

About 95 per cent of Iowa farms now have some poultry—most of them pin-money or grocery-bill sized flocks.

14. Eggs and Meat From Iowa Poultry

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ALTHOUGH MANY SETTLERS BROUGHT A COOP OF POULTRY with them to Iowa, bothering with poultry of any kind must have seemed rather pointless prior to 1850. Nearby woods and sloughs had plenty of wild ducks, geese, turkeys, prairie chickens, and quail. In spring and early summer there were plenty of eggs to be had by robbing a wild turkey nest. Raising poultry, moreover, was no easy task. A pioneer woman describes her difficulties: "Barnyard poultry was a disappearing quantity with us. If an old Dominick biddy succeeded in bringing off her brood, the hawks, buzzards, weasels, minks, skunks, and other varmints made life uncomfortable for them as well as for their caretakers."

But game birds did not remain plentiful for long. After the first few years pioneers had to depend on animals they raised for a constant supply of meat. During summer and fall, lack of refrigeration kept farmers from slaughtering cattle or hogs since the meat was likely to spoil before it all could be used. Poultry became important as a substitute.

Eggs were a welcome staple in the breakfast diet of farming folk, then as now. In the spring they were plentiful; in the fall and winter they were extremely scarce. The hens had the run of the farmstead, ". . . the fowls roosted in the stable or a tree; they wandered, and scratched, and foraged far and near; they hid their nests. . ." When winter came there was little for them to eat and only uncomfortable quarters in which to live. It is small wonder that no eggs were forthcoming then. Already in 1856 articles were appearing in the Iowa farm journals on methods for preserving eggs for winter. Lime water and salt were suggested; the use of waterglass had not yet been discovered.

Until about 1870, most of the farmers kept chickens of nondescript

breeding. It is rather surprising to learn, however, that some purebred poultry raisers did appear on the scene in Iowa in the early fifties. Proceedings of the State Agricultural Society, giving the report of the first State Fair at Fairfield in 1854. includes the following comments on the poultry exhibit:

Class 16 included Poultry; the number of entry tickets amounted to nearly 30. The display was a very creditable one, and gave evidence that we are not behind other states in the importation and breeding of choice qualities of Fowls; the coops of Shanghai, Malay, Black Spanish, Cochín China, etc., etc., were a most attractive feature of the exhibition. The Fowls gave evidence of a most commendable interest in this department of domestic agriculture.

The most significant thing about this account is the fact that two of the breeds mentioned, Shanghai and Cochín, had been imported into the United States from China only a few years previously. Interest in purebred stock grew gradually during the period up to 1870 and the total number of entries of purebred fowls at the State Fair increased significantly.

Farmers generally did not raise these purebred birds. The reaction against them arose out of the belief that "fancy" poultry lacked hardiness. This fear may have been well founded. It was not uncommon, however, for farmers to introduce the blood of some of these purebreds, particularly the Oriental breeds, into their flocks. This practice played an important part in improving the size and meat quality of the rather small and poorly-proportioned barnyard chicken of that day.

Poultry breeding work in Iowa had advanced considerably by the seventies. Already in 1871 D. L. Wilbor, of Boonsboro (now Boone), had achieved such success with his game fowl as to be especially mentioned in *Burnham's New Poultry Book*—a standard text of that time. Several members of the Iowa State Improved Stock Breeders' Association were breeders of fancy poultry in the seventies. In 1881 the president of the Association, Judge Z. C. Luse, of Iowa City, was a poultry breeder of some note.

"HEN FEVER"

The first poultry show in America was held in Boston in 1849. Its primary function was to submit the claims of breeders of fancy poultry to impartial judges for inspection and comparison of the various types shown under similar names (Cochín, Shanghai, etc.) for purposes of determining purity and conformity to type. The show was a great success, and was held in Boston again in 1850. There were fifteen thousand entries in this second show, making it the largest exhibition

of poultry that had ever been held. These shows marked the beginning of the "hen fever" era. People from all walks of life and in every section of the country began raising and breeding poultry for exhibition. The movement "caught on" in Iowa in the late sixties, grew to its peak at about the turn of the century and did not subside until the middle twenties of the present century.

The American Poultry Association, the spearhead of the fancy poultry breeders' movement, was formed in February, 1873. Two Iowans (Z. C. Luse and George Quimby) were charter members of that organization and brought back from the Buffalo and New York City meetings "the message" for poultry enthusiasts in Iowa. On July 11, 1873, the Iowa State Poultry Association was organized in Cedar Rapids. The society held its first show in that city on December 21 of the same year.

Hen fever was most prone to hit nonfarmers. While a considerable number of ministers, doctors, lawyers, etc., were afflicted, farmers were relatively immune. Nonetheless, they were deeply affected by its results, for out of this great movement the American class of poultry breeds was developed and purified. Use of American Poultry Association's "Standard of Perfection" for judging purebred poultry exerted a healthy influence in establishing uniformity of type and purity in breeding in the various strains of poultry then being developed in America.

Realization that the imported races of poultry did not suit the needs of farmers raising poultry and eggs for profit led to the development of the American class breeds such as Plymouth Rocks, Wyandottes, and Rhode Island Reds. These have since found wide favor, displacing the nondescript "dunghill" fowl and the uneconomical foreign importations of the earlier days.

By 1899 the "fancy" poultry show had reached its climax of development in Iowa. Almost every county fair had its poultry exhibit enthusiastically supported by breeders from all walks of life. With few exceptions, the records of the county fair secretaries bring out the growing interest in poultry by farmers during that period. The Plymouth County secretary reported in 1899, "... The poultry house was well stocked with a careful selection of fowls for exhibition. Nearly 300 specimens were shown. . ."

In Iowa the race for honors had settled down to a contest between Plymouth Rocks, Wyandottes, Cochins, and Leghorns. The small, scrawny barnyard fowl was rapidly losing out.

Hen fever was subsiding by 1900, but its effects were indelibly

marked on future poultry raising in Iowa. Almost every farm family raised a hundred or so chickens, to say nothing of the numerous backyard flocks owned by the townspeople. Flocks of from 150 to 300 birds were common enough so as not to attract undue comment in the local press. In fact it appeared that many farmers felt that a hundred hens were about the right number for the purpose of getting a profitable scavenging of the farmstead.

THE WOODEN HEN

In pioneer days the hen "stole out" her nest in spring and hatched her brood. As the interest in poultry raising grew, and with it the demand for larger flocks, more and more attention had to be given to the setting hen. The problem of finding broody hens which would properly care for the incubating eggs and subsequently for the baby chicks became more and more acute. With the improvement in the egg-laying abilities of the hens of the various breeds there came, inevitably, a decrease in broodiness. For a long time a few good sitters, usually otherwise worthless hens, were kept around just so that the chicks could be hatched without fear of excessive losses from improper care by poor mothers.

The development of a simple, foolproof incubator was finally assured by the invention of accurate temperature-regulating devices, about 1885. Because of the obvious advantages offered by artificial incubation, farmers were easily induced to buy almost any reasonably priced unit that was "guaranteed" to hatch eggs. Comments in the farm papers of the day suggest the many disappointments experienced from the use of incubators unworthy of the name.

For ten years the question of natural versus artificial incubation was actively debated in the poultry columns of such Iowa farm magazines as *Rural Life* and *Wallaces' Farmer* before the issue was settled in favor of the incubator. Gradually, after improvements in design were made and combined with a greater experience in their operation, incubators became common on almost every Iowa farm. The merits of such incubators as Reliable, Prairie State, Successful (made in Des Moines), Old Trusty, and Miller's Ideal soon were being discussed whenever farm wives gathered to talk during the late winter months.

Continued improvements in the incubator led to increasing its size beyond that required for an individual farmer's use. By 1905 the capacity had been successfully increased to twenty thousand eggs per setting, and in several parts of the country it had been discovered that chicks could be shipped to points several days distant. In Iowa,

Harry Atkins, of Davenport, was shipping chicks by express regularly in 1911. These two developments heralded the beginning by a new industry in the poultry world—the hatchery industry.

The growth of the hatchery industry was not without its pains. Unscrupulous operators, in an attempt to make quick fortunes, often sold farmers inferior chicks of unknown and often worthless breeding. Then, too, experience in successful management of the incubators as well as in the selection and care of the flocks supplying the eggs came slowly, and to many in the business, too late to assure success.

Buying baby chicks instead of hatching his own had many advantages for the Iowa farmer. While his poultry enterprise was a substantial one, it did not usually rank with his grain growing and hog raising operations. Consequently he was not inclined to give the proper attention to the improvement in his flock or even to the hatching of the eggs. As a matter of fact, then as now, the farm wife usually had the job of handling the poultry enterprise. Care of the flock and hatching the eggs added considerably to her already overloaded schedule. Buying good chicks delivered to her door was, indeed, an answer to a prayer.

Simultaneous with the growth of artificial incubation came the development of artificial brooding. Coal and oil burning stoves with rather simple homemade brooder hovers were already being used by the turn of the century. The discovery and development of thermostatic controls made the workings of the brooder more or less automatic and greatly simplified the job of bringing the chicks safely through the first weeks of life. Installed in a small room or house, these units made the brooding of chicks a relatively easy task. The development of efficient brooders was a simple but necessary adjunct to that of artificial incubation. Together they provided a great stimulus to the growth of the poultry industry in Iowa.

THE BREEDER-HATCHERYMAN

Commercial hatching of eggs took away from the farm poultry raiser not only the incubation of the eggs but also the breeding of the birds. It transferred the control of these matters to the hatcheryman. Whereas the farmer might put up with mistakes in breeding of his own making, he was much less inclined to do so with the hatcheryman from whom he bought chicks. Also, every farmer could raise almost any breed he might wish to, but the hatcheryman had to limit the number of breeds he could handle effectively. This is largely responsible for reduction of breeds in Iowa from dozens to four principal

breeds with the White Leghorn, specialized egg-layers, and White Rocks, raised for both meat and eggs, accounting for 60 per cent of all chickens in the state. Two "red" breeds, Rhode Island and New Hampshire, account for some 30 per cent.

The hatcheryman soon found that he could not himself efficiently produce enough eggs to keep his hatchery operating efficiently and fill the ever-increasing demand for chicks. Nearby farmers were encouraged to keep special flocks to supply the hatcheryman's needs. The successful operator found that these flock owners were one of the keys to his success and developed close business relationships with them. He provided an incentive, usually in the form of liberal premiums for eggs during the hatching season.

While most of these hatchery flocks would not be classed as breeding flocks, they were and are the focal points for the breed improvement of stock reaching the vast majority of poultry raisers in Iowa. Programs for hatchery flock improvement were begun soon after 1910 by individual hatcherymen and by the Iowa State College Agricultural Extension Service. In 1926 the Iowa Poultry Improvement Association was organized. One of its main purposes was to improve the quality of chicks sold by hatcheries. Active improvement programs have since been carried on by these and other agencies. The main points of emphasis have been on hatchery flock selection, fall culling, flock management, housing and disease control (particularly pullorum).

In 1938 the Iowa Poultry Improvement Association became affiliated with the National Poultry Improvement Plan—a federally-supervised plan for breeding and hatchery flock inspection and certification. Its aims include general application of better breeding practices, reduction in losses of chicks from pullorum disease, and improvement in sanitary practices in breeding flocks and hatcheries. Under this plan there has been a marked improvement in the quality of chicks sold to farmers. In addition there has been an increased interest in "Record of Performance" breeding work. By 1945 there were eleven Iowa breeders whose flocks were certified as U. S. Record of Performance.

The key position of the hatchery has made it possible for results of research to take effect more quickly than perhaps in any other field of agriculture. Hatcheries have been able to improve breeds and farmers have insisted that they do so. Certainly the change could never have come so quickly if it had been necessary to sell each individual farmer on improved breeding. Farmers have come to call upon hatchery experts to do their culling for them. This has made farm

poultry raising vastly more efficient. In addition, hatcheries are able to select breeding stock not by appearance, which is deceptive, but by actual performance—something that for many other animals is difficult to move from experiment station to actual farm practice.

DISEASES AND PESTS

In the early pioneer days there were few problems in poultry raising except the ravages of the hawks, skunks, and weasels. As the country became settled and the poultry numbers grew, problems have gradually developed. Today disease is an ever-present problem for the poultry raiser, probably his greatest problem.

First came the lice and mites to plague the hen on the nest and roost. Numerous articles appeared in the farm periodicals of the fifties giving the favorite cures. In the light of present knowledge there must have been little relief for those pioneer hens. It was not until the twenties that Iowa farmers used effective dusting, dipping, and roost treatments. Until these were combined with better housing and improved general sanitation there was little effective control of these pests.

Soon after the advent of artificial incubation, chick diseases became more prevalent, particularly pullorum. Enormous losses occurred, and despite the efforts of the patent medicine industry that started at about this time, no effective cure for pullorum has yet been discovered. In the East, effective control was sought and obtained by persistent testing and elimination of reactors from breeding and hatchery flocks. As a result of this program, pullorum has disappeared there. Such a plan received scant attention in Iowa until the Iowa Poultry Improvement Association started its hatchery flock testing in the thirties. But in spite of this effort, pullorum is still responsible for excessive losses of chicks each year in Iowa.

Bronchitis, colds, roup, and other diseases have troubled the poultryman from the beginning of his attempts to confine the birds to houses. Because of the severe winters, and with them the difficulty of providing adequate housing, these diseases are particularly prevalent in Iowa. At present we are still plagued with these diseases primarily because of the prevalence of poorly constructed, uninsulated, overventilated laying houses.

There have been persistent references to paralyzing diseases in Iowa poultry since the beginnings of recorded history of the poultry industry here. However, fowl paralysis (leukosis) in epidemic form was not apparent in the state until the thirties. Large losses of laying

stock have since occurred as a result of the ravages of this disease. In 1935 a special study of it was begun at Iowa State College in the Veterinary Research Institute. In 1938 the Regional Poultry Laboratory was established by the federal government at East Lansing, Michigan, for the same purpose. To date no effective means for controlling the disease is known, except perhaps by breeding for resistance.

IMPROVING FARM FLOCKS

A Poultry Department was established at Iowa State College in 1907 with H. C. Pierce as head. In 1914 poultry extension work was inaugurated by the Agricultural Extension Service of the College. Gradually the work of the College to improve the poultry industry has been felt throughout the state.

During the period 1918-30 an extremely active program of education was undertaken by the College in co-operation with all

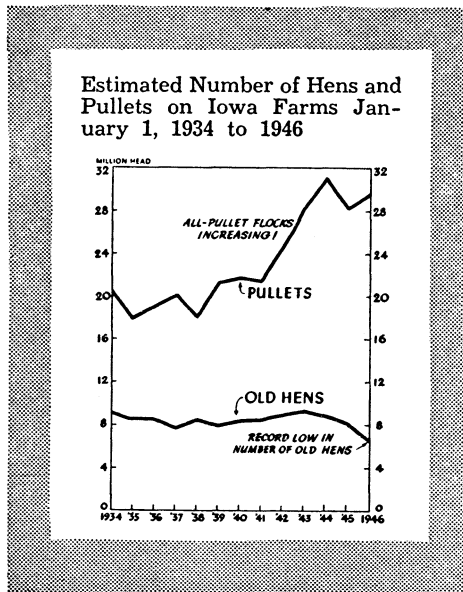


FIG. 8.—Iowa farmers found they had better flocks when they practiced culling, keeping more pullets and fewer old hens.

poultry interests of the state. In 1920 six thousand poultry culling and selecting demonstrations were held, attended by 56,815 people. By 1923, 2,842 boys and girls were enrolled in junior poultry clubs. That these efforts were successful is evidenced by the widespread

changes brought about in the industry of the state during that period. One outstanding achievement was making culling a common practice on a large number of Iowa farms.

Prior to this period most farm poultry houses consisted of discarded and patched up sheds. They were inadequate in size, in sanitary features, and were very poorly equipped. Barns for other farm animals developed earlier because a building could be used for more than one kind of animal, and for hay storage. But chickens needed a building all their own. But because flocks were small and the returns from poultry raising an unimportant part of the farm business, poultry buildings were slow to appear. A campaign for poultry houses worthy of the name was successfully waged. Thousands of new poultry houses were built all over Iowa; thousands of others were remodeled. Facilities for feeding and watering and concrete or wooden floors were installed in the hen houses. Deep litter on the floor was introduced. While the new houses were fairly tightly constructed, draftiness remained a problem. The sunlight craze was widespread during this period. Great expanses of glass windows created drafts of their own almost as bad as the cracks and crevices in the old houses.

As a result of this program, and in spite of its shortcomings, Iowa farmers began to get egg production in winter. This situation has continued to improve until at present the average yearly egg production per hen has risen 20 to 30 eggs. More recently the design of the laying house has been further improved so that draftiness is controlled. Elimination of some windows, use of heavy insulation which protects against moisture, and tight construction—particularly at the ceiling—have helped to make this possible. In some respects this trend represents a return to the old hen house of the 1850–70 period. It was found that it is better to have the house warm, wet, and close instead of cold, dry, and drafty.

CHICKEN FEED

In the early days the hen scavenged her food from all over the farmstead. She fared pretty well at that, probably suffering from little more than a lack of calcium. Many arguments arose over this point, some contending that supplying lime, plaster, or oystershell was unnecessary. Gradually it came to be recognized, however, that calcium-bearing minerals were generally lacking in Iowa topsoils. As a consequence calcium (oystershell) feeding became common by 1900.

As chicks were raised earlier in the spring, with the consequent indoor confinement for considerable periods, special chick feeds were

concocted. Favorite recipes of all kinds appeared in the farm journals of that day (1890–1910). Especially common were baked corn breads, fed to the chicks after crumbling and soaking in skim milk. Poor growth and weak legs were common in the chicks, the correction for which did not appear until the importance of vitamins and minerals became better known in the twenties. Chick feeds were developed and sold by commercial concerns as early as 1910. Gradually, as they proved themselves better and especially as they were more convenient to use than home-mixed feeds, commercial chick mashes became common.

As early as 1890 it was generally recognized that hens needed animal protein in order to produce eggs efficiently. Nonetheless, as late as 1920 this was supplied to the hens rather haphazardly by most farmers in Iowa. Offal from the slaughter of hogs or from game and ground greenbone were common sources. Generally skim milk was available on the farm but more often than not the hen had to steal what she could from the hog trough. During the active campaign to improve the farm poultry enterprise in the twenties the idea of using balanced rations was emphasized. The hatchery flock improvement programs also helped to educate flock owners to the idea. Concentrates containing the protein, mineral, and vitamin supplements to be fed with home-grown grains are currently sold in considerable quantity. Complete laying mashes are not yet popular in Iowa because farmers feel that it is uneconomical to purchase a feed containing a large portion of products (oats and corn) which they raise.

POULTRY AND EGGS FROM IOWA

The raising of poultry by Iowa farmers originated as a means of supply poultry meat and eggs for the table and by the fanciers “just for fun.” In the early days there was no ready market for the products. During the spring the hens very often laid more eggs than could be consumed by the family or than were needed for putting down in waterglass. Eggs were taken to town to be traded for something in shorter supply. The grocery man traded them to his suppliers and eventually the eggs got to the urban centers—often the worse for wear.

By 1880 ice-cooled storage houses were being perfected. During the nineties these became a factor in absorbing the spring surpluses of eggs. Some of these warehouses were built in Iowa although they were more generally found in such urban centers as Chicago.

Fresh eggs were scarce during the fall and early winter months; therefore stored eggs were then much in demand. Operators who

handled stored eggs often were able to reap handsome returns on their investments, although occasionally they experienced disastrous losses because of spoilage. Little was known in those days about the factors responsible for successful egg storage. The storage of shell eggs gradually has become less and less profitable as the winter production of fresh eggs has increased.

Many farmers became dissatisfied with the market for eggs, especially after 1910. Increasing evidence is seen for this in the farm periodicals of the period. There were many attempts to band together for co-operative marketing, but to this day co-operatives have never become an important factor in the marketing of Iowa eggs. Since poultry farming is not a major farm enterprise in Iowa, the over-all monetary gain from such co-operative marketing would be small.

Until 1900 Iowa eggs were marketed exclusively in the shell. However, shortly thereafter H. J. Keith, of Boston, conceived the idea of preparing eggs for bakers, candy makers, etc., in frozen form. The egg contents are removed from the shell. The whites and yolks are separated or yolk and whites are thoroughly mixed. Ten per cent sugar or salt is usually added to the yolk. After mixing and filtering, the products are packed in cans and frozen. Some of the very earliest packs of frozen eggs were put up in Iowa. Since 1918 there has been a steady growth of this industry until a high proportion of the spring egg production in Iowa is frozen.

During World War II, several large spray driers were constructed in Iowa to produce dried whole eggs for purposes of supplying our allies and our armed forces with a nonperishable product. Tens of millions of pounds (one dozen eggs make only five ounces of powder) were produced during 1942-44. The question as to whether egg drying will continue for domestic purposes remains unanswered as yet.

The sale of poultry began somewhat later than did the sale of eggs. At first a few birds were sold to the town butcher for his local Sunday and holiday trade. By the eighties, however, enough chickens were being sold by the farmers to more than take care of this local demand. During this same period large numbers of eastern and southeastern Europeans, great consumers of chicken meat, entered the United States. These led to the shipment, by rail, of large numbers of live chickens from Iowa and the surrounding states to the industrial areas of the East. In the last twenty years the Midwest has begun to kill poultry and ship dressed birds instead of live fowl.

At the turn of the century, dressing of poultry in produce plants was inaugurated in Iowa. The advent of mechanical refrigeration and

the development of a successful refrigerator railroad car were necessary prerequisites to it. Poultry was purchased from farmers, fattened for two to three weeks in special batteries, killed, bled, picked, and chilled prior to shipping. Large numbers of these plants were constructed in Iowa from 1910 to 1920, and an enormous tonnage of dressed poultry has since been shipped to all of the major cities of the country. As farmers gradually learned to feed and care for their poultry better it became less and less profitable for the poultry packer to fatten the birds in the produce plant. Today the birds are kept in the plant only a few days prior to dressing.

About 1910, controversy arose as to whether the dressed birds should be marketed with or without removing the viscera. It was found that with the crude marketing then in use, the birds would arrive at the market in more acceptable form if they were not eviscerated. The majority of dressed poultry then has been bled and picked but not eviscerated.

In spite of this development there has always been a desire on the part of progressive packers to market eviscerated poultry. After several attempts the evisceration of poultry "caught on" in about 1940 and since has shown steady growth. The present trend is to prepare the poultry "ready-to-cook." It is then frozen and marketed in that condition. The housewife has only to thaw the bird prior to placing it in the skillet, pot, or roaster.

TURKEYS COME BACK

Pioneers apparently were fond of turkey, for almost every farm boasted of having a dozen or two on hand for festive occasions. Considerable space in the farm magazines was devoted to descriptions of various varieties of turkeys and to suggestions about raising them. The Mammoth Bronze appeared to be the favorite breed then as today.

No increase in numbers of turkeys raised per farm appeared to take place between 1870-1900, as was the case with chickens. About 1890 turkey raisers began complaining about the death losses in young poults. The blackhead scourge had begun and by 1910 farmers were so discouraged that most of them gave up trying to raise turkeys. In spite of the fact that the cause of blackhead was known by 1895 and the control measures necessary to avoid it had been suggested by 1900, very few turkeys were being raised anywhere at that time.

About 1925 a new start was made in Iowa. This time commercial turkey raising was the goal, not simply a few odd birds for the table. A. C. Gingrich, of Wellman, began with the idea of putting high-

quality poults in the hands of interested and intelligent farmers. He furnished them with feed, a scheme for raising them away from the soil for the first ten to sixteen weeks (thereby controlling blackhead), and a definite feeding and marketing program. After the first successful demonstrations that turkeys could be raised commercially at a good profit there was no difficulty in getting plenty of farmers to raise them. Other groups in various parts of the state have started growing turkeys in large numbers. Today Iowa ranks fifth in the United States in the production of these birds.

ELEMENTS IN THE POULTRY PICTURE

Since the beginning, raising of poultry in Iowa has been done largely in farm-flock sized units. These were classified in four groups: *Backyard flocks* of 10 to 50 hens to produce eggs and meat for the farm table; *Pin-money flocks* of 50 to 100 hens to supply spending money for the family in addition to eggs and meat for the table; *Grocery-bill flocks* of 100 to 200 hens to provide enough income to cover most of the grocery bills; *Semi-commercial flocks* of 200 hens or more to supply a fairly large portion of the total farm income and place the poultry enterprise on a level with that of dairy cattle, hogs, etc.

About 95 per cent of Iowa farms now have some poultry. Most farms have had pin-money or grocery-bill sized flocks. Very few commercial poultry farms of four hundred or more layers are found, in contrast with such states as New Jersey where many farmers raise nothing but chickens. Chickens are usually fourth or fifth in importance on the Iowa farm, in contrast with such states as Washington where chickens, although they are not a farmer's most important source of income, are often second most important. Since large-sized flocks in Iowa are found in combination with dairy herds most frequently, probably more poultry is raised in the northeastern part of the state than elsewhere.

The size of a farmer's flock varies, however, both with a farmer's age and with the change in economic conditions from boom to slump. When a farmer is young and has children or has not yet purchased his farm, he is likely to raise chickens—since they utilize labor that would otherwise go unused. In depressions, chicken production tends to increase since poultry prices fall less than do prices of other farm products.