of the Ten Eyck holdings. Then he purchased a quarter section nearby and turned to farming for himself. Although his own operations were never large, he was interested in efficient methods and was a local expert on stock diseases and cures. As early as 1870 he had fitted his barn with stanchions which were a novelty in the county, but which he believed saved feed and were much safer than rope fastenings, as well as more convenient when stabling stock. In 1871 Carpenter reported that he could sow 150 bushels of oats in three and a half hours by using an ox cart and sowing broadcast while a boy drove the oxen — a rate of seeding equal to machine broadcast sowers.[80] Huitt Ross was also associated with Ten Eyck for a time and eventually enjoyed a reputation similar to that of Carpenter. Ross was enthusiastic in the cause of fruit growing and was sufficiently skilled that he produced at least one new variety of apple tree. Occasionally Ross wrote to the editor of the *Freeman* concerning farm problems. By the late 1870's he was convinced that the local farmers should grow more stock, and in 1879 he suggested that the citizens of Hamilton County should set aside a day on which to plant trees on farms and roadways.[81]

Although never attracting as much mention in the press as Carpenter or Ross, W. W. Boak was another of the leaders found in the dirt farmer group. Born in Virginia, he was among the county's earliest settlers, when he took up residence in 1855 on land entered for him by his father-in-law. When the corn crop failed in 1858 he doled out the surplus which he had accumulated over the two previous years to poor settlers on credit, rather than selling it all for cash to the highest bidder. Thereafter he enjoyed the respect of the community. At an early time Boak was placing heavy emphasis upon livestock production and upon improving the quality of stock. Prior to 1885 he was to be president of the agricultural society twice and once treasurer. As were both Ross and Carpenter, Boak was an active

[79] *Freeman*, June 29, 1857.

[80] *Ibid.*, May 11, 1870; Apr. 5, 1871; Jan. 10, 1872; *Biographical Record of Hamilton County*, 585-7.

[81] *Freeman*, Aug. 14, 1867; Oct. 11, 1876; Apr. 17, 1878; Mar. 26, 1879.

Granger and served as county delegate to the state Grange convention on a number of occasions.[82]

None could accuse Boak, or Ross, or Carpenter of not being practical farmers, and in this they differed from most of those discussed above. Undoubtedly, however, this very fact increased the confidence of their neighbors in their good judgment and gave their example and advice great weight among the rank and file of local farmers.

After this survey of Hamilton County farmers a few general questions need consideration. What type of individual provided the leadership in the agricultural society and the Grange? What was the significance of different cultural groups in developing local resources? Did Hamilton County leaders display any common social characteristics?

The annual reports of the agricultural society give the names of thirty-nine men who filled one or more of the four major offices in that organization between its organization in late 1867 and the year 1890.[83] Some of these men held such office for only a year, others for as many as five. Biographical information or the census returns of 1880 can tell us something of twenty-four of the men.[84] Twelve were permanent residents of the county seat or else lived there for extended periods of time prior to retirement. This group included two mayors of Webster City, three of the leading bankers, and several county officers as well as A. D. Arthur and L. L. Estes. A number of implications may be drawn from this finding. In the first place the city fathers wished to encourage the agricultural society, in part no doubt because the annual fair was good for trade, but also because the prosperity of the business community was linked closely to the welfare of the farmers. Reasonably enough, the bankers represented on the board of the society frequently held the position of treasurer. Finally, many of the businessmen of Webster City were not only interested in agriculture, they were involved in it. At least six of the town residents serving the agricultural society, and probably more, owned farm real estate. Community leadership and self help went hand in hand in such cases.

The farm units of fifteen of the agricultural society officer group can be

[82] *Ibid.*, May 24, 1884; *Biographical Record . . . Hamilton and Wright Counties*, 298-304.

[83] This list was compiled from the *Annual Reports* of the Iowa State Agricultural Society.

[84] Manuscript, "Iowa Agricultural Census Returns, 1880," in the collection of the State Historical Society of Iowa, Iowa City.

identified in the 1880 census returns. The average size stood at 234 acres in comparison to the county average in that year of 112 acres. Of fourteen who submitted returns for farming operations in the previous year, six had fed cattle on a considerable scale and three others had fattened cattle in previous years. The census of 1880 shows that approximately one out of every fifteen farmers in Hamilton County had either bought or sold as many as twenty cattle in the previous year or else reported "other cattle" in such numbers as to suggest that they were cattle feeders. Evidently the farming interest represented in the leadership of the agricultural society differed from the rank and file of Hamilton farmers in both scale of operations and in combination of enterprises.

Farmers organized eleven Grange chapters in Hamilton County during 1872 and 1873. The names of the first masters of nine chapters appeared in the *Iowa Homestead*. Biographical sketches of five of these men exist. The biography of W. W. Boak does not mention the amount of his education. Charles Whitaker, Ira Tremain, H. S. Orris, and J. W. Lee quite obviously had more education than the ordinary farmer.[85] Whitaker was a graduate of an eastern college, and Tremain finished his schooling at an eastern academy. Both Orris and Lee had themselves taught school. Four of the five also held elective office in the county or at the township level, and the fifth, Whitaker, had previously served in the war with the rank of lieutenant colonel. In addition to holding local office, Tremain ultimately represented the county in the state assembly.

The names of five of the nine Grange masters also appeared in the list of farmers who followed improved practices at an early date; in all cases they were advocates of improved stock. Two of the Grange masters, Boak and Tremain, also served the agricultural society in leading positions. Although they were not masters in the original organization of the Hamilton chapters, both Huitt Ross and Hiram Carpenter were prominent Grangers. It is difficult to discover the names of those who held minor office in the Grange, but the *Freeman* printed the complete slate of eleven male officers in the Saratoga chapter in early 1874.[86] Ten of these men returned agricultural schedules in the 1870 census. These showed that on the average they farmed units of 134 acres as compared to the township average of

[85] *Biographical Record . . . Hamilton and Wright Counties*, 298-304, 318, 306, 385, 366.

[86] *Freeman*, Jan. 7, 1874.

129 acres. Only two of them were to be found among the twenty-four cattle feeders in the township in 1880. Ten out of the eleven, however, held township office during the 1870's or early 1880's.[87]

The census of 1860 listed 151 foreign-born in Hamilton County and that of 1880, 2,613, in comparison to some 8,500 native-born. The members of the foreign-born group were adults for the most part, however, and a count of foreign-born householders, who listed themselves as farmers, revealed some 700 in the county as a whole in 1880, while the corresponding figure for the native-born was greater by approximately 50. Most of the foreign-born farmers were Scandinavian or German by birth, but between 20 and 30 per cent had come from Great Britain, Ireland, or Canada. The birthplaces of the native-born farmers were also widely scattered, with New York, Ohio, Pennsylvania, Indiana, Illinois, and Iowa listed most frequently. The Yankee strain was unquestionably dominant among the native-born farmers, but a substantial group mentioned commonwealths below the Ohio River or the Mason-Dixon line as their place of birth, and some were of southern stock who gave Indiana or Illinois as their native state.[88] Unquestionably the pioneer farmers brought a wide range of experience to the task of farm making in Hamilton County.

Did the farming operations of the foreign-born and native-born in pioneer Hamilton differ substantially? An answer to this question was sought from a sample of 195 pairs of foreign-born and native-born farmers who lived adjacent to each other in 1880 and from a second sample of 150 foreign-born and native-born farmers, obtained by selecting 70 foreign-born and 80 native-born farmers from the census rolls at random. Analysis of the agricultural census schedules of the farmers in these groups revealed a number of differences between the foreign-born and native-born. Since exclusion of the foreign-born whose native language was English tended to sharpen the contrasts, the following discussion is in terms of the European-born and the native-born farmers. The latter, in 1880, tilled larger farms, had a greater investment in machinery, kept more "other cattle" and larger numbers of swine on the average than did the European-born

[87] Through the kindness of Mrs. Percy Neese of Stanhope, I was able to prepare a list of the early township officers of Hamilton township from the township minute book which she holds in her capacity as township clerk.

[88] Since the national origins of farmers as a group were not analyzed in the federal census of 1880, the comments in this paragraph are based for the most part on analysis of the samples discussed in the next paragraph.

farmers. All of these comparisons show that the capital investment of the European-born was smaller than that of the native-born farmers.[89]

Distinctions between native and European-born are less easy to make when we seek to compare the way in which the two groups utilized their improved acreage. In absolute terms, the native-born farmers grew more corn, but when these acreages were reduced to percentages of improved land no great difference was apparent. In both samples the European farmers showed a slight tendency to plant a higher percentage of their improved land in wheat, but the differences were slight. Both in absolute and relative terms the native-born farmers grew more oats, but this crop was the least important of the three grain crops. In summary, we can say that the farms of the native-born more accurately forecast the patterns of the future than did those of the European farmers, but, on the basis of our evidence, we would be rash to ascribe differences to any factor other than lack of capital, no matter how tempting the speculation that ethnic and lingual barriers might restrict the information on which the European-born farmer based his decisions or that cultural conditioning might in part account for the fact that European-born farmers had as many milk cows but considerably fewer "other cattle" than did natives of the United States. On the other hand, ethnic or lingual barriers may well have narrowed the access of the foreign-born farmer to local sources of credit.

[89] Choosing a township at random, I selected the sample of neighbors by noting the names of foreign-born farmers as they appeared on the rolls of the population census, taking the name of the next native-born farmer in each case as well, and continuing until no more pairs of this sort could be drawn. Then the procedure was repeated. The agricultural schedules of the members of the foreign-born and native-born groups to the number of 195 in each case were then copied from the agricultural census rolls. This method of selection, it was believed, would eliminate distortions in comparisons of the two groups arising from the fact that the longer-settled areas along the Boone River had been occupied principally by native-born farmers, and their farm units had been in process of improvement for a longer period of time than most farms back from the river where the foreign-born were common. On the other hand, this method of selection tended to exclude foreign-born farmers who had no close native-born neighbors. The random sample of 80 native-born and 70 foreign-born farmers (10 per cent of each group) was selected by using random numbers and counting farmers on the population census rolls until all of the matching numbers had been located. Two farm units in the county out of 1,565 were larger than a section in size. These were arbitrarily excluded from the random sample because inclusion of one or the other would have distorted the means. Comparison of the means in the random sample showed statistically significant differences at the 5 per cent level in the case of farm size, "other cattle," and swine. The three z values were 2.24, 2.84, and 2.44. Miss Rosemary Bougie and Mr. Leonard Smith assisted me in transcribing and analyzing the census data.

TABLE I

Farming patterns of the native-born and European-born farmers in Hamilton County, 1880

	Native-Born (Random)	*Native-Born (Neighbors)*	*Born in Europe (Neighbors)*	*Born in Europe (Random)*
General				
Farm size, acres	138	123	109	107
Per cent improved	65	68	63	76.5
Value of machinery	$174	189	157	156
Crops				
Corn				
Acres per farm	36.4	35.2	30.7	31.2
Per cent of improved acres	40.4	38	42	38.1
Wheat				
Acres per farm	17.5	13.7	14.8	16.6
Per cent of improved acres	19.4	15	20	20.3
Oats				
Acres per farm	9.5	11.9	5.3	5.5
Per cent of improved acres	10.5	12.9	7.4	6.8
Livestock				
Milk cows	5.7	5.5	5.5	5.5
Other cattle	12	10.2	9.5	6.6
Swine	29.5	27.5	22.7	19

Livestock numbers increased considerably in Hamilton County during the 1880's. The manuscript census rolls of 1880 show that 85 Hamilton farmers either bought or sold as many as 20 cattle in the previous year. This method of selection excludes a few farmers who owned large herds of cattle and includes a few men who were primarily stock dealers but certainly does give us a considerable number of the cattle feeders who led in placing greater emphasis upon livestock in the county at the end of the pioneer period. The members of this group farmed 172 acres on the average, valued at $3,300, as compared to the county averages of 112 acres and $1,970. Although 20 per cent of the county farmers were tenants, only 16 per cent of the feeder group did not own their farms. Up to some point in middle age, farmers in general accumulate capital. Despite this rule and the fact that they operated larger units in a type of farming which demanded more capital than simple grain farming, the cattle feeders were not appreciably older on the average than some 1,400 other county farm-

ers.[90] Within the group of 85 the ratio of foreign-born to native-born farmers was roughly one to four and a half. Within the farmers of the county as a whole this ratio was one to less than one and a half.[91]

Although the progressive farmer of one census year might well have settled down to humdrum complacency ten years later, something may be gained by a little closer analysis of the list of 110 agricultural leaders which was mentioned earlier. Forty-five members of the group returned agricultural schedules in 1880, showing the average farm size to be 203 acres and the average valuation $4,474. Only four tenants appeared among the 45. Biographical data for all members of the group are not available, but 24 of them did hold political office at the county level or above. This method of establishing political leadership, of course, works a hardship on the Democratic or independent candidates in the county who seldom defeated the Republicans but who still held the confidence of many. Three members of the group of 110 ran strongly as candidates of the minority parties on occasion. Twelve other members of the 110 held offices of political trust on the township level, and this group might swell considerably if lists of all township officers could be found. But at least 39 members of the group of 110 did demonstrate leadership in a field of interest which was not directly related to agriculture.

In retrospect we can hazard a few generalizations about the process of agricultural innovation in Hamilton County during the pioneer period. Nothing in the local press shows that the stages through which the individual passed in the process of adopting a new method were much different than is the case today. Communication media were less varied, however, and the reliability of information undoubtedly inferior. To the local farmers the county paper and the agricultural press brought a message of progressive agriculture, and the local agricultural society and Grange chapters worked to the same end. At this range it is difficult if not impossible to draw the distinction between innovator, community adoption leader, and local adoption leader that the sociologist can make today. We are safe in saying, however, that the search for the most profitable combination of enterprises, the spirit of inquiry, a sense of noblesse oblige, and occasionally even the desire for agricultural copy led to innovation. Illustrations of the practical use of new machinery, of the superior qualities of pure-

[90] The nearest whole number to both means was 42.

[91] This difference is statistically significant at the one per cent level.

bred sires, of the merits of clover and of tile drainage were found frequently at an early stage of community acceptance on the farms of the nonresident proprietor, the stock dealer, and the county seat farmer, as well as on a small proportion of the farms tilled by owner-operators. No matter the category into which such a proprietor fell, he tended to have a larger than average holding and capital investment. Usually he was native-born; he was not appreciably above average in age; and he was more likely than most to be tapped for political office. His level of education was probably somewhat above average. On the farms of such men were first traced the unique patterns of corn belt agriculture in Hamilton County.