Two Dollars a Day

from

Poultry and Eggs

Price 50 Cents.

Published by
CLARENCE C. DePUY, Syracuse, N. Y.
1909.

SECOND EDITION.

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A BOOK FOR BEGINNERS.

HOW TO START A POULTRY PLANT AND MAKE IT PAY.

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CHAPTER I.

The Poultry Business.

It must be apparent to all who keep posted on current affairs that interest in the poultry business is increasing by leaps and bounds. Talk with your friends and you will be surprised to see how many of them are thinking seriously of some day retiring to a poultry farm. There are in the United States at least 100 papers devoted to poultry keeping, and the prosperous appearance of many of these shows that they do not lack patrons. The agricultural press is devoting ever increasing space to poultry; and the papers that deal with the poetic, picturesque side of country life are exploiting with pen and camera the possibilities of the hen. Large capital is invested in the manufacture of incubators and brooders, and poultry supply houses are springing up on every hand. Visit one of the big shows, such as are held at Boston, New York, Chicago or Washington, and you will find the great hall thronged day after day with those who are interested in the various forms of feathered life. Rich men are having their attention called to poultry keeping as a profitable investment; and clerks, mechanics and professional men are asking themselves if it is not possible for them to make money with poultry on the side.

MAGNITUDE OF THE BUSINESS.

Some months ago the Success magazine published a very readable article by Franklin Forbes, entitled "Raising Chickens —Our Largest Industry," in which the author demonstrated by figures and diagrams the magnitude of the poultry business. According to the writer the value of eggs and poultry produced in one year in the United States was $280,000,000. Vast as this amount is, it does not approximate the present facts, for the figures are based on the census of 1900. Since then poultry keeping has largely expanded, and Government estimates for last year (1907) of the value of poultry products of all kinds footed up to the enormous total of $600,000,000. One of the most appalling disasters of modern times was the destruction of San Francisco by earthquake and fire, April 18, 1906. The loss approached $300,000,000. The mind is stag-

gered when it attempts to measure such figures. And yet the great city by the Golden Gate could be rebuilt from the earnings of the humble hen for six months.

NOT LIKELY TO BE OVERDONE.

Is there any danger that the poultry business will be overdone? This is a question that must suggest itself to every thoughtful mind. Enormous as the consumption of eggs and poultry is, may it not be matched and passed by production, so that those who venture into the business will meet with loss? The possibility of this cannot be denied. With our modern methods of artificial incubation, by which chicks may be produced at any season of the year and in countless numbers, with so many constantly preaching the profits of poultry keeping, there is a real danger that the business may be overdone. There is a limit to everything finite. But on the other hand there are reassuring considerations. This is a big country, and it is growing bigger all the time. There are 2,000,000 more people in the United States to-day than there were a year ago, and there will be 2,000,000 more next year than there are now. And all these have to be fed. Game is becoming scarcer each year. Meats are constantly advancing in price. People are being driven into increased consumption of eggs and poultry. When eggs fall in price in the spring their sale enormously increases. This shows that the American people could consume many more eggs than they do now if they thought they could afford them. It is probable that with the advance in scientific methods of production and storage, the price of eggs throughout the year will become more uniform—not soar so high in the fall nor drop so low in the spring. And with an equalization in price, eggs will be used even more than they are now.

EXHIBITION POULTRY.

There is a department of the business not represented in the Government reports, which must foot up to millions of dollars each year—the production of birds for exhibition purposes. There is a large and increasing number of persons in the United States who keep fowls not primarily for poultry and eggs, but to gratify their love for the beautiful. To a genuine lover of fowls there are few more attractive sights in nature than a specimen of his favorite breed that approaches

his ideal of perfection. There are rich men who are willing to pay almost fabulous sums for birds that can win the blue ribbon at one of the large shows. And the market for such fowls is not confined to the limits of the United States, but is as wide as the world. George H. Northup of Raceville, N. Y., recently sold to Henry Schultz von Schultzenstein of Berlin, Prussia, two rose comb Black Minorca cocks for $500 and $1,000 each respectively. The 19 birds which he sold to this gentleman brought him in $3,400. Mr. Northup gets $25 a sitting for eggs from his best pens. William Barry Owen of Vineyard Haven, Mass., has in his circular a list of 30 fowls, the value of which is $10,000. The leader of the list is a Black Orpington cock which won first New York, first Boston, 1906, first world's trophy, Crystal Palace, London, 1905, and is valued at $750.

The record, however, was reached in March, 1908, when Madame Helena Paderewski of Morges, Switzerland, wife of the world-famous pianist, paid to Ernest Kellerstrass of Kansas City, Missouri, $7,500 for five Crystal strain White Orpingtons, the highest price ever paid for standard-bred birds since the world began. Mr. Kellerstrass refused $2,500 for one hen, "Pegg," as it was named after his little girl, and, being a rich man, he did not need the money.

These of course are top-notch prices, and are paid only for world beaters, but $100 for a single bird and $10 a sitting for eggs are everyday occurrences. Even at one of the smaller shows a winner in one of the popular classes will bring from $25 to $50. The beauty of this branch of the business is that it does not require a large amount of land nor a large outlay for buildings, and a man who has skill in mating may grow a blue-ribbon winner in his back yard.

POULTRY AS A SIDE LINE.

Even where a man has no thought of embarking in poultry keeping as a vocation, he still may find pleasure and profit in it as a side line. As a matter of fact, more than two-thirds of the chickens and eggs produced in the country are produced by men and women to whom poultry keeping is an adjunct to some other business. In some ways it is pleasanter and more profitable to engage in poultry keeping as a side line than as a regular means of support. The man who engages in poultry as a side line, as a general thing, will have more money at his command at the start than the man who must make his living from his fowls. Consequently he can buy

better stock, can supply himself with all needed appliances, can build better houses, and as a result his profits will be larger. I could tell story after story where the hens have paid the grocer's bill, have sent a son or daughter to college, or have even paid off a mortgage. Sometimes I think our National emblem should be not the American eagle, but the American hen.

DRAWBACKS.

Are there no drawbacks to the business? Candor compels me to confess that there are, and that their existence should be recognized. 1. Poultry keeping is dirty work. It is not hard work, in the sense that laying a stone wall or swinging a scythe is hard; but it is dirty. No matter how much care one may exercise, it is impossible to keep the houses strictly clean, and some of the dust and dirt will communicate itself to the person of the poultry keeper. One has to wear old clothes when at work about fowls. The money that comes in, however, is clean. 2. Poultry keeping is confining. In many kinds of business one can get away for a day or two now and then, and even for a vacation of two or three weeks, but in poultry keeping it is different. The fowls have to be fed and watered and the eggs gathered each day, and when the incubator and brooders are running and the chick season is at its height one is almost as much a prisoner as if confined behind iron bars and stone walls. 3. There are often quite serious losses. There are times when eggs will not hatch, and other times when chicks will die. After the chicks are hatched and are tided over the first few weeks, there are enemies to meet in the shape of hawks, skunks, cats and even human thieves. Disease sometimes makes its appearance in a flock, and the poultryman finds two or three dead hens under the roosts every morning. There are times when the hens will not lay, and these are often the times when eggs are in best demand. The poultryman's path is not strewn with roses by any means.

ADVANTAGES.

On the other hand there are decided advantages connected with the poultry business. 1. It is healthful. The work is steady, but not hard, and much of the time one is in the open air. 2. It is interesting. There is a constant variety to the poultryman's day. He goes from one thing to another, and is not held to a cast iron routine. 3. The products always sell. Eggs are in steady demand, and poultry does not go

begging for buyers. 4. It is independent. One is his own boss, and need never fear getting out of a job. 5. It is profitable. There is good money in the poultry business for those who know how to get it.

A HOME AND BUSINESS OF ONE'S OWN.

Poultry keeping offers pleasant and profitable employment for those who are advancing in years. In all lines that I know anything about, youth is at a premium, age at a discount. It makes a man who is approaching middle life and has a little family dependent upon him, wonder what he will do when he comes to the point ahead when he is no longer wanted in his trade, business or profession, but is ruthlessly pushed aside by younger men. To such the poultry business makes a strong appeal. Hens will lay as well for the veteran as for the young man, and the ground will as freely bring forth fruit. The small farm offers a haven of refuge to a man in his declining years. It is the part of wisdom for a man to look facts in the face and to make provision for the time that is sure to come when he will be no longer wanted. If he has managed to lay aside a few hundred or a few thousand dollars and has made a careful study of the poultry business he need not fear, for he can at least make a living on the soil, and his last days may be his best. Released from the necessity of toiling early and late under the watchful eye of a boss, removed from the heated and poisoned air of the shop to the free and life-giving ozone of outdoors, with no fear of losing his job or being displaced, he will grow young again, and life will take on new interest and charm.

EASY TO GET OUT OF IT.

The poultry business has one feature which I have never heard mentioned, but which is worthy of consideration: it is easy to get out of it. When a man engages in a new enterprise he naturally hopes and expects to succeed, but all the while the grim alternative of failure must lurk in the background of his consciousness. It is said that a good general before going into battle always determines what he will do in the event of defeat. There are some kinds of business so personal in their nature, so complicated, that a man can get out of them only with considerable loss. But the poultry business is different. Suppose a man has been engaged in the produc-

tion of eggs and poultry for market, and wishes to close out. All he has to do is to ship his fowls to a commission merchant in the city, and in a day or two there will come back a check. Suppose a man has been engaged in the production of birds for exhibition purposes. An advertisement in a poultry paper will find him a customer who will take his flock off his hands. There is a good demand for farms, and they are steadily advancing in price. Should a man discover that he is unfitted for the poultry business or grow tired of it, he can get out of it with as little loss as any business I know anything about.

CHAPTER II.

Making a Start.

If the poultry business is as pleasant and profitable as I have represented, why is it that so many make a failure of it? Riding through the country one sees plant after plant abandoned and falling into decay. The proportion of failures in the poultry business is apparently as great as in any other. One is continually meeting the man who was once enthusiastic over poultry keeping, but is now disillusioned and tells you sadly, "There's nothing in it." And when a man buys a poultry farm his neighbors shake their heads and prophesy failure.

EXPERIENCE NECESSARY.

The causes of failure in the poultry business are doubtless as numerous as in any other, but the cause that is the most prolific is **inexperience.** There are three things that every man seems to think he can do: preach the Gospel, edit a newspaper, and run a poultry plant. But he finds if he tackles any one of these jobs that he is up against a bigger proposition than he realized.

Some time ago I received a letter from a woman whose husband had made some money in the drug business and now wanted to get away from it into the freer life of the farm. There was a poultry plant near where they lived that was for sale, the owner having made a failure of it, and the woman wrote me to know what chance her husband would have for success if he sold his store and bought the plant, knowing nothing of the business. I wrote back that he would have just exactly the same chance that a man would have who knew nothing of the drug business and who should buy out her husband's store. Set it down as the basic principle in all your calculations, **that the poultry business requires just as careful an apprenticeship as any other, and that the man who is to succeed must know it root and branch.**

BEGIN SMALL AND GROW.

Fortunately a man can serve his apprenticeship to the poultry business while he is earning his bread and butter at something else, and this to me is one of its chief charms. In what other business in the world can a man begin so small

and invest so little money at the start? If a man has an old dry goods box at his command, a sitting hen and a clutch of eggs, he can set his feet in a path that may lead on to fortune.

Says "Commercial Poultry": It is a matter of history that nearly every one of the large poultry plants in the United States that has proved successful has been built up from a small foundation. It is also a matter of history that there are a number of large plants that have proved unsuccessful and unprofitable simply because the owner undertook to accomplish something without fitting himself for the task. Those who succeeded have been content to start in a small way and expand as their knowledge of the business and their ability to handle it warranted the expansion.

"Take, for instance, the plant of U. R. Fishel at Hope, Ind.; White Leghorn Poultry Farm at Waterville, N. Y.; H. J. Blanchard at Groton, N. Y.; Henry Van Dreser at Coblesskill, N. Y., and many other of the largest and most profitable plants in the country,—each of them had a small beginning and simply grew into the mammoth institutions that they are to-day.

"U. R. Fishel started with a few hens in a back yard a dozen years ago. To-day he has 120 acres devoted to poultry and does an annual business very close to the $20,000 mark. The White Leghorn Poultry Farm at Waterville, N. Y., is the outgrowth of a score of hens kept in a house less than eight feet square the first winter. To-day the farm consists of about 160 acres—with a recent addition—with a score or more of large houses, the largest being 500 feet long. Although ten thousand S. C. White Leghorns are raised annually upon this farm, the demand for stock and eggs nearly always exceeds the supply. H. J. Blanchard of Groton, N. Y., has become wealthy from his chicken business, although he has a farm of but twenty acres. Henry Van Dreser started in a small way and to-day has one of the largest commercial and fancy poultry plants in the East.

"The same is true of almost every large poultry plant in the country. There are a few, to be sure, that have been started on an extensive scale by men of wealth, but if they have proved successful it is because experienced poultrymen have been employed to manage them."

THE FIRST STEP.

Suppose a man has no practical knowledge of the poultry business, but has become interested in it from reading about it

in the papers and talking with friends, how would I advise him to proceed? It would depend something upon the season of the year. Suppose it to be fall. I would advise him to send away to a breeder of established reputation for a breeding pen of the variety he has selected. A breeding pen consists of a male and four females, and may generally be purchased for from $15 to $25. The breeding pen may consist of four pullets and a cock, but I think it better to reverse the arrangement and purchase four hens and a cockerel. Pullets are all right to breed from, provided they are mature; but these are the kind the breeder does not care to sell. On the other hand, he is always ready to dispose of his mature birds. From such a pen as this a man should get from 150 to 200 chicks in the spring, and have a good number of choice pullets and cockerels in the fall.

Four hens will not be enough to keep a vigorous cockerel at work, and so I would advise the beginner to pick up eight mature, well-grown pullets around home. These may be put in the pen with the rest. But before this is done, they should be well dusted with some good insect powder, for farmers' hens are proverbially lousy, and if not "doctored" will infect the rest.

These eight pullets of nondescript variety will do for sitters and mothers in the spring. The four hens should give you at least 60 eggs apiece during the hatching season, and if the eggs are reasonably fertile you should get from 50 to 200 chicks. From these you should get a good number of pullets in the fall.

The advantage of starting with a breeding pen is that one will be likely to have eggs on hand whenever they are wanted; and there are no delays, no eggs chilled or broken in transit. The male with which you started should be kept the second year and mated with pullets of his own get.

Starting in the spring one would naturally begin with eggs. You will need at least 100 to give you anything of a start, and these will cost you $10. Beware of cheap eggs and cheap stock. You will never be satisfied until you get good standard bred fowls, and these cannot be produced or sold for the price you pay for dunghills. It has been my experience that the birds I paid the most for at the start were the greatest money-makers in the end.

KEEP ONLY THOROUGHBREDS.

It seems almost unnecessary at this stage of the world's

history to advise the prospective poultryman to keep only thoroughbreds, and yet one still meets the man who insists that crosses or mongrels lay as well and pay better than they. Let us examine this proposition a moment. If mongrels and crosses lay as well and pay better than thoroughbreds, why is it that the great commercial plants throughout the land have discarded them in favor of standard-bred fowls? Why is it that the great egg records, as shown by the trap nest, uniformly come from thoroughbreds and not from mongrels or crosses? It costs no more to raise a thoroughbred than a dunghill, no more to feed it after it is raised. A flock of birds of one variety looks better than a flock made up of everything under the sun, and will do better. Different breeds require different treatment, and where they are all mixed up in one flock conditions cannot help being unfavorable to some. Eggs coming from one breed are more uniform, and when the birds are sent to market they bring two or three cents more a pound than a mixed lot. Where a man keeps only pure-bred fowls of some popular strain he can, even without advertising, sell a good many sittings of eggs to his neighbors in the spring and dispose of his surplus cockerels to them in the fall. Time and time again have I had visitors come to my place, who had no intention of purchasing when they came, who became so fascinated at what they saw of my beautiful White Wyandottes that they placed a good order with me before they went away.

BREEDS THAT PAY.

One of the difficulties of the beginner is to determine what variety to keep. The latest edition of the Standard of Perfection recognizes 73 varieties of the domestic fowl, not including Bantams, which are miniature or dwarf specimens of the various breeds. Should a man in this undecided state of mind visit a great show in which are exhibited the best specimens of all the leading varieties—the aristocrats of Poultrydom—his confusion becomes worse confounded; and should he run across champions of several of the leading breeds and let them talk to him for half an hour each, his mind will be in such a whirl that it is impossible for him to make a devision. It is to help clear up the whole matter that this section is written.

The money-making varieties may be counted up on the fingers of both hands. I do not mean by this that men do not make money on other varieties, for they do; but there are six or eight varieties which pay well in the hands of almost any-

one. If a man is to become a fancier or a specialist it may be wise for him to go afield and take an entirely different breed; but if a man is after a safe, conservative proposition he would better stick to the varieties I am about to mention.

1. **The Leghorns,** Brown and White. The Leghorns are prolific producers of white eggs; mature early, are active, hardy, and do not eat so much as the larger breeds. Non-sitters. In some markets white eggs are demanded by the best trade, and command a premium.

2. **Rhode Island Reds.** A valuable addition to the American class. Hardy, good layers of brown eggs, a rich yellow carcass, good table bird. Mature early.

3. **White Wyandottes.** The most popular member of the great Wyandotte family. A beautiful bird. Prolific layers of brown eggs; yellow skin and legs. A prime table fowl. A favorite on broiler plants. "No matter when you kill them you've always got something!"

4. **Plymouth Rocks.** Barred and White. The Barred Rocks are undoubtedly the most popular breed in America to-day. They are known as the "business hen." Hardy, large sized, prolific producers of brown eggs; killed and dressed they make excellent poultry.

5. **Black Minorcas.** A handsome, showy bird of the Mediterranean class. In size nearly equal to the Plymouth Rock. Heavy layers of large white eggs. Fair poultry.

6. **Black Langshans.** A noble bird of the Asiatic class. Large size, the cock weighing 10 pounds. Excellent table fowl, the meat having a delicious flavor, and the bones being small. Lay a beautiful brown egg.

7. **The Orpingtons.** Buff, Black and White. Large, stately birds, larger even than the Plymouth Rocks; rightly handled they make excellent layers. Good table fowls. They would seem to have a grand future.

HOW MUCH MONEY DO I NEED TO START?

That depends. If you start the way I advocate in this chapter you won't need much. Begin with a pen of thoroughbreds or an incubator load of eggs and let your birds build your plant. But suppose you have advanced beyond this, have been keeping hens for a number of years and have solved some of the problems connected with the business, and now

want to devote your time to poultry keeping, how much money do you need to start?

Again I say, that depends. I have known men without any capital to move out onto a poultry farm, and in a few years build up a nice little business. But in this case the farm was located on the outskirts of some village or city, and they worked at their trade during the day and looked after the chicks morning and night. Of course, there was a silent (?) partner in the shape of a faithful little wife, who looked out for things during the day. It was hard work, but in a few years things got easier and the husband was able to devote more and more of his time to the farm.

Sometimes a man will buy a farm with only about enough money ahead to make the first payment, and depend on his trade to give him an income while he is getting a start. Two miles from where I write there is a friend of mine who has the poultry bug in his brain. He is a blacksmith by trade, and a mighty good one; but he is growing old and finds shoeing horses hard work. He is looking forward to making an easier living from his hens. He has fitted up a little shop by the roadside, and shoes the horses of the farmers in the neighborhood. Between times he is building up his plant. A man so situated does not need much money to begin with—not over five hundred dollars.

But where a man has no such resource and must depend upon his farm principally to supply his needs, it is a different story. Then the more capital he has the better. I should not advise such a man to start in with less than one thousand dollars. Even then he will have to struggle for a long time to keep his head above water.

CHAPTER III.

Finding a Farm.

Among the readers of this book there must be hundreds if not thousands who are looking forward to the purchase of a farm. In all men of Anglo-Saxon blood there is a land hunger that is pretty sure one day to manifest itself. Some want a farm for a home for the summer months. Others want one as a haven of refuge for their declining years. Still others want a farm as a business proposition, believing that a farm rightly handled will yield large returns. Real estate agents say that the demand for farms was never more active than to-day. It is for the purpose of assisting the reader who wants a farm, and especially the reader who wants a poultry farm, that this chapter is written.

LOCATION.

Where shall the prospective farm be located? This is the first question to be asked. Shall the buyer go to New England with its teeming manufacturing centers and its innumerable summer resorts, its splendid markets and its pleasant villages? Shall he go to New Jersey with its sandy soil especially adapted to poultry, and its proximity to some of the greatest cities in the country? Shall he go to the Middle West where the winters are mild and feed products can be bought at prices that touch rock bottom? Or shall he cross the continent to where Petaluma overlooks San Pablo Bay—that magic city where the hillsides are dotted with White Leghorns as far as the eye can see and where poultry keeping is the leading industry?

My answer to the question is: locate somewhere near where you are. I do not mean necessarily to locate in the same town or even in the same State, but I would not advise you to go more than a hundred miles away. Why? Because you have struck your roots down where you are, and men and trees suffer from transplanting. You know the section where you are—the people and their peculiarities, the soil and climate, the markets, and a thousand and one things that you would have to learn all over in a new field. Then, too, each section has its offsets as well as its advantages, and in many

cases the gain does not compensate for the loss. I am more familiar with New England than with any other part of the country. It is a grand place for the poultryman. The markets are among the best in the world. But there are drawbacks: the winters are long and cold, feed products are high, help is scarce and hard to get. There are men who are making a success in the poultry business in every State in the Union, and in every State there are men who are making a failure.

"The Fault, dear Brutus, is not in our stars,
But in ourselves, that we are underlings."

HOW TO FIND A FARM.

After you have settled the matter of location, the next thing is to find the farm. There are three possible ways. The first is to take two or three weeks, or two or three months, and drive through the section where you wish to locate and look up properties that are for sale. This takes time and takes money, but if one has plenty of both it is not a bad way. One becomes acquainted with farm values, and can sometimes pick up a bargain that will pay him well for the time and money he has spent. A modification of this plan is to canvass a section for some good paper or magazine and keep one's eye open for a farm at the same time. I believe that if a man should start out in the fall of the year with my book, "Two Hundred Eggs a Year Per Hen," and the Advocate, he would take subscriptions enough to more than pay expenses, and would be likely to find a farm before he got through.

The second way is to advertise. There are hundreds and thousands of farms that are on the market, and an advertisement for a farm in the right medium will be sure to bring numerous replies.

When I was in the market for a farm I prepared a five-line advertisement and sent it to the "Congregationalist," with instructions to insert it in their "Subscribers' Column" for four weeks, sending along a two-dollar bill at the same time. The advertisement was as follows:

> WANTED—A small fruit and poultry farm in or near some pleasant village in Southern New Hampshire or Eastern Massachusetts. Send full description, lowest cash price, and photograph of buildings.

Replies came in thick and fast, until in sheer desperation I wrote the publishers after two weeks to discontinue the advertisement and apply the dollar that remained to my subscription.

Many of the replies were from widows who felt unable to carry on the farm after the death of their husbands; others were from old persons who did not think it safe longer to live alone, and a few were from heirs who had no use for the property. In every case, so far as I could judge, the price asked was reasonable, and in some cases it seemed very low. If I were in the market again I should try a similar plan.

The third way is to go to a real estate agent and look over his lists. It is said that one real estate agent in New England has 6,000 properties on his books. It is natural for a man with a farm to sell to place it in the hands of a real estate agent, and in looking over a list one ought to be able to find two or three properties that he would like to investigate. In dealing with an agent one must be on his guard lest he be overpersuaded and purchase against his better judgment. It is the agent's business to make a sale, his commission depends upon it, and naturally he is going to make the property as attractive as possible. There is danger that one may be hypnotized. Still, agents have their place, and an honest agent is a good friend to both buyer and seller.

ABANDONED FARMS.

In nine cases out of ten when a man begins seriously to consider a country home he turns his thoughts to an abandoned farm. So much has been said and written about these farms that a glamour has been cast over the subject, like the magic spray that half conceals, half hides, the figure in the fountain. The price asked seems ridiculously low—it is like getting something for nothing. But I most earnestly adjure the prospective buyer to turn all thoughts of one of these farms out of his mind. If a farm has been abandoned it is for a cause; either the soil is rocky and sterile, the place is remote, or the buildings are in a state of dilapidation and decay. Leave the abandoned farm to the man who only wants it for a summer home—it may be a good thing for him—but if you are thinking of a farm on which to make a living, don't touch it. It has starved one owner; it will starve you.

POINTS TO BE CONSIDERED.

What are the points to be considered in buying a farm? They are five, and they are as follows:

1. **Township and Neighborhood.** There is a great difference in townships, even in those lying side by side. In one township there are high ethical standards—the churches are

well supported, the schools are maintained at a good degree of efficiency, there is a healthy public sentiment on temperance and sexual morality. In an adjoining township, perhaps, the ethical standards have fallen into decay. Drunkenness and licentiousness abound. Schools and churches are neglected. Crime is common. It is no place to live and bring up children. In one township the economic conditions may be far ahead of those that prevail in another. Taxes may be lower, roads better, methods of communication with the outside world easier. Farms are higher in these towns, but they are worth more and sell quicker when placed on the market.

In even the best towns there may be undesirable neighborhoods. The slum is not peculiar to the city alone; the country town often has it. In the country one is thrown much in contact with his neighbors, and therefore it is important that he gets in a good neighborhood.

2. **Size and Soil.** The demand now is for small farms, farms that range from five to twenty-five acres in size. Such farms sell better than larger ones and are more desirable. The large farm requires a large outlay for machinery, and the owner must keep help. Five acres will keep a man busy, provided he practices intensive farming, and will often yield a larger profit than fifty.

Sometimes you hear it said that any kind of land will do for hens. This is true in one sense, and in another sense it is false. If a man were to keep hens and nothing else, if he proposed to buy all their feed, he could get along with a place that had poor soil. But poultry keeping should be combined with other things for the maximum profit. At least the poultryman should raise a good proportion of his feed. And there are certain paying crops especially adapted to a poultry farm. No soil is too good for the poultryman. The better the soil the more money he can make.

The ideal soil is a sandy loam, and if there is a slope to the south or southwest so much the better. But fowls can be kept upon almost any soil, provided it is not so damp that water stands on it a good part of the time. Even if the soil is run out the hens will soon bring it around if there was anything to it to start with.

3. **Water and Wood.** Who does not remember the "old oaken bucket" that came splashing up from the cool depths of the well, brimming and overflowing with its liquid load, and how refreshing a draught of that water was on a sultry sum-

mer day? A good well on a place is worth hundreds of dollars in health and comfort. Always test the water and find out whether the well goes dry in season of drought. In our New England fortunately few farms are without good wells. A spring or brook in the pasture is also important.

It is a good thing if there is a good lot on the farm of sufficient size to supply the family fires, although this is not indispensable. Coal is now burned in many farmhouses, and kerosene stoves in summer decrease the housewife's burden.

4. **Condition of Buildings.** It makes all the difference in the world in the value of a place whether the buildings are old and dilapidated or whether they are in good repair. Nothing is more deceptive than an old building. It looks as if it only needed a few slight repairs to put it in good condition, but when you commence there seems to be no place to stop. A place is not cheap, no matter the selling price, if the buildings are in a state of decay.

5. **Title.** See that there are no defects in the title. In order to do this it may be necessary to employ a lawyer. He will look up the records in the office of the Register of Deeds and report whether or not there is any encumbrance. I was told of a case where an heir had a life interest in the estate to the amount of $100 a year. It was represented to the buyer that this heir was 80 years old, tottering into the grave. But he found, when too late, that the heir was only a little over 60, and likely to live many years. The annuity that the purchaser is obliged to pay is a serious drain upon him, and may eventually lose him the farm.

A mortgage upon a place need not necessarily be considered an encumbrance. The buyer simply deducts the amount of the mortgage from the amount paid the seller, and assumes the liability.

Always demand a warrantee deed, and be satisfied with nothing short of it. The cost of making out the deed is assumed by the seller.

The insurance may be transferred at the time a place is bought, provided the company consents, the buyer allowing the seller for the time the policy is to run. But it is usually better to take out a new policy.

PAYING FOR THE FARM.

Such a farm as I have described, from five to twenty-five acres, well located, with buildings in good repair, may be bought from one thousand to twenty-five hundred dollars.

Usually the asking price is from one to five hundred dollars above what the seller will ultimately take. The ideal way, of course, would be to pay cash down; but in the majority of cases this is impossible. Something must remain on a mortgage. It is always better to place the mortgage with a savings bank than with the seller of the farm. Something may happen in a year or two that will cause him to need the money, and he may press the buyer or dispose of the mortgage to a money shark. Savings banks, on the other hand, make a business of loaning money on mortgages, and as long as the interest is paid and the property kept in good shape, will not distress the mortgagor. The rate of interest demanded by savings banks on first class mortgages here in New England is now five per cent.

It is not generally known, but it is a fact, that savings banks are now encouraging men to buy farms by making it possible for them to pay the mortgage in monthly installments. If a man can pay $10 a month a bank will advance $1,000 on a $1,500 farm and apply the monthly payment to the reduction of both principal and interest.

In general it should be said that a man should not purchase a farm unless he is able to pay at least a third down and then have something left over for working capital.

FARMS FOR WOMEN.

Women are now buying farms to a considerable extent. While a woman on a farm is at a disadvantage on account of not being able to do the harder and rougher work, yet many women are such good managers that they overcome this handicap. A woman in buying a farm should be sure to get one near good neighbors, or, better still, in a village, even if she has to be content with a smaller farm than she would buy otherwise. The social isolation of a farm is not felt so much where there is a large family; but where a woman is alone, or has only one companion, she needs to be where she can come into contact with people easily.

WHEN TO MOVE ON A FARM.

No matter at what season a man moves on a farm, he will wish he had gone there six months before. There is always a vast amount of work to be done in getting settled and getting started. Perhaps the time of year when a man can move on a farm with least loss is in the late fall, say in November. He can then be settled before severe cold weather sets in, and be

on the ground in time to make a good start in the spring. He need not wait long, for if he is a poultryman he can start the incubator going the first of January for broiler chicks and have them coming right along. Farms can usually be bought a little cheaper in the fall than in the spring, which is another argument for going on at that time.

CHAPTER IV.

An Income from the First.

The ideal way to start in the poultry business of course would be to have capital enough to pay for one's farm outright and then have sufficient reserve to maintain one's self until a good income could be established. There are but few, however, who are able to start this way. The majority have not money enough ahead to pay for their farm, to say nothing of being able to wait to build up a business. To them it is imperative to have an income from the very first, and it is the object of this chapter to show how such a result may be accomplished.

It may be cheering to the reader of moderate means at this point to remind him that it does not cost nearly so much to live in the country as in the city. In the city it is money every time one turns around, but on the farm one may go days and not spend a cent. There is no rent to pay, no fuel to buy, and the farm itself will largely supply the table. It is not too much to say that one dollar in the country will go as far as two dollars in the city.

POULTRY GIVES QUICK RETURNS.

One good thing about the poultry business is that it gives quick returns. There is no other branch of live stock keeping that compares with it in this respect. In the raising of beeves, horses, sheep and swine considerable time must elapse before returns are made on the investment. Not so with poultry. A year is a long time in the poultry business. If a man wishes to raise broilers he buys an incubator in November, buys his eggs to put into it a short time afterwards, and in the months of early spring has marketed his two-pound birds and is ready to reinvest. Even if he wants to produce winter eggs he does not require a year to get returns. It is always possible to purchase pullets in the early fall which will soon begin to lay. I have known a flock of hens to lay the next day after being put into the pen, so that the owner began to realize on his investment in less than 24 hours. Where a man gets out his own

laying stock, he ought to begin to take money for the sale of eggs in less than eight months after he first starts his incubator.

READY MONEY IN MILK.

I would not advise a man to combine poultry keeping with dairying to any considerable extent, for it is inevitable that he will neglect either his hens or his cows. But when a man is getting started and needs ready money it will pay him to keep two or three cows and sell the milk. In most country towns in New England and the Middle States milk now sells at the door, and the producer receives a check once a month for his output. While there are many charges against the contractors, and the producer is no doubt subjected to annoyances and exactions, yet it is a great advantage in being able to sell what one produces at the door and be sure of one's pay for it. A cow rightly handled should net the owner $50 a year, even at the price at which milk sells to the contractors. If the good wife has the knack of making gilt-edge butter a cow will earn even more than this, and there will be a large amount of skim milk left to feed to the hens or the swine.

OTHER THINGS THAT PAY.

Potatoes are a money crop. They are easy to grow and easy to sell. An acre of potatoes seldom nets less than $50, and from this it may run up to $200. While potatoes exhaust a soil, already too greatly depleted of potash, yet the temptation to plant them is always great, as they bring in such quick returns.

Apples. On most farms there is an apple orchard. Too generally it has been neglected and the trees have not been fertilized or properly trimmed for years, yet it has a way of surprising the owner by bearing heavily now and then. The first year the writer went on his farm he received a check for $48 for his apples, which was like finding money, for he had not counted on any income from this source.

Timber and Wood. On some farms there is standing timber and a large amount of firewood. This is as good as money in the bank. It is probable the price of lumber will never be less than it is now, and firewood is steadily appreciating in value. The man with a good-sized wood lot can put

in his winters pleasantly and profitably, and the sale of wood will go a long ways toward the support of himself and family.

CHANCES OF EMPLOYMENT.

The country offers a man many chances of employment. While wages are not as high as in the city, yet, as has been shown, the cost of living is much less. The traditional working day of the fathers—"from sun to sun"—is no longer in evidence, and the man in the country works only nine hours, or, at the most, ten. The trades most in demand are carpenter's, painter's and mason's. If a man is master of one of these he can be sure of employment at least six months out of the twelve. Unskilled labor is also in great demand. If a man is strong and willing, ready to turn his hand to anything, it is surprising the number of jobs that will come his way. His wife, too, can find plenty of employment, if she is willing to work. If she is a skilled milliner or dressmaker her advent into a country town will be hailed with delight, and if she is willing to take in washing or go out to help she can have more than she can do. The price of unskilled labor in the country is for men from $1.50 to $2.00 a day and for women from 12 to 15 cents an hour.

WORK IN FACTORIES.

In many country towns there are factories of some kind where a man can find employment. Some of these factories make a practice of taking on additional help in winter. In these factories, too, there are good chances for women and children to earn something. I have known a man and his wife in one year in a shoe shop to earn enough to put up a pretty and substantial set of buildings.

CHANCES FOR CLERKS AND PROFESSIONAL MEN.

The clerk or professional man who goes on a farm is at a disadvantage at first, compared with his brother who is accustomed to work with his hands, because he seems to have nothing to sell that the country wants. What the country needs, and what the country is willing to pay for, is muscle, and the clerk or professional man is generally short on that. However, let him not despair; the country has something for him, too. In most towns there is a fine chance for a man to make a good living buying and selling poultry and eggs. Between

what the farmer gets and what the city grocer is willing to give there is often quite a margin. A man can make five dollars a day, two days a week, running his team out among the farmers. He should take along a few standard poultry supplies, and will find that they sell well and yield a good profit.

SUMMER BOARDERS.

The American people have the vacation habit, and every summer hundreds of thousands of them go to the country, the seaside or the hills for recreation and rest. If one is equipped for summer boarders there is no way in which one can make money so fast. It is hard work, especially for the women folks, but the season is short. Rates of board run from $5 to $7 a week for single guests and from $10 to $12 for two, and in some cases even higher. The city man who goes into the country and buys a farm should be much better qualified to cater to the wants of summer boarders than the average farmer, for he knows what they want. Plenty of berries and vegetables, poultry, eggs, milk and cream are what the summer boarder wants, and all these are produced on the farm.

OTHER CHANCES.

There are a few other chances for an educated man to pick up a little money in a country town, which occur to me as I write. Something may be done in insurance. Farmers as a general thing do not insure their lives, but nearly every farmer recognizes the importance of carrying insurance on his property. Not every company will take farm risks, but there are good ones that do. It takes some time to work up an insurance business, but once established it runs on from year to year with but little effort. There is in every country town a demand for a man who can draw up conveyances, write wills and advise on a few elementary principles of law. If a man is qualified to teach he can generally find a school which will pay him $40 to $50 a month for the winter term. The leading periodicals of the country pay good commissions to agents, and pay for renewals as well as new subscriptions. If a man has no false pride he can do a good business in the fall and winter in this line.

Perhaps in closing a leaf from life may be interesting. Since moving upon his farm the writer has supplied pulpits, written insurance, contributed to papers, looked after invest-

ment for a relative, and in short done whatever his hand could find to do. All this has been in addition to his work on the farm. The first year he earned in various ways $928.73. His experience has convinced him that if a man is in earnest, and is willing to turn his hand to any honest work, he will succeed. No man ever yet starved to death on a farm.

CHAPTER V.

Side Lines That Pay.

While it might be possible for a man to make a living from poultry and eggs alone, yet it would not be wise for him to try to do so. If a man keeps hens enough to keep him busy all the time, he will have to keep enough to keep him more than busy a part of the time. If he keeps the number he can care for comfortably in rush times he will not have enough to keep him busy at other times. Hens work in well with other things; they furnish a large amount of valuable fertilizer which should be utilized; they consume by-products that would otherwise be wasted; they can be kept on ground that at the same time may be used for other things, notably fruits. It would seem to be good judgment, therefore, to combine poultry keeping with other lines.

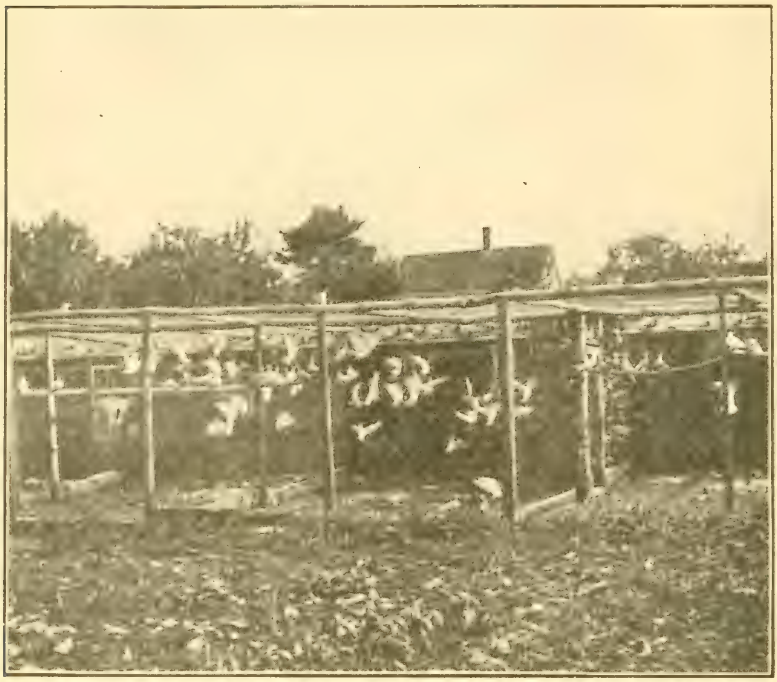
PIGEONS.

Where a man is properly located there is no side line that will give him better returns than pigeon raising. I am aware that pigeon raising as a business enterprise is looked upon with suspicion by many, such extravagant claims have been made for it by those who have stock to sell. And yet an acquaintance with the business has convinced me that where a man is well located with reference to markets, begins on a small scale and thoroughly masters the subject, gives his pigeons careful attention, there is no line in which there is such "easy money" as squab growing.

To begin with, pigeons are much less care than hens; they look after themselves. In pigeon raising the most laborious and unsatisfactory part of the hen business is eliminated: the incubation and care of the young. There is no incubator to manage, no "moisture problem" to trouble one, no fussy sitting hen to bother with, no brooder to look after. Pigeons build their own nests, hatch their own eggs, rear their own young, and take care of them until they are ready to be sent to market or start in to housekeeping for themselves. If necessary, one

can leave his pigeons all day, while he attends to other work, as there are no eggs to gather and the flock may be automatically fed.

A pair of good-working Homer pigeons will rear from six to eight broods of young ones in the course of a year, and I have known an unusually good pair to rear eleven broods.



Scene in the Pigeon Yard on a July morning.—The Building where 250 Pigeons are housed cost but $50.00. It was originally a hen house.

Squabs bring from 40 to 60 cents a pair in the Boston markets, according to the season. It is estimated that it costs 10 cents a month to feed a pair of Homers, and the old birds feed their own young. Reckoning the price at which squabs may be sold at the minimum, 40 cents a pair, and the increase eight pairs a year, cost of feeding $1.20, and we have a net profit of two dollars from each pair of working Homers. I know a successful business man who draws $50 a week from his business for personal expenses. This man engages in pigeon raising as a side line. And he tells me that the money comes easier from his pigeons than it does from his business.

Any house that is adapted to poultry is adapted to pigeons. It is generally safe to allow five square feet of floor space for each pair, and put put over 25 pairs together in a pen. Besides the house space, pigeons need a flying pen, which should be at least twice as large on the ground as the breeding pen. The flying pen should be eight or ten feet high, and should be roofed with poultry wire as well as have poultry wire on the sides.

The two secrets of successful pigeon raising are perfect sanitation and complete mating. Pigeons are subject to two serious diseases—canker and diarrhoea. Canker is a filth disease, and diarrhoea is caused by improper or unseasonable diet. If the water for the daily bath is allowed to stand long enough to become polluted and the pigeons drink it, the germs of canker are introduced. And if care is not exercised in regard to diet, diarrhoea is likely to break out.

Pigeons are generally given their feed in hoppers, and the standard ration is a mixture of red wheat and cracked corn—much more corn being fed in winter than in summer. Pigeons are also given peas, Kaffir corn and pigeon feed. Grit and charcoal must be kept before them all the time and also plenty of oyster shells. Pigeons build their own nests (two boxes being provided for each pair), but must be furnished with nesting material—tobacco stems in summer and straw in winter.

Squabs are generally marketed when four weeks old. Their necks are wrung and they are shipped undressed. They are handled by commission merchants, who pay from 40 to 70 cents a pair for squabs weighing from 9 to 10 pounds a dozen, according to the season of the year. Prices are at their lowest in June and July and at their highest in February and March.

To realize the largest profits one needs a good summer market close at hand. In many places this market already exists, and in nearly every place of any size it may be created. The consumption of squabs is likely to largely increase in the future, and there does not seem to be any danger that the business will be overdone.

Pigeon raisers may add considerably to their profits by selling birds for breeding purposes. Pigeon raising is a new business in most localities, and its picturesqueness and possible profitableness make a strong appeal to many. Scores start in with a few birds in every village every year, only to abandon the enterprise in a few weeks or months, and these beginners

make good customers for stock. In pigeon raising, as in everything else, it is the man who stays with the business who succeeds.

DUCKS.

The profitableness of duck culture is not preached so assiduously as it was a few years ago, but where a man's place is adapted to it and where he is well located as regards markets, he may, as in the case of pigeons, embark in it to advantage. Ducklings are easier to raise than chicks, grow faster, are unmolested by vermin and are not subject to disease. They are easily confined—a two-foot wire fence will keep them enclosed. While a stream or pond is an advantage in raising ducks, yet some successful duck raisers grow them without this accessory. They need plenty of water to drink and to rinse their faces in, but more than this is not needed. In the case of ducks besides the eggs and meat, there is another source of revenue—the feathers.

POULTRY KEEPING AND GENERAL FARMING.

As a matter of fact, three-fourths of the eggs produced in the United States are produced on farms, where poultry keeping is a side line. Hens pay on the farm, there is no doubt of that, but it is a question whether it would pay a man to combine poultry keeping on a large scale with general farming. Hens pay on the farm because they are allowed to shift for themselves and pick up a great part of their own living. Fifty hens may range at will and not be a nuisance, but five hundred hens roaming at large would be as destructive as a Kansas cyclone. If a man keeps five hundred hens he must house them, yard them, feed them, and devote considerable time to their care. It is a question whether this time may not be more profitably spent in regular farm work. Other things being equal, it does not pay a man to disturb a routine he has established and which is reasonably profitable to try a new thing.

MARKET GARDENING.

Where soil and site are favorable poultry keeping works in well with market gardening, as I demonstrate elsewhere. Summer, which is the market gardener's busy season, is the time when the poultryman's duties are light. The poultryman has at his command a large amount of stimulating manure, which is just the thing for early crops. It is surprising, too,

what a demand there is for early vegetables, even in country towns. Marketmen will tell you that they cannot begin to supply the demand from the local growers, but have to send away for a great part of their stuff. If a man has a small greenhouse he can add largely to his profits, and even with two or three hot beds can force the season. Asparagus, early peas, string beans, green corn, cucumbers, radishes, lettuce, beets, etc., are money makers not to be despised. The beauty of market gardening is that there is no long wait—a man gets returns from his investment at once.

STRAWBERRIES.

Probably the ideal combination, where conditions are favorable, is poultry keeping and strawberry growing. Strawberries are the one berry of which people cannot get enough. It is surprising how many boxes the market will absorb. In the little town in which I live I have known one dealer to sell 250 boxes in a day. In order to grow strawberries to advantage, three things are needed—rich, moist land, clean culture, plenty of cheap help in the picking time. By a suitable selection of varieties the fruiting season may be extended to full four weeks. For New England the following varieties are recommended: Early—Fairfield, Senator Dunlap, Virginia; midseason—Sample, Glen Mary, Abington, Brandywine, Minute-man, Parson's Beauty; late—Stevens' Late Champion; latest, Rear Guard.

For growing on light soil, Minute-man and Haverland pollenized with Meade or Senator Dunlap; for medium to heavy soil, Sample pollenized with either Brandywine, Abington, Parson's Beauty or Senator Dunlap; Glen Mary. The latter variety may be planted alone if desired. Plant new varieties in a small way, or better still, allow the experiment stations to test them for you.

The grower of strawberries may add considerable to his income by the sale of plants. There are many in every community who have their own strawberry bed. They are accustomed to send away for plants, but will buy at home if they can get what they want. One cannot get as large prices for plants sold around home as he could if he advertised and got out a catalogue; but half a cent a plant for the common varieties and a cent a plant for the newer ones will pay a man well. The question arises in this connection: If I sell plants do I not create competitors who will cut into my berry business?

It is the experience of strawberry growers that the sale of plants does not injure the berry trade. New varieties are coming out all the time. If a man has a reputation for growing good stuff his customers will stick to him. The way to succeed is to do things a little better and a little different from the other fellow, and then let the public know it.

RASPBERRIES, BLACKBERRIES AND CURRANTS.

The grower of strawberries will be likely to add "bush fruits," as they are called, to his collection. Raspberries and blackberries are not so satisfactory to handle as strawberries, as it is more difficult to keep them under control; but where a plantation is well established it is profitable. Raspberries especially pay well, as the demand is good and the price high. The raspberry grower has a clearer field for his wares than the strawberry grower, for owing to the soft and fleshy nature of the fruit it does not stand shipment well and the demand must be supplied from near home. Currants also have a limited sale, and owing to their extraordinary productiveness are profitable. In raspberries the money making varieties are the Kansas and Cuthbert; in blackberries, the Snyder; in currants, Red Cross, Wilder or Cherry.

PEACHES AND PLUMS.

These do not yield so quick returns as vegetables, berries and bush fruits; but when the orchard is established, the work is less and the profits large. The poultryman who plants peaches and plums in his garden has the great advantage of using his land for a double purpose. Peaches are profitable in the peach belt, but when one gets out of the region where they grow naturally, it does not pay to bother with them. Plums are hardier, and are adapted to a wider range of territory.

Any land that will grow good corn will grow peaches and plums. Some set the trees in holes dug for the purpose, but I get better results by plowing the land and growing the trees the first year or two among hoed crops. In buying trees get them as near home as possible. They will be more likely to live, as they can be set immediately upon being dug up, and the price is less. One should not pay over 10 or 15 cents for trees suitable to set out.

This book is written for the latitude of southeastern New

England, and all varieties mentioned in this chapter are the ones adapted for money-making here. Other parts of the country will perhaps require a different selection. I would advise the reader to write to the pomologist of his State experiment station for a list of trees and fruits best adapted to his locality. For my section the best varieties are as follows: Peaches—Greensboro, Waddell, Carman, Champion (delicious late peach), Elberta, Crosby (the best yellow peach known); plums—Red June, Abundance, Satsuma (superb for canning).

It is good judgment to set a few quince trees in the runs, and also a few late pears.

APPLES.

The easiest and simplest way in which a man can make a living, I believe, is to have an apple orchard of from two hundred to five hundred trees, and to keep hens among the trees on the colony plan. One drawback to an orchard is that it takes it so long to grow. But in buying a farm, a man can sometimes find one with an apple orchard already established upon it; and if the trees are young and well selected, each tree is worth at least $10 on the price of the farm. Where there is no orchard it will pay a man in middle life to set one out, for the time is coming when he will want to make his money the easiest way. In setting out trees, I would urge greater space given to fall fruit. The trees grow fast, the apples sell well, and there is not so much competition as on the winter varieties. Everybody knows what varieties of apples sell best, so it is hardly necessary for me to enumerate them. But if I were setting out 100 trees, I would have the proportion as follows: Astrachan 1, Early Harvest 1, Golden Sweet 1, Gravenstein 15, McIntosh Red 15, Rhode Island Greening 5, Northern Spy 10, Ben Davis 10, Roxbury Russet 7, Baldwin 35.

CHAPTER VI.

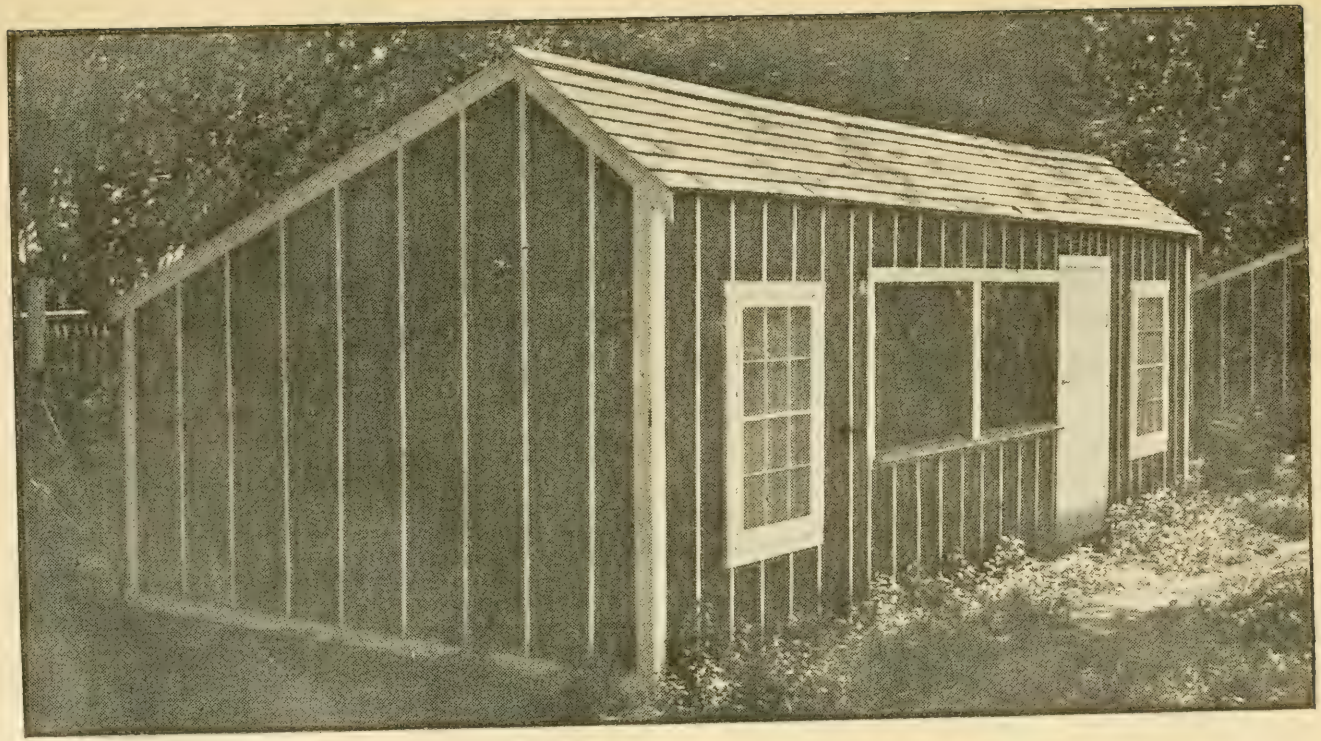
Houses and Yards.

One of the greatest problems that confronts the poultryman is the location and construction of his plant. It is here that more men meet their Waterloo than anywhere else. I have visited many of the leading breeders of the East, and before coming away have asked this question: "If you were starting anew would you build and locate your houses just as they are now?" And in nearly every case, I think, the answer has been, "No." The man has gone on and suggested modifications and improvements that I could see would be of great advantage.

It is my purpose in this chapter to describe two poultry houses—one for layers and one for young stock—such as I have demonstrated in my own experience to be practical and economical. Indeed, I do not see how either of them can be improved. If a man will think out his plant in advance and determine where he will build if his business grows, and then begin with one laying house and two of the smaller houses, he will make no mistake, but will be in a position to advance from year to year.

LAYING HOUSE.

There seems to be a tendency on the part of poultrymen to-day to larger flocks. There was a time not so long ago when it was believed that twelve or fifteen birds were all that should be kept together where the maximum egg product was desired. It has been found, however, that fowls may be kept together in any number up to fifty with good results, provided they are given ample room and their quarters are kept clean and sanitary. It would seem to be good judgment, therefore, to build a house sufficiently large to accommodate fifty laying hens, and to make this number the unit in one's calculations. Fifty hens in one flock may be cared for as easily as fifteen. They require but one feed hopper, one drinking dish, one box with grit and oyster shells, one dust bath, and all may be fed their grain ration at the same time. A 50-hen house, therefore, is our first consideration.



Laying house on author's farm. Size 12 x 24. Will accommodate 50 hens. Cost of house, $50. The short pitch of the roof is shingled, but the long slope is covered with Parlod.

The house shown in the picture is 24 feet long and 12 feet deep, 7 feet high in front and 4½ feet high in the rear. The foundations are old railroad ties set 2½ feet in the ground and cut off six inches above the surface. There are five of these in front and five in the rear. The end sills and floor timbers are also supported in the middle by piers of stones. This gives stiffness to the frame, although not absolutely needed.

In the construction of the frame, 2x4 joists are used. The sills are 4x4, but no other heavy timber is employed. The uprights are placed three feet apart, and the floor and roof timbers 30 inches. The frame is covered with pine or hemlock boards, and there is a double floor.

The roof is double pitch, with one side much longer than the other. The rafters in the short pitch are 3 feet long and those in the long pitch 10 feet. The distance from the floor to the highest point of the roof is a little over 8 feet.

The house faces south, as all poultry houses should. There are in front two windows of glass, each light 9x12. These windows are made in one piece and are what is known in the East as "storm windows." They are screwed to the frames and are not intended to be removed. There is also one of these glass windows in the east end. This gives a splendid distribution of light, and the house has sunshine all the day long. The windows are set 20 inches from the floor. Besides the glass windows there are two windows for the admission of fresh air, each 4 feet long by 3 feet high. These windows are covered on the outside with poultry wire, and on the inside there are frames made of 3-inch stuff and covered with 10-ounce duck. These frames are so arranged that they may be swung up and fastened to the roof during the day and closed and buttoned at night, or in stormy weather. As a matter of fact, for eight months in the year the frames are fastened to the roof and are not let down at all. The reader will perceive that I believe in plenty of fresh air for hens.

The arrangement of the interior is very simple. There is a roost platform 16 feet long and 3½ feet wide on the back side. This platform is 2½ feet from the floor, and the perches are 8 inches above it. The platform is boarded in at the west end, and if one desires he can arrange a curtain to drop down in front of the birds when they have gone to roost at night.

Running along the west end is another platform 18 inches high and 24 inches wide. This platform is for the nests. Formerly I placed the nests under the roost platform, as is com-

monly the case, but this required so much stooping and pulling out of nests to gather the eggs that I decided to introduce a nest platform, and find it a great convenience. The nests are up off the floor, out of the way, and are easily accessible to both the laying hen and the owner.

The only other furniture in the house is two shelves six inches from the floor, one for the grit and shell box and the other for the feed hopper and the dust box. It will be seen that every inch of floor space except the small amount required for the dust box, is available for scratching and exercise.

The sides and ends of the house are covered with Neponset roofing, painted soon after being put on, and the roof is shingled. A saving in cost might be effected by covering the roof with Neponset, painting it, and then in a few years after, when the Neponset begins to wear through, putting on shingles. I have tried many things, but I have never found anything so good as shingles for a roof. Next to shingles I put Paroid, which is easy to apply and will last for years.

The cost of this house, exclusive of labor, is about $50. It will cost more in localities where lumber is high.

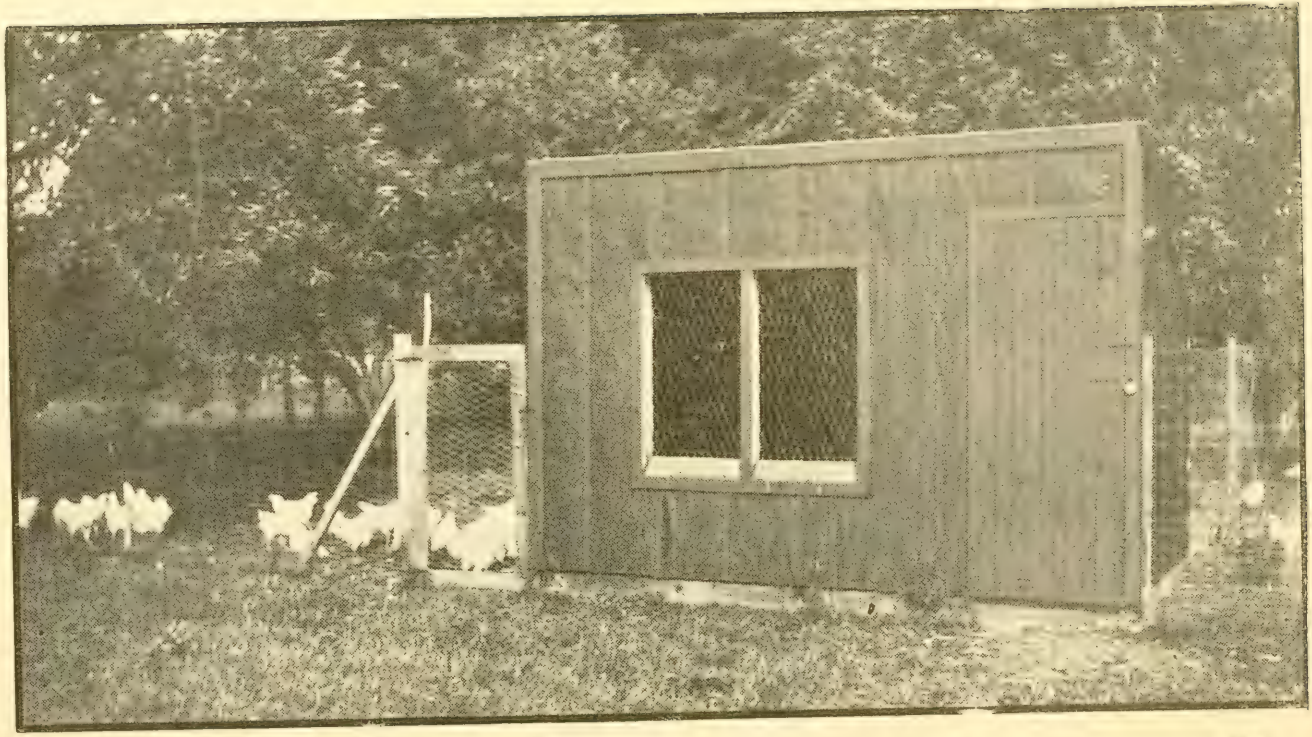
HOUSE FOR YOUNG STOCK.

Besides houses for his laying hens, every poultryman needs a number of houses for his young stock. As a general thing these houses are quite cheaply constructed, and I have known a breeder to rear prize winners in old piano boxes. But where a man is not too greatly cramped for capital, it will pay him to put up good, substantial buildings for his young stock. They will last longer and be more satisfactory. There is a time in the fall when every breeder is crowded for room, and these houses which I am about to describe will come in handy for supplementary quarters.

The houses for young stock are each 12 feet long by 8 feet wide, 7½ feet in front by 5 feet in the rear. The sills, plates, rafters, studs and floor timbers are all of 2x4 stuff, and I put in enough to make a stiff frame.

The floor is double, as in the other house, and is made of boards. The roof is single slope or shed roof, as it is called.

The foundation for the house is made of old railroad ties. Instead of setting the ties in the ground, as is the case with the other house, the ties are sawed into sections 16 inches long and laid down upon the grass and the sills laid upon them. For a light house this answers all right. It also makes it con-



Poultry house on author's farm, 12 x 8 feet. Will accommodate 50 to 60 head of young stock. Cost of house, $25

venient when one wishes to move the house from time to time to get it on new soil.

The house is covered with Neponset put on over sheathing paper, and the roof is covered with Paroid. Both sides and roof are kept carefully painted to protect the paper.

I ought to have added to my description of the laying house that I use some kind of lining or sheathing paper under the Neponset siding. One cannot have a poultry house too wind proof and free from draughts.

In the house for young stock there is no glass window in front, but its place is taken by an open window, 4 feet by 4, divided into two parts by a joist or scantling. This window is covered with poultry wire and is fitted with a curtain which is tacked to a frame. The frame is fastened to the upper joist by three back-flap hinges and the greater part of the time is swung up and hooked to the roof. As the house is used principally in warm weather, the curtain is kept hooked up the greater part of the time, and is only let down and fastened during a storm.

The frame for the curtain is of three-inch boards, with a support running down the center. As the house is not intended to be used in the very coldest weather, the covering for the frame is not of duck, but of cotton cloth, oiled.

As the house would be somewhat dark with the curtain down, if there were no other means of admitting light, I have inserted a single window in each end. The windows are what are known as cellar windows and have three lights each, the square of glass being 10 by 12 inches, and cost 50 cents apiece.

The following is an estimate of the materials required: Hemlock boards, 564 feet; spruce joists, 2x4, 218 running feet; spruce joists, 2x3 (roosts), 24 running feet; matched pine for doors, 20 feet; finish, 3-inch, 60 feet; finish, 4-inch, 60 feet; Neponset roofing, 250 feet; sheathing paper, 250 feet; Paroid, 110 feet. Two small windows for ends, hardware, sheeting, etc. The cost of this house, where a man does his own work, is not far from $25.

I make use of these houses from March up to about Christmas. After the young stock is removed from them in the fall or early winter, they are thoroughly cleaned and disinfected, and the floor is covered with fine gravel or sand. The house is then allowed to rest until needed for the chicks in the spring. When taken from the incubator they are put into these houses,

50 to a house. When the chicks are six or eight weeks old, the brooder is removed, but the chicks are allowed to remain. When they are 10 or 12 weeks old, low perches or roosts are introduced, and the chicks encouraged to use them. When the cockerels get old enough to begin to pay attention to the other sex, they are separated from the pullets and put in houses by themselves.

The pullets are allowed to remain in their houses until they begin to lay, when they are removed to their permanent quarters in the laying house. Sometimes, however, when I am crowded for room, the pullets are allowed to stay longer, even up to Christmas. But I like to get them into the laying house as soon as they begin to lay, for any interference with a laying hen has a tendency to check egg production.

YARDS.

In my opinion too much space is often given to yards, and valuable land devoted to the purpose which could be better utilized in growing crops. Unless the yard is large enough to maintain a stand of grass in spite of the depredations of the fowls, there is no particular need of going to the expense of wiring in a large space; for if you have watched hens in confinement you have doubtless noticed that they restrict themselves to a comparatively small area. They need a place for dusting, for exercise, for outdoor enjoyment, but it need not be large.

Shade is a necessity in the yards, and if it is not provided naturally it must be artificially. Remember that it is in the hot season of the year that the hens are outdoors, and they need protection from the fierce heat of the sun. An apple orchard or a grove of standing timber makes an ideal yard. If there is no shade and trees are to be planted for the purpose, plum and peach should be given the preference, for they grow faster than the apple and give good results.

Yards should run to the rear of the houses, and not to the front. Where yards run to the rear each house is directly accessible, and one does not have to open and shut half a dozen gates and penetrate a labyrinth of yards to get where he wants to go. I believe that I was the first writer on poultry topics to advocate running the yards to the rear, but now many are falling into line with me.

Formerly it was the custom to run a bottom board along the ground, from post to post, nail the wire to, and also to

crown the fence with a top rail; but this practice is no longer followed. It is made unnecessary by the fact that wire is now manufactured with horizontal strands running the whole length, and with meshes smaller at the bottom than at the top. This wire does not sag or buckle and follows the contour of the land.

Posts should be planted one rod apart. Aside from the corner posts, which are subjected to considerable strain, large posts are not needed. Small, cheap posts, which can easily be inserted in the ground by means of a bar and sledge, are as good or better than expensive posts of cedar or chestnut. Young pines that have died on the stump from too close crowding, make excellent posts, and may be bought for about five cents each. Removing the bark and dipping them in hot creosote up to about six inches above their ground line greatly increases their durability. It does not pay to spend much time and money upon the construction of the yards, for the wire should be removed every few years and the ground ploughed up and planted to renovate it.

LITERATURE.—"Practical Poultry Houses" by A. F. Hunter, should be in the hands of all who plan to build. Fully illustrated with half-tone and line engravings, taken from actual photographs on plants, and per drawings of plans by a competent draughtsman—96 pages. Price, 50 cents. AMERICAN POULTRY ADVOCATE, Syracuse, N. Y.

CHAPTER VII.

Incubation and Brooding.

Possibly a man might run a poultry plant and make a success of it and use only hens to hatch and brood the chicks, yet it would take a mighty smart man to do so. In order to secure the laying stock chicks must be got out in large numbers and got out in the spring, and it is not always possible to get a supply of sitting hens when they are most needed. Then it is always the best and earliest laying hens that want to sit first; and to employ them for this purpose means that you lose their egg output when you need it most, and doom yourself to breed from inferior layers. You lose the time of your hens, the feed they consume, and the extra labor on your own part when you hatch and brood in the good old-fashioned way. An incubator is always ready to sit, never breaks eggs, never leaves the nest, never inoculates the chicks with lice as soon as they are born; and a brooder rightly handled and not overloaded will bring up chicks much better than any old hen you ever saw.

SELECTING AN INCUBATOR.

I receive many letters in the course of a year from persons who wish to know what is the best make of incubator. In reply I tell them I do not know, but can tell them the name of the one I run. I suppose there is no best. There are a dozen incubators on the market, any one of which will do good work. "It is the man behind the gun" we used to say during our war with Spain; and it is the man behind the incubator who is responsible for success or failure. The man who gets a 90 per cent. hatch with one machine could probably duplicate it with another if he should try.

The best size for a machine is probably somewhere about 200 eggs. A 50 per cent. hatch is regarded as a good one for an incubator. This will give a man 100 chicks at a run. If he wants fewer he can put in fewer eggs, and if he wants more he can get another machine. A 200-egg incubator may be run with 100 eggs, but a 100-egg machine cannot be run with 200. It takes little more oil, if any, for a 200-egg incubator than for

a smaller one, no more time to attend it, and the 200-egg machine is generally more satisfactory. On the other hand should the hatch go wrong, as will sometimes happen, 200 eggs are enough to spoil; and for this reason I do not recommend the purchase of extra large machines. The 200-egg incubator is the standard.

FOLLOW INSTRUCTIONS CLOSELY.

Accompanying each machine as it comes from the factory is an illustrated chart showing how to set it up and a book of directions for operating it. Follow the instructions closely. It's a difficult thing to beat a man at his own game, and the incubator makers have been at it for years. They are more anxious to have you succeed than you are yourself, for success means that you tell your friends about their machine and so influence future buyers. They ought to know their own machine. Set the incubator where the temperature is the most uniform, least subject to variations. A cellar is the best or the worst place. A cellar that is moderately moist and contains no artificial heating apparatus is the best place for an incubator, and a cellar with a heater or furnace about the worst. After you get the incubator adjusted run it two or three days before putting in the eggs.

SOME INCUBATOR CAUTIONS.

You will trim and fill your lamp once a day and turn the eggs twice; but after doing these things the less you touch your incubator or go near it the better. There is a weird fascination about an incubator, and one can hardly leave it alone. But the less you monkey with it the better. This is especially true in hatching time. The thermometer will do all kinds of stunts, and you will be tempted to keep your hand on the regulator. But if the incubator has been running well through the hatch, let it alone. After the eggs are through hatching it may be well to open the door and quickly remove the egg trays. This will give you a better chance to see the chicks and will give them more room.

The thermostat may need slight adjustment several times during the hatch. The best way to see the thermometer is to use an egg tester to flash light into the machine. This should be done every morning and night before you turn the eggs.

INSURANCE.

Before you start in to run an incubator in your house secure a written permit from your insurance agent to do so. There is very little danger of fire from an incubator; and the company would probably indemnify you even if there were no such addenda to your policy. But it is better to be safe than to be sorry. Most companies grant such a permit upon application, while a few refuse to do so. If you are insured in a company of the latter kind the only thing to do is to surrender your policy and take out another in a more progressive concern.

TESTING THE EGGS.

Eggs should be tested at the end of the seventh and again at the end of the fourteenth day. In the first test all infertile eggs should be removed. These may be told by the fact that they are perfectly clear, while the fertile eggs show a dark spot from which radiate red, spidery lines. An air cell also has begun to form. In the second test it will be found that some of the germs that began to develop have died, and these eggs should be taken out. A little practice will soon enable one to distinguish a fertile from an infertile egg, and to tell whether the egg is incubating satisfactorily or not.

THE MOISTURE PROBLEM.

Why is it that the best incubator made will seldom hatch as large a per cent. of the eggs as a hen? The common idea is, lack of moisture. Incubator manufacturers say otherwise. They say that the air constantly circulating around the eggs supplies moisture, and that no artificial moisture is necessary. I said just a moment ago that the reader should follow the instructions of the manufacturer carefully and not think he can beat a man at his own game. But in the matter of moisture I am inclined to make an exception—I believe there are times when moisture may be supplied to advantage.

A certain amount of evaporation is necessary from the egg, whether in an incubator or under a hen, or the air cell will not form, and the chick will die. But if the evaporation is too great the chick becomes weak and shrunken and the membrane inside the shell tough and leathery, so that when the period of incubation is completed the chick cannot extrude itself. The problem, therefore, is to keep the air cell the right size. A good way for the beginner is to set some eggs under

a hen at the same time he starts his incubator, and whenever he tests the eggs in the incubator to test those under the hen. If the air cell in both cases is the same size, the moisture problem is taking care of itself. But if the air space in the eggs in the incubator is much larger than the air space in the eggs under the hen, evaporation is too rapid and should be checked. Moisture may be supplied by means of water in shallow pans set under the egg trays, by a wet sponge introduced into the incubator, by shallow boxes filled with wet sand, or by sprinkling the eggs with water of the temperature of 95 degrees.

VENTILATION.

Closely connected with the subject of moisture is the subject of ventilation. During the first four days of incubation the germ will develop with very little ventilation. After the fourth day the air cell begins to form, and then more ventilation is necessary; on the seventh day the germ requires treatment according to local conditions; in cold weather, more heat and less ventilation; in warm weather, less heat and more ventilation. At an altitude of 500 or 1,000 feet, more ventilation; at an altitude of 4,000 feet or more, less ventilation. In extremely dry weather or in a high altitude, about the same quantity of ventilation is required the third week as during the second.

REMOVING CHICKS TO THE BROODER.

Chicks may be allowed to remain in the incubator for 24 hours after the last one has come out; they should then be removed to the brooder. Meanwhile the brooder should have been got in readiness. If it has been used before it should be washed out thoroughly with warm water and carbolic acid soap. The lamp should be cleaned and the burner boiled out. A new wick should be put in. After the brooder has dried out carpet the floor with half an inch of sand or soft earth and then start the lamp. The brooder should be thoroughly warmed up before the chicks are put in.

The temperature under the hover should be 95 when the chicks are introduced, and should be kept at 95 the first week. Then it may be reduced a degree a day until it gets down to 70. Some men use no thermometer, but can tell whether the temperature is right by the action of the chicks: if they bunch

together they need more heat; if they spread out and appear contented the temperature is right.

MANAGEMENT AND CARE OF BROODER CHICKS.

Brooder chicks come out from one to three months earlier than chicks raised in the natural way, and consequently the mortality among them is likely to be greater. The brooder itself should be kept clean. Every few days the litter should be removed and replaced with fresh sand or earth. The chicks should be given as much liberty as is consistent with safety. They should be let out of the brooders into the brooder house. It will be necessary to make a little fence of boards around the brooder for the first day or two after they are let out, and to guide the little things back into their house when they begin to show signs of being cold. But they soon learn. And in a short time they may be allowed to go in and out at their own free will.

It is a good plan to keep the floor of the brooder house covered with sand or earth, and to sprinkle it from time to time. There is such a thing as having the brooder house too dry. Mother Earth has a natural moisture which must be reproduced in the brooder house if the chicks are to do their best. Not over 50 chicks should be put together.

HOW TO FEED.

The chicken business has been relieved of much of its drudgery by the introduction of the dry feeding method. The poultryman throws in a few handfuls of chick feed four or five times a day, and the chicks do the rest. But there is room for a few suggestions even here. Chicks need vegetables to balance the grains of which the chick feed is composed. A blood beet cut in two or a mangel will be eagerly attacked. The heart of a cabbage is good. Onions chopped fine are relished. A handful of beef scraps scattered over the floor once a day will be found and devoured. It is a good rule never to give little chicks more chick feed or cracked corn at a time than they will eat up clean.

I find it a good plan after the chicks are three weeks old to keep before them all the time a mixture made up as follows: bran, two parts, ground alfalfa, two parts; bone meal, one part; a little salt, a little charcoal. This is fed dry, and is in addition to the chick feed and vegetables. I ought also to add that I keep clean, cool water before my chicks from the very start.

When my chicks are six weeks or two months old then I let them out into their yards. From now on I use the hopper system of feeding, and keep feed before them all the time. In one compartment of the hopper is a dry mash made as follows: two parts ground alfalfa, two parts mixed feed, one part beef scraps, a little salt, a little charcoal. The ingredients are compounded by bulk rather than by weight. In the other compartment of the hopper I keep cracked corn. In their yards the chicks find grass, bugs, worms, and later in the season apples, peaches and plums. As soon as practicable I separate the sexes, and always aim to keep chicks of the same size together.

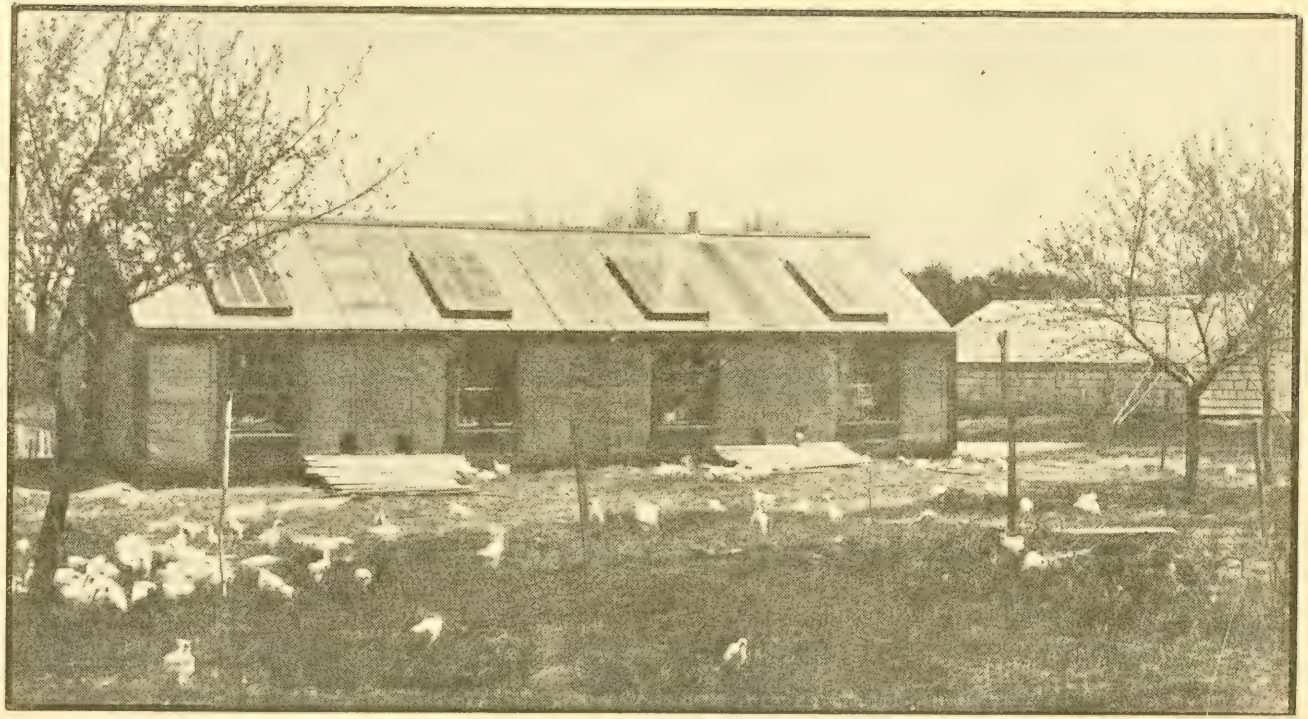
BARTON BROODER SYSTEM.

Where one desires to get out chicks early and in large numbers, something like a brooder system is necessary. Brooders such as are sold on the market do not do their best work with the thermometer at zero; they are intended for a milder temperature. When used in mid-winter they need to be kept in a house in which there is a fire. Consequently on large plants where extra early chickens are wanted, they are generally raised in large brooder houses in which the pipe system has been installed. But this is expensive. Not every man feels capable of running a steam heater. Under the pipe system the mortality is likely to be large at best, and in case of an accident a man may see all the chickens he has on hand perish in a few hours. A system less expensive than the pipe system and where the unit is the individual brooder would seem to be what is wanted in the poultry world.

My friend, Mr. O. P. Barton of Seabrook, N. H., has devised such a system, and when its merits are known it is likely to supersede all others. A description of this system will be worth many times the price of this book to anyone interested in artificial incubation and brooding.

Mr. Barton has lately built a new brooding house in which his ideas are more fully worked out than in previous ones, and I feel that I can best explain the system by describing the new brooder house both outside and inside.

The brooder house shown in the cut is 16x40 feet, and runs north and south. It has five-foot posts, and the height from the sill to the apex of the double roof is 10 feet. The sills are of 4x6 stuff, but all the studding, plates, rafters, etc., are 2x4. The floor is of earth. The building is covered on the roof, sides and ends with a patent roofing.



Exterior Barton Brooding House.—Notice the number of Windows. "There is nothing so good for chicks as sunshine." In this house Mr. Barton broods 2,400 chicks a season.

What impresses one most about the building when he sees it for the first time is the number of windows. I don't know whether Mr. Barton is a member of the Masonic fraternity or not, but he certainly believes in light. "There is nothing so good for chicks as sunshine," he says. There are 19 windows in the house, if I have counted right—four on each side, four on each side of the roof, two in front and one in the rear. The side windows are half windows, each with six panes 10x18; the roof windows are each four feet ten inches long by two feet eight inches wide; the front and rear windows are also of generous size.

Opening the door in the south end one steps inside, and if the season is winter the transformation is remarkable, for we are in a place where sunshine, warmth and life hold carnival. Running the whole length of the house is a central walk or aisle, a little over five feet wide. At the north end there is a stove, in which, however, fire is kept only in the most arctic weather. On both sides of the aisle there are two tiers of shelves, which make one think of the bunks in a logging camp, or, better, the exhibition pens at a poultry show. These shelves are divided into compartments, each containing 53 1-3 square feet. Each compartment is 10 feet long and five feet four inches wide. Each compartment has a board floor and is enclosed by a wire frame or fence two feet high, so arranged that it can be raised or lowered at will. When in place the fence is secured by wooden buttons.

There are four of these pens or compartments in each tier, and as there are two tiers on each side, there are 16 pens in all. As each pen will hold comfortably 50 chicks, the capacity of the house is therefore 800 chicks. But as it is not intended to hold the chicks more than six weeks it can be used two or three times in a season. Mr. Barton estimates that in a house like this he can brood 2,400 chicks from January to July.

The hovers themselves are of the very simplest construction. Those in the upper pens are two feet three inches square, and those in the lower pens two feet six inches. They are made of narrow matched boards, beaded and mortised together, and are set on wooden legs—those in the upper pen five inches high and those in the lower six inches. The curtain is of thin oilcloth. Mr. Barton uses a double curtain, or rather two curtains, so arranged that the flaps "break joints," so as to retain as much warmth as possible under the hover.

Heat comes from a lamp set on a little shelf directly under

the center of the hover. The shelf is secured by iron straps running from the shelf to the floor above. The lamp is an incubator lamp with an "indestructible" glass chimney.

Above the chimney a circular hole is cut in the floor of the brooding compartment, four and a half inches in diameter, and this hole comes under the exact center of the hover. This hole is protected by a tin collar, which projects an inch or two above and below the floor of the compartment. Above the tin is a circular chimney or screen made of fine meshed wire, and extending upward to within an inch of the roof of the hover. Above this a tin plate is tacked to the hover to protect the wood from too great heat.

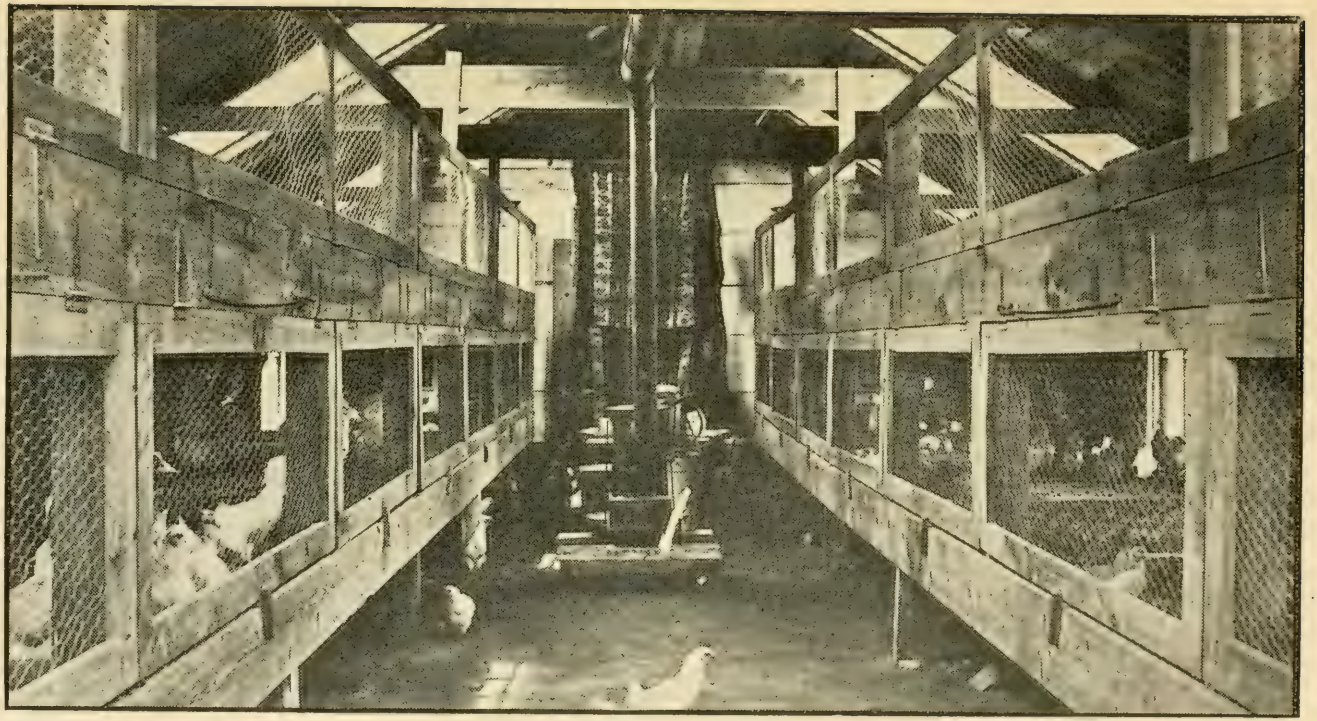
Chicks are taken from the incubator and placed in these compartments, and in a surprisingly short time they learn how to adapt themselves to their surroundings. Mr. Barton uses no thermometer, but turns on more or less heat according to the weather. At first it seemed to me a mistake to use no thermometer, but now I have thought it out I can see why none is needed. The heat under the hover must vary in degree according to the distance from the chimney or heater, being considerably greater near the center than at the edges. Unlike other hovers that I know anything about, the center of the hover is the lightest part, and this naturally attracts the chick as he seeks shelter. As he becomes warm he retires further back, and in this way is always able to find a temperature that suits his needs.

It will be seen that this brooder of Mr. Barton's violates several principles that have been considered well established. The fumes of the lamp pass directly up into the hover, but the chicks seem to suffer no ill effects from them. Indeed a healthier or happier set of youngsters it would be hard to find. I know many men who have made a study of artificial incubation, but I never met a man who can get such a growth on chicks in a given time as Mr. Barton.

The cost of the brooder house and equipment described here was $150, but it is doubtful if it could be duplicated under $200. But even at $200 it is the cheapest and most practical brooder system that the writer knows anything about.

WHITE DIARRHOEA.

This is the fatal foe that attacks incubator chicks and makes them fade away like the mist before the morning and die like flies at the approach of autumn. So serious is the disease that



Interior Barton Brooding House, showing the Tiers of Shelves or Bunks for the chicks. The smaller chickens are kept in the upper tiers, the larger in the lower. The chicks in the aisle are eight weeks old.

it is predicted in a few years, if a remedy is not found, it will be as difficult to raise chickens as it is now to raise turkeys. The symptoms are a thin white discharge from the vent soon after the chicks are hatched, accompanied by dullness and weakness, which almost always proves fatal.

Mr. Barton thinks he has found a remedy, or rather a preventative, for this dread scourge; it is to spray thoroughly with a good germicide or disinfectant. Before using the incubator he sprays it with a solution of sulpho-napthol—one teaspoonful of sulpho-napthol to one quart of water. He also sprays the eggs on the 12th, 15th and 18th day with the solution, applying it by means of a whisk broom. Since adopting this method Mr. Barton has practically eliminated the disease from his houses.

CHAPTER VIII.

The Laying Stock.

Someone has said that it takes three generations to make a gentleman. Paraphrasing this remark, I would say that it takes at least three generations to make a strain of laying hens. Blood will tell, and like begets like. It is true that nutrition is a powerful factor in egg production, but nutrition must be supplemented by heredity for best results. You can't get eggs out of a hen unless the eggs are there, any more than you can get water out of an empty well or seeds out of a navel orange!

SELECTING THE BREEDERS.

How shall we tell what birds to breed from? Of course where trap nests are used the answer is comparatively easy. But few poultrymen can take time to bother with trap nests; they have troubles enough without them. So some simple method must be thought out. At the Maine Experiment Station, where they are doing some of the best work in poultry study in the world, it is found that the pullets that mature earliest make the best layers, as shown by the trap nest. By maturing, I mean reach full development and do not begin to lay prematurely. Says Bulletin 117: "Early maturity in pullets is generally accompanied with physical vigor; and when the function of such birds is to produce eggs and they give evidence of it, they are certainly the best of their race to breed winter layers from, if we accept past experience in breeding as our guide."

THE PHYSIOLOGICAL TEST.

The practiced eye can tell at a glance whether a pullet is ready to lay or not. As she approaches this interesting stage her plumage brightens, her comb reddens, and she becomes more than ordinarily alert. She begins to croon her mother song—to "prate" or "talk eggs," as it is often called. She is hungry all the time. But there is a physiological test which

I shall now describe which is of great value, and which may be used to confirm the results of observation.

It is a well-known fact that in all mammals the pelvic bones soften and separate before the female is delivered. The pelvic bones are "the two or more bony or cartilaginous pieces of the vertebrate skeleton to which the hind limbs are articulated." Something analogous to what takes place in mammals takes place in fowls. In the case of a male or a non-laying female the pelvic bones are close together, but in the female as the time approaches for her to lay, the bones separate and become pliable until it is possible for an egg to pass between them. Such being the case, it is possible to determine the female's condition in respect to egg production by examination and manipulation of the pelvic bones—the bones found just below and on each side of the vent. If these are sufficiently far apart or can be forced apart by gentle pressure so that an egg might pass between them, the hen is in laying condition, but if they are close together and rigid, the hen is not ready to lay. In the case of a young pullet the pelvic bones are close together, but as the egg begins to develop the bones begin to separate until as she approaches ovulation they are an inch or more apart. In the case of heavily-laying fowls I have known the pelvic bones to be separated by at least two inches.

PULLETS PAY BEST.

It is my experience that pullets lay better and are more profitable every way than hens, and that cockerels are better to breed from than older males. I know that this statement as it stands will be challenged, and I want to qualify it so that it cannot be misunderstood. I do not mean that one is to breed from undersized, immature pullets, nor from cockerels that have not reached the limit of their growth; but where a pullet is hatched in March and begins to lay in October she ought to be mature enough the following March to make a good dam. And a year-old cockerel is old enough to make a good sire. The advantage of keeping young stock is more eggs, less sickness and higher fertility than with old.

I recognize the fact that there are exceptions to this rule. A man may have breeders of such vigor and value that it will pay him to keep them for years. In exhibition poultry if a man has a prize winner he had better keep it until a superior is found, even if it is old enough to sprout whiskers. But on the ordinary commercial plant, where sentiment does not rule,

where a man is after the dollars, the quicker he can turn his stock the better; and if he renews his laying pens every year, his dividends will be all the larger for it.

CARE OF THE HOUSE.

The poultry house should be kept clean and supplied with everything needed for the health and comfort of the fowls. When I speak of keeping a house clean, I speak relatively. I do not expect it to be kept as immaculate as a lady's parlor, but to be kept clean enough so that the health of the fowls will not suffer. The droppings should be removed at least once a week or sprinkled over with land plaster or sifted coal ashes, and the roosts and side supports should be kerosened once a month in winter and once a week in summer. It is a good plan to sweep the walls and ceiling and whitewash twice a year. During the winter the floor should be covered with litter, which should be renewed frequently. In each pen there should be a dust box kept well filled with sifted coal ashes, so that the hens can take a bath whenever they wish to.

FEEDING FOR PROFIT.

Readers of my book, "200 Eggs a Year Per Hen," will find in it the subject of feeding treated with considerable detail. Several methods are given, and if the poultryman follows any one of them he will not go astray. The whole matter of feeding is summed up as follows:

"Give the hen a sufficient variety and quantity to meet all the needs of her system and leave a margin for egg production. A warm mash in the morning, all she will eat with good relish in 15 minutes to half an hour. Enough grain during the day so that she will go to roost with a crop moderately full, neither distended on the one hand nor nearly empty on the other. Green food, either in the mash or separately. More heating food in winter and more of it than in summer. In general it may be said that one ounce of food a day for each pound she weighs is about right for the average hen."

Since this was written the method of dry feeding has come into considerable prominence. This method consists in feeding the hens the same products that are fed them by the usual method, but in feeding them dry—in other words the wet mash is eliminated. Feed is placed in hoppers and kept before the

fowls all the time, and they are allowed to help themselves. A modification of the method is to throw the grains into the litter and let the hens scratch for them, while the mash is fed from the hopper.

The great argument in favor of this method is economy of time. Everyone who has fed a mash knows how long it takes to mix it up so that it will be of the proper consistency and feed it to the hens. Where a wet mash is fed it makes it necessary to be at the hen house at a given hour each day, while under the dry mash system enough feed can be placed in the hopper to last the flock a week. It is said that under this system a man can take care of at least four times as many hens as he could in the old way.

A secondary argument in favor of the system is that all the fowls get enough to eat. Where a limited quantity of food is placed before them the more aggressive and stronger hens get the lion's share. As I have heard it expressed, one-third the hens get two-thirds the mash. But under the dry-feed system there is enough for all—none are turned empty away.

Probably the dry feed formula that is the most popular is that used at the Maine Experiment Station, and is as follows:

Wheat bran, 200 lbs.
Corn meal, 100 lbs.
Wheat middlings, 100 lbs.
Linseed meal, 100 lbs.
Beef scraps, 100 lbs.

Part of the year the linseed meal is omitted, and the amount of beef scraps doubled.

Another formula that I have used and found very satisfactory is this:

Mixed feed, two parts.
Ground alfalfa, two parts.
Corn meal, one part.
Gluten, one part.
Beef scraps, one part.
Salt, charcoal.
Compound by bulk, and not by weight.

Perhaps a step in advance is to supply the different ingredients and let the hens help themselves. I do not believe that it is possible for a man to compound a ration that will perfectly meet the needs of a flock of 50 fowls, day after day, six months at a time. One reason is that their needs differ on different days. On a cold day, for example, they need a ration rich

in carbohydrates, and on a warm day more cooling food. A hen that is laying needs more protein than one that is about to sit, and a hen that is moulting needs a different diet from one well supplied with plumage.

The logical and scientific way to feed, in my judgment, is to assemble the different ingredients in a large hopper with at least half a dozen compartments, and give the fowls access to this hopper at all times. The grains should be scattered in a deep litter twice a day, but the soft feeds may be kept constantly before them.

Let the hens mix their own mash! This is the next step in advance in poultry feeding.

THE WET MASH.

There are some who still prefer the wet mash, thinking it more digestible and appetizing. Let such compound a mash, using either of the formulas given, and then let them stir it up with boiling water until the whole mass is moist, not sloppy. Feed all the fowls will eat clean in half an hour. Feed morning, noon or night as you may prefer.

GREEN FEED.

Green feed of some kind is necessary if the hens are to keep in good health and do their best in egg production. In order for the food to be digested the gastric and pancreatic juices must circulate freely, and where the food is concentrated these juices cannot penetrate easily. Consequently, digestion is not so thorough. Green feed lightens up the mass, and also supplies a mild vegetable acid that acts as a tonic to the system.

After the feed has passed through the crop and gizzard it enters the intestines, and it is passed along by peristaltic action until it is either absorbed or eliminated. It is evident that the intestines can do their work more easily if they have to deal with a soft, moist, porous mass than they can if they have to push along dry, hard, concentrated fecal matter. Thus the health of the fowl demands that the ration shall be bulky rather than otherwise, and that green feed shall form a considerable part of it.

Where hens have a free grass range they will secure their own supply of green feed during the summer months; but where they are confined in their pens or shut up to yards

denuded of all vegetation, they must be supplied by their owner.

Second growth clover is an ideal green feed, if it can be produced at a moderate price. It need not be cut up, but may be fed on the stalk, say a bushel a day to every 25 hens; and the stalks may be allowed to remain for litter.

Cabbages are excellent, and so are mangels. Mangels may be grown with little labor, and a small plot of land will produce a generous supply, as they grow to immense size.

Onions are good in limited amounts, but fed too freely they flavor the eggs. Cabbages and mangels may be fed whole, but onions should be chopped.

GERMINATED GRAINS—FEED 15 CENTS A BUSHEL.

Where green feed is not forthcoming in sufficient quantities it can be manufactured with a little effort. It is a well-known fact that seeds will germinate at any season of the year if supplied with sufficient warmth and moisture. Poultrymen are now taking advantage of this knowledge to produce green feed in winter. The process is thus described by Mr. L. E. Keyser in the Petaluma Weekly Poultry Journal:

"Take a quantity of clipped or whole oats and soak them in water for 24 hours. Then pour off the water and place the oats in a shallow box which has holes in the bottom to let the water drain off. Night and morning water the oats, using a sprinkling pot and warm water. Spread the oats out in the box to the thickness of about two inches. This may be done as soon as the oats are placed in the box, or they may be left in a pile until they begin to sprout; but continue to water them night and morning. In ten days or two weeks, depending on the temperature of the room where they are kept, they will be ready to feed. The sod should be from three to four inches thick, and the growth of green food on top of this will be from six to eight inches high. To feed, cut into blocks eight to ten inches square. By this process one bushel of oats will make about four bushels of feed. . . . With oats at the present price . . . this feed costs 15 cents a bushel."

Barley is recommended by another writer in the same paper, Mr. N. S. Trowbridge, as a substitute for oats. Barley possesses nearly the same constituents as oats, but as it germinates more quickly is more desirable for use in winter. The method of preparation is the same. The oats or barley should be germinated in a moderately warm room, preferably a cellar.

EXERCISE.

Laying hens cannot keep in good health and produce the maximum number of eggs without a reasonable amount of fresh air and exercise. They do not need to be kept on the jump from morning until night, and a poultry house is not a camp for consumptives. But a certain modicum of fresh air and exercise they must have if they are to do their best work in egg production.

Exercise breaks down the old tissues, which must be replaced with new ones. It is on the new wood that the tree bears its fruit, and it is with the new tissues that the egg-making organs are stimulated. Where the old tissues are not broken down with sufficient rapidity, the fowl takes on fat, becomes lazy, and comparatively few eggs are produced.

No matter what system of feeding is adopted, the hens should be made to work, and work hard, for a part of their ration. To this end the grains that are fed should always be scattered in a deep litter, and the hens compelled to dig them out.

While hens are at work in the house the windows should be opened, and closed when they are through. On every pleasant day in winter, when the snow is not too deep, they should be let out in their yards for a little while. A few minutes' exercise with the snow shovel will furnish the biddies with a patch of bare ground which they will greatly appreciate.

Mr. O. P. Barton, whom I have referred to more than once in this book, hangs two lanters in each pen at five o'clock every winter morning; and the hens get down from the roost and make the litter fly. In this way he adds two hours to his hens' working day. The first week in January this year (1908) he got 649 eggs from 158 hens, the highest number for any one day being 106. Thus Wisdom is again justified of her children.

SICKNESS IN THE FLOCK.

Where hens are kept under sanitary conditions and fed properly, there will be but little sickness. After more than 10 years' experience I have come to the conclusion that it seldom pays to doctor sick hens—they rarely get well and are not worth a continental if they do. They are worthless for breeders and receive a check in egg production from which

it takes months to recover. The hen in her normal state lives fast—her temperature is high, respiration rapid, digestion good. She enjoys life to the utmost in her way. She is like a six-cylinder, 40 horse-power automobile on a good road—as long as the road is clear all is well. But let her strike an obstruction, take too sharp a curve, or let some piece of hidden machinery give way, and the result is disaster and death. I am not sure but that God intended this to be so in the case of all his creatures. A crowded, vital life, the concluding tragedy sharp and short—is not this better than dragging out 10 to 20 years of chronic invalidism? I am not sure but that the animals have the best of us in this matter after all.

The only diseases that I have found it to pay to bother with are those that can be treated by the wholesale, and minor accidents. Colds may be met by putting a teaspoonful of aconite into a gallon of drinking water or giving in the drinking vessels a few doses of some good roup remedy; and leg weakness among brooder chicks by putting a few drops of nux vomica into their drinking vessels and feeding a less stimulating diet. A dessert-spoonful of castor oil for males and for females of the larger breeds is to be recommended where the comb turns purple and the liver is sluggish. Reduce the dose for smaller birds. Apply carbolated vaseline to frosted combs and wattles. Impaction of the crop is easily relieved by a slight operation; and scabies, or scaly legs, can be cured by spraying the legs with kerosene. Bumble foot may be cured by soaking the foot for half an hour in water as warm as the hand can comfortably bear, putting on a flaxseed poultice until the abscess discharges, and then anointing the foot with an ointment made of one part boracic acid and five parts vaseline. It is of course understood that the foot is to be kept bandaged while the poultice and dressing are applied. Put the fowl in a house with low perches.

When disease breaks out in the flock remove the sick to the hospital, put the worst cases out of their misery, and give the milder ones a chance to get well. Feed lightly on warm mashes. Thoroughly clean up and disinfect the premises.

BROODY HENS.

Where a large egg output is desired, the key to the situation is found in the treatment of broody hens. Broodiness is nature's signal that the vital forces have been drawn upon in egg production and that the hen needs rest. When I find a

broody hen on the nest at night, I remove her to the breaking-up pen, carefully noting down in a memorandum slip the day of the month and the hen's pen and number. The breaking up pen differs from the other pens only in one particular—the nest boxes have been removed. In this pen the broodies have their headquarters until the fever abates. They are fed lightly —not more than one-fourth the usual amount—and are given access to a grass range. Most people are in too great a hurry to break up sitting hens. Do not bother them, but let them take their own time. In a week or ten days they will be cured.

LITERATURE.—"200 Eggs a Year Per Hen" by the author of the present book, is an invaluable treatise on egg making and its conditions It deals with the elementary principles that every poultry keeper should know, and has had a sale unparalleled in the history of poultry literature—96 pages. Price, 50 cents. AMERICAN POULTRY ADVOCATE, Syracuse, N. Y.

CHAPTER IX.

Business Methods.

Some of the best and most hard-working farmers that I know anything about make only a bare living from the cultivation of the soil. Others who do not work nearly so hard get ahead every year. What is the reason for this seeming favoritism of Fortune? It is that the latter are better managers; they buy to better advantage, sell at better prices, and look more closely after their own interest. As a consequence they make a grand success of farming, while the others make only a moderate success or perhaps a failure.

Poultry keeping has its business side. The poultryman has to buy and has to sell. He has capital invested. In one way he is a business man. It should be his ambition to conduct his business on business principles.

KEEP ACCOUNTS.

One reason why more farmers do not keep accounts is that in treatises on the subject farm accounts are made too elaborate. The farmer is supposed to fit himself out with a set of books similar to those of the merchant or manufacturer who does a business of a hundred thousand dollars a year. This is all nonsense. The simplest kind of bookkeeping is enough. Reduced to its lowest terms all the farmer needs is to set down on one page his receipts and on the other his expenditures, and add them up and balance them at the close of each month.

Let the farmer set down on the left hand page what he receives in the course of a month.

And on the right hand page what he pays out during the same time.

A good sized diary is as good a book as any for this purpose, as it is provided with pages for the cash account. In the diary, too, the farmer may set down his engagements or obligations under the date on which they fall due, and also the date in which accounts in his favor are to be paid. If he

desires he can jot down under the appropriate dates interesting and important facts pertaining to his business: price of eggs or fowls, price of grain and other feed stuffs, condition of markets, etc. In this way with very little trouble the farmer can always know approximately how he stands.

Once a year a man should balance his accounts and take an inventory of all he has on hand. In this way he can tell whether the year's business has been conducted at a profit or at a loss. If at a loss by studying the itemized accounts he may possibly be able to determine how he can retrench more closely in the year to come. And if at a profit he may perhaps discover how next year the profit may be increased. In taking an inventory the farmer should be perfectly honest with himself, and allow for deterioration in values on account of the year's wear.

Sometimes it is desirable to keep accounts with animals or impersonal things—such as a horse, a herd of cows, a flock of hens, an orchard or a field. It is a convenient plan to personify the animals or thing, and in your own mind think of Mr. Horse or Madame Cow or Mr. Field.

Write on the left or debit side all that you expend in money or labor for the benefit of the animal or thing personified.

And on the right or credit side all that the animal or thing personified brings to you in return.

Receipts should always be given and taken where the amount exceeds five dollars. These receipts should be filed away for reference. I find a stout Manila envelope, 7½ by 10½ inches, with a patent clasp, excellent for this purpose. On the cover I write the year, and keep receipts for any given year together. The practice of preserving receipts has saved me more than once from paying a bill the second time.

WHAT IS NEEDED ON A POULTRY FARM.

The poultry farmer has a great advantage in one particular; he does not require such an expensive outfit as in other kinds of farming. Poultry farming is light work, and one does not need a heavy team or heavy machinery. It is cheaper to hire occasionally than to lock up good money in tools and machinery that are seldom used.

There are some things, however, that a poultry farmer must

have. First and foremost, I place a horse. It does not seem like living in the country not to keep a horse. Half the pleasure of country life comes from the ownership of a good family horse. Horses are very high now, but if one knows how, he can get a good one at a reasonable price. On a poultry farm a man does not need a heavy horse—one weighing from nine to ten hundred is heavy enough. Light horses can be bought considerably less than heavy ones. The older the horse, too, the less the selling price. And yet a horse 15 years old that has always been well cared for and kindly used will outlast a horse half his age that has been overworked or neglected. There are often chances to get a good family horse at a nominal price, on condition that the horse be well cared for and put out of the way when his days of usefulness are over. And in the fall a horse can be bought cheaper than at other seasons of the year.

Carriages, harnesses, robes, etc., may be bought new, or may often be purchased at less than half of their original price at second-hand. There are always those in every community who for one reason or another have these things to sell, and if you are looking for good value rather than latest style you will do well to call on them.

Incubators and brooders. I have already stated what I think of them. I don't see how a man can conduct an up-to-date poultry farm without using both.

Bone cutter. Where a man can get plenty of bones and has plenty of time and muscle at his command, a bone cutter is a splendid investment.

Other things needed: a root cutter, wheelbarrow, grindstone (a good size is three inches thick and two and a half feet in diameter), small crowbar, pickaxe, shovels, hoes, scythe, lawn mower, pitch forks, drawshave, steel square, saw, about No. 9, pruning saw, planes (fore plane and short jointer), level (24 inch), set bits (Wright-Jennings, ⅜, ½, ¾), bit brace (ratchet), hammer, axes, chisels (½ and 1), mallet (wooden), lantern, etc.

ECONOMY IN FEEDS.

One of the great problems that confronts the poultry keeper is to keep down his feed bills. There are times in the year in the poultry business when comparatively little is coming in; at such times it takes the heart out of a man to pay out a dollar and a half or two dollars a day for feed, when perhaps there is not more than fifty cents coming back.

The two elements that are needed in feeds are protein and carbohydrates, or things that build up and things that warm up. The great source of protein is beef scraps or blood meal or feed of this sort; and beef scraps and blood meal are both expensive.

Green ground bone is an inexpensive source of protein, after the first cost of the bone cutter is taken out. I do not see how a poultryman can carry on operations without a hand cutter, or a power cutter if he keeps a large number of fowls.

Where shall a man find the bones after he buys his machine? This is quite a problem with many. Strange to say it is easier to find bones in large quantities than it is in small. If a man will use all the output of the shop he can generally make a contract with his butcher to get all the bones he has to spare at from one-third to one-half a cent a pound. Hotels and boarding houses will be glad to set aside their bones and waste meat for him if he will guarantee to call once or twice a week.

If a man is going into business on this scale it will pay him to install an engine and cut up his bones by power. A three-horse-power gasoline engine may be purchased new, but a second-hand one can be bought for much less and will do equally as good work. The other day I had an engine offered me at a big discount which had been used by the manufacturers simply for exhibition purposes.

There is good money, if a man has an engine and a power bone cutter, in cutting bones to be retailed to other poultry keepers. Ground bone will sell in ten pound packages for twenty-five cents, or two cents and a half a pound. A man who was once in the business told me he could clear $5 a day two days each week selling bones to people in his neighborhood; and $5 a day in winter looks pretty good.

There is a trick in cutting bone, whether by hand or by power, which it is well to know. Bone will cut much easier if it has been frozen, and meat that is frozen will cut up clean and not clog the machine.

The cheapest feed that I know anything about that will make hens lay is boiled potatoes and green ground bone, in the proportion of four parts potatoes to one part ground bone. In this combination I am assuming that the poultry keeper makes his own ground bone and also uses a grade of potatoes not worth over 10 or 15 cents a bushel.

Indian corn is a valuable feed for hens, if not used exclu-

sively. The town in which I live is a great corn town. The soil is a sandy loam, easily worked. The beaches after a northeast storm afford a large supply of seaweed. Corn can be produced for 33 cents a bushel. The way I feed it is on the cob. There is no danger of giving the hens too much if other things (such as clover, green ground bone and waste potatoes) are fed. It ought not to cost over 75 cents a year to feed a hen if a man is so situated that he can raise some of the feed and also take advantage of the markets to get bargains when they are offered. Where everything is bought (at the present high price for grain) it costs twice that.

Where it is necessary to buy feed one can get a good discount by paying spot cash and purchasing in ton lots.

ECONOMY IN BUILDING.

There was never a time, I am told, when it cost so much to build as to-day. Lumber and labor are higher than ever before. Unless the poultryman has an unlimited supply of money it will be necessary for him to practice the utmost economy in building, or he will exceed his estimates.

On many farms, especially in the East, there is a stand of pine or spruce sufficient to furnish all the boards a man needs for his plant. The tops and branches will pay for the cutting, and the owner will get his material for the value of the stumpage. Where there is no timber lot on the farm, it is often possible to pick up small lots of boards from the farmers far below the listed price.

Clapboards are especially high, and unless one has access to a clapboard machine and can saw out his own clapboards, it will be better to cover the sides and ends of his houses with some good roofing material. There are a dozen kinds on the market, but I have found nothing better than Neponset and Paroid.

Poultry houses are simple in construction, and if a man has any mechanical ability he can build his own. Where it is necessary to hire, one can often find a carpenter who is not a fine workman, but who is speedy and who will do twice as much in a day as a man who has the reputation for being more particular. Give him a boy for a helper, and it is surprising how fast a house will grow under their hands.

MARKETING THE PRODUCT.

On nearly every article sold in the stores, at least three profits are made—the producer's, the jobber's and the retailer's.

The problem of the producer is to eliminate the jobber and if possible the retailer. It is self-evident that if a man can make three profits instead of one, his business will be far more lucrative.

The poultryman is a producer. But between him and the consumer there are several others to be considered. The poultryman sells to the country grocer, the country grocer to the commission merchant, the commission merchant to the city grocer, and the city grocer to the consumer. Here are four profits to be made. It should be the aim of the poultryman to secure as many of these profits for himself as possible.

The simplest way is to eliminate the country grocer and ship directly to the commission man. It is comparatively easy to get the address of several reliable commission men and to keep in touch with them. Every commission man that does any amount of business publishes a market report, and he will gladly put your name on his mailing list. The commission merchant is as anxious to get good stuff as you are to sell, and will go out of his way to capture your business.

The next step in advance is to eliminate the commission merchant and to do business with the city grocer direct. In order to do this, it is necessary to produce a gilt-edge product and to produce enough of it to make it an object for the city grocer to buy. This trade is secured by correspondence and personal interview.

The final step is to eliminate the city grocer and deal directly with the consumer. Not every man is qualified to do this. But far more can do it than imagine they can. To devote one day a week to calling on city customers is a pleasant break in the monotony of farm life, and yields big dividends in the shape of maximum returns for one's products.

THE JEWISH TRADE.

The Jewish trade has become an exceedingly important trade to cater to. Whatever may be thought of the Jews from the standpoint of business and religion, the fact remains that they have become a powerful and influential factor in our cosmopolitan population. New York City is the largest Jewish community in the world. The Jews are good livers, and want the best. In the Jewish religious year there are a number of festivals, and at these festivals fowls are in great demand and bring good prices. The Jews eat no pork and use no lard in cooking, and so consume more fowls than they

otherwise would. Fowls for the Jewish trade should be large and fat, and should be shipped alive; for they must be killed by a rabbi in order to be pronounced "kosher" or clean. Any commission merchant is glad to get large, fat fowls before the Jewish holidays, but the best prices can generally be obtained from merchants of the Jewish faith.

The festivals of the Jews do not fall on the same dates each year, as their months are "lunar" and not "solar"; but any commission merchant with whom you get in touch will keep you informed when they come, and when is the best time to ship. The following from the pen of Michael K. Boyer will give an approximate idea when the festivals fall; but needs to be constantly revised, as the dates vary more or less with each year:

"The Hebrew New Year begins September 30, and is celebrated from that date on until the close of October 1st. This festival makes a heavy demand for choice fowls, turkeys, ducks and geese. To meet the opening of the celebration, shipments had best be made from the 25th to the 27th of the month.

"Next comes the Day of Atonement (October 9), when there are calls for spring chickens and young roosters, although prime stock of all kinds are saleable. Poultry for this market had best be shipped a week beforehand.

"The Feast of Tabernacles occurs October 14 to 15, and there is a market for fowls, ducks and fat geese. The best days for shipment are October 10 to 12, inclusive.

"The Feast of Law is observed October 20 to 21, when prime quality of all kinds of poultry is wanted. Market from 16th to 18th. This feast ends the Fall Holidays.

"March 11 the spring services begin and fowls and prime hen turkeys are most saleable, to be marketed 6th and 8th.

"The Passover commences early in April, and prime quality of all kinds of poultry are bought about the 3rd to 6th—the feasts being on the 10th and 11th.

"The Last Passover dates April 16 to 17, for which event prime stock of all kinds should be marketed on the 12th and 13th.

"The Feast of Weeks takes place May 30 and 31, and for this feast fowls are wanted, which are bought mainly on the 28th."

FEATHERS.

Something may be added to the poultryman's income by the sale of feathers, and what is usually mere waste converted into a source of income. Prices vary from year to year, but the following quotations from a large dealer will give the reader an idea what to expect:

Geese.—China, pure white, 60 cents; white, 55 cents; largely gray, 42 cents; goose quills, long, 15 cents.

Duck.—Pure white, 42 cents; white, yellow or stained, 38 and 40 cents; colored, 33 cents.

Chicken.—all white, 20 cents; colored, 4½ cents.

All feathers should be dried by being spread out upon a floor for some time, or placed in sacks and hung out in the sun and air. When shipped to market they are usually packed in burlap sacks or light cases and sent by freight.

CHAPTER X.

Laying Down Eggs.

There is no article in daily use that I know anything about the price of which varies with such astronomical regularity as does that of eggs. Their movement up and down is as periodic as the rise and fall of the tides or the oscillations of the pendulum. Generally the period of lowest prices begins in March and continues well into May. This is the natural breeding season of fowls, and eggs are produced in greatest abundance. By the first of June eggs begin to take an upward turn, and advance slowly until September. In September many of the older fowls begin to moult, and cease production altogether. From this point the rise is rapid, reaching the maximum at Thanksgiving, then the price drops a little, but soon recovers itself and continues high until well into January, when it begins to break, dropping rapidly in February and March as the spring flood of eggs comes into the market.

Now it follows from what has been said that it would be of great advantage to both producer and consumer if some simple, practical methods of preserving eggs were generally known and adopted. It would be of advantage to the producer because it would serve as a balance wheel and prevent eggs from dropping so low that it is unprofitable to produce them. Statistics show that the average hen does not produce over 120 eggs a year; and nearly half of these are laid in March, April and May. If the owner of the hen could obtain say a cent apiece more for these eggs it would mean a great addition to his annual profits.

If every poultry keeper in the United States would lay down his family supply of eggs for the year in March it would take at least 250,000,000 dozens of eggs out of the market at a time when eggs are lowest, and the price of eggs would never drop below 25 cents a dozen. For by April millions of dozens more are required for incubation, and this absorbs the surplus to a considerable extent.

And it would be a great advantage to the consumer if he or she would lay down the year's supply in the spring. There is no article of diet more nutritious and healthful than eggs.

They are in themselves a perfect food, and are easily prepared. In England eggs appear on the breakfast table of the better classes every day in the year, and it would be better for the people of this country if they ate more eggs and less meat. And yet at certain seasons of the year the price of fresh eggs is practically prohibitive. Who can afford to have fresh eggs for breakfast when they are 45 or 50 cents a dozen? Only the wealthiest and most extravagant. How much it would mean to the health and economics of every family if they knew how to lay down the family supply of eggs in the spring, when eggs are at their best and lowest in price!

COLD STORAGE.

Cold storage is the process of preserving eggs, meats, fruits, etc., by keeping them in a temperature so low that decay is impossible. Decay is produced by bacteria, microscopic vegetable organisms, which multiply with marvelous rapidity, or by stimulation of the germ of life already within the egg. Chemical changes follow, and the result is fermentation and decomposition. Like all living things, these bacteria require warmth for development. When the temperature is kept near the freezing point their ravages are held in check, and the substance to be preserved does not change in composition.

Storage plants are now erected in all our large cities and are under government supervision. In the largest of them United States inspectors are constantly on duty to see that they are maintained under sanitary conditions. The articles to be refrigerated are stored in large chambers or compartments, where the temperature is reduced by the constant circulation of ammonia through pipes or by means of ice.

Thousands of cases of eggs (each case containing 30 dozens) are placed in these storage plants every season, to be liberated as they are needed. These eggs are largely Western eggs, few Eastern eggs being available for the purpose, and come from farms and ranches. They are bought when eggs are lowest, and average two weeks old when put in storage. The egg chamber is supposed to be kept at a temperature of 32 degrees, cold enough to freeze cracked eggs, but not cold enough to freeze whole ones. They are taken out in practically the same condition they are put in. Indeed, eggs have been kept in cold storage for three years, and when taken out

could not be distinguished from eggs that had been there only a short time. Before being placed on the market each egg is "candled," or exposed to the rays of an electric light, which reveals its condition. If the egg is clear it is passed; if cloudy, it is thrown out and sold to morocco dressers to be used in tanning their leather. Cracked eggs are placed in a class by themselves and sold to bakers.

Cold storage plants might be used by poultrymen who live in the neighborhood of cities to store their surplus product. The price charged for storage is low. At the large plant at which I obtained material for this chapter the rate of storage is only 10 cents a case a month. As each case contains 30 dozens, it would cost only two cents a dozen to hold eggs six months, when they could be sold at a large increase. Storage eggs generally sell for about two-thirds the price of the fresh article. But these eggs, as I have said, will average two weeks old when put into storage, and many of them are very inferior specimens. There is no reason why selected eggs from the farm, laid down when perfectly fresh, should not sell at retail around the price of new-laid eggs, for they equal new-laid eggs in many particulars. I was surprised in going through a large local plant to learn that poultrymen did not avail themselves of the opportunity that lay at their very doors. If it pays the cold storage people to buy eggs in the West, with the inevitable breakage in transportation, carry them six months and then sell them for two-thirds the price of fresh eggs, it would certainly pay the poultryman to put his own eggs in storage; for there would be no breakage, no express, no shrinkage in "candling," and the eggs would be sure to be fresh when laid down, and not two weeks or more old.

Where there is no cold storage plants at hand the poultryman can construct one at a moderate cost. In this case he would cool his plant not with chemicals, but with ice. A small building may be constructed for the purpose, or a room can sometimes be fitted up in the shed or stable.

To those who are interested in the subject and wish to pursue it further, I would say that probably the best authority on cold storage is "Practical Cold Storage," by Madison Cooper, published by Nickerson & Collins, Chicago, Ill. The price, I believe, is $6. I know of no cheap reliable book on the subject.

LIME AND SALT SOLUTION.

Decay being caused by bacteria or germs, it follows that if these can be combatted or excluded decay will be arrested.

This may be done in five ways: 1. By keeping the eggs at such a temperature that the germs remain dormant, or cold storage. 2. By immersing the eggs in a solution which will cover the shell and prevent the entrance of air, the great germ carrier. 3. By coating the shell with some substance that will make it impervious. 4. By destroying the germs by means of the X ray. 5. By a combination of one or more of these processes.

In the past many have attempted to preserve eggs by packing them in salt, wood ashes, plaster, or even in oats; and when the period was short have met with comparatively good success. Experiments, however, have shown that these substances are not to be depended on when it is desirable to keep eggs in good condition for some months, and more effectual preservatives must be discovered.

Probably where eggs are to be laid down for family use one of the best methods is to use the lime and salt solution. It is inexpensive, easily prepared, and will surely do the work. Eggs laid down by this method are liable to have a slightly limey taste, which interferes with their being placed on the market. But for home use they are excellent.

The formula appears in several forms, but the best is the one which follows, which, so far as I know, has never before been made public:

Mix three pounds of quick lime in three gallons of water that has been boiled and cooled. Slake the lime in part of the water before adding all. Stir well; then add one-half pound of common salt. After stirring a few times let stand for several hours to settle. Separate the clear liquid for use, and in this dissolve one-fourth ounce of boracic acid.

Less lime will suffice, if of good grade, but the formula calls for enough to insure a saturated solution. Solutions containing more salt sometimes serve well, but with an excess of salt the egg yolk is often found thickened. Saturated solutions of lime alone have been used successfully.

Eggs are kept immersed in this liquid, which should cover them continuously to the depth of two inches or more. Glazed earthenware, glass, or clean wooden receptacles are used, and should be stored in a cool place, as on a cellar floor, until the eggs are wanted. Eggs just taken from the liquid should not be subjected to a sudden rise in temperature.

The amount of solution made by this formula will be found sufficient to preserve 12 dozens of eggs; if more eggs are to be preserved the proportions should be increased.

For successful preservation by any method eggs must be absolutely fresh with clean and perfect shells.

Note.—In any of the solutions given in this book allow one quart of the solution to each dozen eggs. The reader can thus determine at once what quantity to prepare.

THE LEVI HOYT METHOD.

Before cold storage came into prominence eggs were preserved by other methods. At certain seasons stores were full of "limed eggs," as they were called. There were a number of secret ways of preserving eggs, each one of which was jealously guarded. Men made good livings by buying up eggs in the spring, laying them down, and then selling them in the fall. As there was no cold storage to absorb the surplus the range in prices in course of a year was very great.

There was a man living in Danville, N. H., by the name of Levi Hoyt, whose business was that of an egg merchant. He perambulated the country, buying eggs of farmers and shipping them to Boston for sale. So successful was he in his business that he left an estate of some $20,000. Mr. Hoyt had a secret method of laying down eggs, which many tried to discover when he was alive, but with no success. When he died it was supposed the secret had died with him. But his executor, in looking over his papers, found in the strong box where he kept his most valued documents—his will, deeds, notes due, etc.—the secret method which had been so eagerly sought, and which had brought the fortunate owner many thousands of dollars. The recipe was found written on paper, which had become yellow and discolored by age, and the ingredients were designated by letters and not put into words. Further search disclosed the key, which made all plain. The executor, a personal friend of mine, knowing that I contemplated writing a book on egg preservation, allowed me to make a copy of the recipe and key, and for the first time they are now given to the world.

THE $20,000 RECIPE.

Slack A. Add water till it forms a thin slush. Now strain it through a fine sieve into a forty gallon barrel or vessel, washing out all the strength of A.

Dissolve B, and add to former. Dissolve C, D, E and F in boiling water; add to former mixture. Now add water and stir well, until the whole amounts to twenty gallons.

Fill the vessel with eggs to within four or five inches of the top, being sure that the liquid is three or four inches deep over the eggs.

Now take a hoop, small enough to go inside the barrel; tack a coarse cloth to the bottom of the hoop; set the hoop down into the barrel; cover the hoop to the depth of two inches with the moist lime so as to exclude all outside air.

Shortly before the eggs are needed take them out of the barrel, wash them thoroughly with clean water, let them dry from 24 to 48 hours, pack them in G, points down, and keep in a cool, dry room or cellar.

The eggs must be sound and fresh, as no process will make a bad egg good.

The casks should be tight and clean, and if pork barrels are used they should first be scalded out.

KEY TO THE ABOVE.

A is unslacked lime.
B is salt.
C is bi-carbonate of soda.
D is cream tartar.
E is borax.
F is saltpetre or nitrate of potash.
G is dry oats.

Quantities.—Lime, 12 pounds; salt, 3 quarts; bi-carbonate of soda, 2 ounces; cream tartar, 2 ounces; borax, 2 ounces; saltpetre, 1 ounce; oats, quantity sufficient.

WATER GLASS.

As we have seen, decay originates from one of two sources: 1. The stimulation of the germ of life within the egg. 2. The introduction of bacteria from without. Either of these sources will produce chemical changes that will destroy the freshness of the egg. Exposing the egg for a few days to a high temperature will start incubation if the germ of life is present; and exposing the egg to the outside air for a longer period will cause decay by the introduction of germs from without, even if there is no germ of life within.

Cold storage is the perfect method of preservation, for the low temperature stops the development of germs both within

and without. As in the world without us all vegetable growth is checked by the cold of winter, so artificial cold checks the growth of bacteria, which are minute vegetable organisms, and decay is prevented. But, as we have seen, cold storage is not practicable in all cases, and so other methods must be substituted.

Following out the principle we have discovered—that all decay comes from the stimulation of the germ within the egg or the introduction of germs from without—we can easily see that if we can keep the egg from the air, the great carrier of germs, and also keep it at a low temperature, we shall greatly retard if not altogether prevent those chemical changes that we call decomposition.

In what goes before I have given the formulas for two salt and lime solutions that have proved very effective. In this section I shall outline a method that is rapidly advancing in favor and is probably destined in time to supersede the others. I refer to the use of sodium silicate, or water glass, as it is commonly called. Water glass is cleanly, convenient and sure; and where it can be obtained at a reasonable price should be given the preference.

Where It Can Be Obtained.—The merits of water glass as an egg preservative are becoming known, and there are many inquiries for it at the local druggists. But the price charged is often prohibitive. I have known a woman to pay 30 cents a pint for the article. One gallon of water glass in the 10 per cent solution (one part water glass to nine parts water), will preserve 40 dozen eggs; and at 30 cents a pint it would cost six cents a dozen to lay down eggs—a price that is altogether excessive. Unless it can be procured at a much less cost than this its use is out of the question.

Where water glass is bought in gallon lots (and no one should buy less than this) it can be obtained of wholesale druggists for 50 cents a gallon. The Eastern Drug Company, 8-20 Fulton Street, Boston, Mass., quotes me the following prices: In one gallon lots, 50 cents a gallon, with 20 cents extra for can, which is returnable. In five-gallon lots, 35 cents a gallon, and 75 cents for can; can returnable. In barrels of 600 pounds, 1½ cents a pound, or 16½ cents a gallon. John Shaw & Co., 40 India Wharf, Boston, manufacturing chemists, put up water glass in gallon cans, especially for egg preservation, for 50 cents a gallon; no charge for can. I have no doubt that in every large city glass may be procured of wholesale druggists at a reasonable figure.

The best way to buy the article to advantage would be for a little group of neighbors to club together and purchase five gallons at a time, or even a barrel. In dividing it, remember that it is sold by weight rather than by measure—11 pounds constituting a gallon.

How to Use It.—The formula most generally used calls for a ten per cent. solution—that is, one part water glass to nine parts water. In order to secure a perfect fusion the water should be at the boiling point when added to the water glass, and the solution should be stirred for several minutes with a stick. Meanwhile the eggs should be got in readiness. For containers use clean wooden barrels, or firkins, stone crocks, galvanized iron tubs, or in fact, almost any receptacle that is convenient. Put in the eggs, and after it becomes cold pour on the solution. The eggs should be well covered with the liquid, and the container should be set away in a cool, dark place—the cellar, if possible.

While a ten per cent. solution is generally recommended, yet it is probable that a much weaker solution will answer every purpose. Experiments conducted at the Rhode Island station showed that a five per cent. solution—one part water glass to 19 parts water—will keep eggs perfectly. Owing to evaporation the solution is continually growing stronger, and its preservative qualities enhanced.

Chemical changes will take place in the solution after a little period. It will begin to coagulate and whiten, until after awhile it resembles whitewash in appearance. Then a jelly-like precipitate will form, and the eggs near the top will become coated. The reader need not be alarmed at these chemical changes, for they do not interfere with the preservative qualities of the solution. The weaker the solution the less pronounced the chemical changes, and the smaller the amount of precipitate. A ten per cent. solution will keep eggs perfectly, and is to be recommended for the beginner. After a few experiments he acquires confidence, and will not hesitate to use a weaker solution. The writer used a 6 2-3 per cent. solution —one part water glass and 14 parts water.

MARKETING PRESERVED EGGS.

Where eggs are laid down to be sold again much greater care must be exercised than where they are laid down for family use. In the first place, the number of eggs is far larger, and in case of a loss it will be more severe than where only the

family supply is involved. And in the second place, the eggs must have a fresh, bright appearance. Where eggs are to be eaten at home the appearance of the shells is of minor importance so long as the eggs are fresh, but where they are to be put on the market one cannot be too particular.

In laying down eggs for market be sure to select those with the whitest shells. The water glass seems to enter into chemical combination with brown-shelled eggs, turning them a pinkish hue. But it has no appreciable effect upon light-shelled eggs. Indeed, it is practically impossible to tell those which have been in the solution from those which have not, when they are ready for market.

When the time comes to sell the eggs you will begin with those that were laid down first. As I have explained, the water glass will probably have coagulated, and the eggs will be covered with a jelly-like precipitate. Remove as much of this as possible when you take out the eggs, splashing each egg around in the water. Put the eggs in a tub similar to the one they were taken from. After the tub is filled pour on soft, cold water, and let stand 24 hours. Then take the eggs out of this and put in a basket, washing each egg before it is taken out and rubbing off all traces of the water glass with the fingers. After the eggs are dry they should be gone over again. They will have a rough appearance, and look as if they had been in an old flour barrel, or been sprinkled with chalk. A brisk rubbing with a woolen cloth or old towel will greatly improve their appearance, and make white-shelled eggs look as good as new. If you care to go to the trouble, a final touch with a cloth wet in strong vinegar, and then wrung nearly dry, will make them look very nice. Water glass is an alkali and is neutralized by the acid in the vinegar.

And now about marketing these eggs. They are not strictly fresh eggs, and must not be sold as such; and, on the other hand, they are much better than the average cold-storage eggs. A good way to sell them is to show them to your customers, tell them they are laid down by a special process, and that you will sell them for five cents a dozen less than strictly fresh eggs, guaranteeing to replace every one that is not satisfactory with a fresh egg. You will have no trouble in disposing of your stock for double what you could have got for them in the spring.

CHAPTER XI.

Becoming a Fancier.

It will doubtless be a surprise to many who read this chapter to learn that for the average poultryman there is more money in utility than in fancy fowls. A little reflection will show why this is so. The fancy business requires the personal touch. A man who is keeping fowls for meat and eggs can delegate much of the work to others, and can increase his plant indefinitely. But the fancier must know his birds as individuals, or else employ a high-priced superintendent who does. He must know how to mate and handle for best results, and even then not one bird in ten will be likely to be a prize winner. He must pay out more for foundation stock, and if he wishes to introduce new blood must often spend hundreds of dollars for what he wants. He must take his birds to the shows; and the car fare, express charges, entry fees, loss of his own time, etc., will make a big hole in his profits. Then he must advertise, and advertise generously, and advertising runs away with a lot of money. So it will be seen that the breeder of fine birds must get good prices for what he has to sell if his books are to show a balance on the right side.

THE APPEAL OF THE FANCY.

Still there are many to whom fancy poultry keeping makes a strong appeal. The Creator of the universe has implanted in man a love for the beautiful, and there are few objects in nature more beautiful than a fine specimen of one of the standard varieties at its best. There is an excitement in the attempt to produce a bird that will score high in the 90's, like the excitement of the chase. In the show room there is a battle royal that appeals to a man's fighting blood. The breeder is matched against other breeders of his favorite variety, and victory over them is sweet. The silver cup and the blue ribbon that he takes home to show his friends have a value that money cannot represent. But there is good money, too, in fancy poultry. If a man can produce a specimen of any one of the popular varieties that will win the blue at one of the

big shows, he can name his own price. Five hundred, one thousand and even fifteen hundred dollars have been paid for a winning male. Then it does not take much land or many buildings for a man to carry on quite a business in fancy poultry, and world-beaters may be raised in a back yard. All these things conspire to recruit the ranks of the fanciers with a stream of new men who are after fame and fortune in the poultry business.

BECOMING A FANCIER—THE START.

Unless a man buys his birds and shows as his own what other men have produced, the one who aspires to be a fancier must make up his mind to a long, slow, up-hill climb. But at the summit of the hill there waves a blue banner with the word "First" upon it in golden letters, and there approaches to meet him one of Uncle Sam's servants in the grey uniform of a letter carrier with a big bundle of letters, each containing a check for sittings of eggs and shipments of birds.

The first thing a man should do who aspires to be a fancier is to purchase a copy of the American Standard of Perfection, and the second thing is to decide upon the variety he will keep. The Standard of Perfection is the official publication of the American Poultry Association, and contains a complete description of all recognized varieties of fowls. It supplies the breeder with the ideal that he is to try to make real in his yards. As a man turns over the pages of the Standard and sees the beautiful birds pictured there, he is quite apt to become bewildered and to wonder how he can ever make a choice. But here is where the fancier has an advantage: the field is much wider for him than for the man who keeps utility fowls. In the utility field there are not more than six or eight varieties that are money makers, while in the realm of showdom a man can make money on any one of half a hundred kinds. If a man breeds good birds and advertises them faithfully, he can find customers no matter what variety he selects. Then in a non-popular variety there is not so much competition in the show room, and a blue ribbon comes one's way much sooner than is the case where competition is fierce. Still I would advise a man to select a variety that is reasonably popular, or he will be disappointed in sales. If he is shrewd or lucky enough to hit upon a breed that is about to have a boom and gets into it before the crowd, his fortune is made. Let me illustrate. The Light Brahmas are grand

birds—there is something majestic and stately about them. They are handsome. They have many friends. Still, I would not advise a man to go into Light Brahmas. They have had their day. But the Columbian Wyandotte, which is a new variety, with Light Brahma markings but Wyandotte size and shape, would seem destined to have a great run; for they appeal to those who admire the Light Brahma markings and to those who admire the many good qualities of the Wyandottes. If I were starting out I should not hesitate to try them.

THE FOUNDATION STOCK.

Perhaps as good a way as any to get a start is to purchase a pen of birds of the variety one has decided upon of some reputable breeder in the fall. Ask him to mate them up for you for the best results. You can generally buy old birds for considerably less than you can young ones, and where you are not after eggs for market, but for incubation, old birds are as good or better than young ones. You will devote the winter to getting acquainted with your birds. (I assume that you have kept fowls before and understand their care and management. If you do not, it will hardly pay you to start out with high priced specimens at first.) In the spring you will get out all the chicks you can take care of, and in the fall should have several pens of likely pullets. Mate your cock bird with the best of these, and send off to the man of whom you bought your foundation stock for more males.

SHOW YOUR BIRDS.

One who aspires to become a full-fledged fancier must show his birds. There is nothing that will help out sales like a good show record. There is no place in which a man can learn so much in a short time as in the show room. It is a liberal education to see the judges work; and the score card that one finds attached to his coop is of inestimable value: it reveals to a breeder as by a flash of light where his birds are strong and where they need to be built up.

PREPARING BIRDS FOR SHOW.

The Standard of Perfection should have a chapter on the preparation of birds for the show room: it would be worth the price of the book to a beginner. I do not claim to be an

expert, but perhaps I can give a few hints that may be of assistance.

After the owner selects the birds that seem to him the best, he should examine them carefully to see that there are no disqualifications—nothing that will throw the bird out of the competition. The bird should be healthy, vigorous, free from vermin, and as near the standard weight as possible. Of course the prospective exhibitor has handled his birds more or less and treated them so well that they are reasonably free from shyness. There is nothing that looks worse than to see a bird in the exhibition coop dashing its head against the slats in its vain efforts to escape, or crouching in the corner as if half frightened to death. White birds should be washed, and I am inclined to think that a good washing will not harm birds of other colors. The process is very simple. Three tubs half full of water should be set side by side, of a temperature of about 95 degrees. The birds should be stood in tub number one and well soaped with Ivory or some good white soap, taking care to rub the soap the way the web of the feathers runs. After the bird has been well soaped, remove it to tub number two, and rinse the lather out of the plumage. The bird should then be removed to the third tub and given a final rinse. If the bird is a white one, a little bluing should be added to the last water. Take the bird from the water and stand it on a table or box, and wipe it as dry as possible with towels. If you have a furnace in your house, and your wife will let you do so, place the sawhorse over the register and let the bird stand on the round of the sawhorse for a little while. He will be so tamed by this time that he will not try to get away. If you have no convenient register, place the bird in a large slatted box, well littered with straw, and let him remain in the box in a warm room until thoroughly dry. Before shipping the bird to the show, feed him well; give him a little whiskey and water or a one-grain quinine pill, and rub his comb and wattles with a piece of flannel which has been saturated with alcohol. Dig out the dirt from under the scales on the legs with a toothpick, and rub the legs briskly with a piece of chamois skin.

ADVERTISING.

For everything a man has to sell there is another man somewhere who stands ready to buy, and there is a man some-

where waiting to buy stock and eggs of you. How may you find him? I can tell you in one word—Advertise.

I used to think that something could be done through the local paper to sell stock and eggs, but an experiment has rather shaken my confidence. The fact is, not one reader in a hundred of the local paper is willing to pay a living price for stock and eggs—he doesn't know their worth. If you can afford to sell eggs for hatching for from 50 cents to a dollar a sitting, and cockerels for one or two dollars each, you can sell some by advertising in the local press; but if you want a living price you must look elsewhere. The poultry press is the place for a poultryman to advertise. Time and time again have I had men come to me to borrow a poultry paper to find out where they could get stock or eggs of a certain variety.

Fortunately there are a number of grand poultry papers in this country and Canada, and any one who has anything to sell can easily find a good medium. How shall a man decide what papers to advertise in? There are two rules: 1. Advertise in papers that carry the most advertising. 2. Advertise in papers that themselves advertise.

Advertise in papers that carry the most advertising! "But is not my little ad. in danger of being lost in the mass?" you ask. Not at all. The paper that carries the most advertising does so because it is the best medium. Men advertise in it because they have found it pays. Somebody is going to see and read your advertisement, and send to you for birds.

Advertise in papers that themselves advertise! Why? Because those papers have for their readers those who answer advertisements. The reader with the mail-order habit is the one you want to go after.

"How large an appropriation shall I set aside for advertising?" For a beginner, a good rule is one dollar a year for each bird in your breeding pens. If you have 50 birds your appropriation should be $50. For $50 worth of advertising you ought to be able to sell $400 worth of eggs and stock.

As you increase your breeding stock you can decrease the amount you allow for each bird, for a large advertisement pulls proportionately better than a small one.

Some papers have what is called a flat rate—so much an inch, whether for one insertion or twelve. Others have a sliding scale—the rate being less proportionately for a year than for three or six months. Where you advertise with a paper that has a sliding scale you can arrange so as to use the

greater part of the space from October to May, and cut down in the summer months.

Poultry papers generally offer special inducements to beginners and small breeders by running short, classified ads. at a low rate. These are called "Breeders' Cards," and I know of no way in which a man can make his advertising appropriation go so far as by patronizing this department of the paper.

Writing a good advertisement is quite a trick, but like all great things it is simple. The best advertisement tells a story and gives a reason. It is not funny, it is not verbose, it is not sensational, it is not extravagant. It is a plain, striking statement of facts. Write out your story, then strike out every unnecessary clause and word, and let the printer display it to suit his taste. Study the advertisements of successful men in other lines, especially in the magazines, and you will learn much from them.

Besides your advertisement in the paper, you will need a neat and attractive circular. The circular will describe your stock more fully than the advertisement. The circular will save you a vast amount of letter writing, for it will answer nine-tenths of the questions asked by prospective customers.

Attend to your correspondence promptly, if possible answering a letter the very day it is received. The man who writes you may have written some other fellow at the same time, and if you want his trade you must be prompt.

Enclose a circular in each letter, but do not rely upon the circular to make a sale. Write a few cordial, friendly words, even if every question the man asks is answered in your circular. Personality is the greatest power in the world, and you can put a good deal of personality in a short letter.

SHIPPING EGGS AND STOCK.

Eggs for hatching are generally shipped in a basket or box made for the purpose. In cold weather they should be moved only in the middle of the day, and great care should be exercised to prevent freezing.

Where eggs are shipped by the hundred, perhaps as good a way as any is to pack each separate egg in excelsior. Take a small piece of excelsior from the roll and pull the fibres apart, then with your thumb or with a round stick like the end of a broom handle, make an indentation in the mass. Put

the egg in the hole and close in the excelsior about it. The egg is now in a ball or nest, protected on every side by its resilient carrier. If carefully done the ball may be dropped upon the floor and the egg inside will not break. These balls may be packed in a box like oranges, and will go safely any distance.

In shipping stock, provide light and strong shipping coops. If the bird is to go any distance, a loaf of stale bread soaked in water and placed in the box, will be meat and drink for him on his way. Write the party to whom you ship the bird when you send him, enclosing express receipt.

COMPLAINTS.

Every shipper of eggs and stock is bound to receive more or less complaints. Accidents will happen, and there are customers hard to please. Sometimes you run across a dishonest customer who wants to get more than his money's worth and who sends in a complaint that the eggs were broken when they reached him or failed to hatch. You can generally tell from the tone of a letter whether the writer is sincere or not, for an honest letter has an honest ring.

When a complaint comes in that is unreasonable, it should be met courteously and kindly, but firmly. The customer should be shown, if possible, the untenability of his position. When a complaint that is reasonable comes in an attempt should be made for a satisfactory adjustment. It is the practice among poultrymen, I believe, to duplicate the order at half price where less than seven out of the thirteen eggs hatch. Where a customer is dissatisfied with the bird sent, he should be allowed to send him back, paying the express, and his money should be returned to him. While a poultryman needs to make sales he needs to make friends even more, and a good way to secure them is to treat every man according to the teachings of the Golden Rule.

CHAPTER XII.

Men Who Make $2.00 a Day.

In the poultry business, as in all others, there is a tendency to specialize. A man discovers that he likes one part of the business better than the rest, or is more successful in one department than in another, and naturally he prefers to devote his time to the thing in which he excels. In the future, this tendency to specialization will be more marked than it is today. There will be farms devoted to the production of eggs —and nothing else. Not a chicken will be hatched on these farms, and not a male will be kept. There will be other farms where chickens will be raised the year around. The young cockerels will be sold for broilers and the pullets will go to stock the egg farms of which I have spoken. There will be men who will devote their time to the breeding of pigeons, and other men who will raise nothing but ducks. There will be, as now, men who will devote their entire time to exhibition fowls.

It is my purpose in this chapter to select three or four representative men and detail their methods. I have not chosen for my purpose men who do a business of $30,000 or $40,000 a year, and widely advertise; but men that I know who are making a comfortable living out of poultry, or men who keep poultry as a side line and make it pay.

CHICKS, PULLETS AND BROILERS.— MR. O. P. BARTON.

The first man I shall mention is Mr. O. P. Barton of Seabrook, N. H., whose system of brooding has already been described in another chapter. Mr. Barton is a shoemaker by trade, and for many years carried on shoemaking at his home in Seabrook, taking work from Newburyport. He began to experiment with poultry keeping some 15 years ago, and his plant has grown from the usual small beginnings.

Mr. Barton started out to raise broilers and soft roasters, but has been compelled to modify his plans to satisfy the demands of his customers. He started in with good thorough-

bred stock, selecting White Wyandottes as best adapted to his purpose. It was his original plan to start his incubators the first day of January each year and to sell the young birds for broilers, reserving only enough pullets to give him the necessary eggs for hatching the next winter. The novelty of Mr. Barton's brooding arrangements attracted visitors from far and near, and soon he was confronted with a brisk demand for day-old chicks as well as for eggs for hatching. He also found that when the young birds were ready for broilers there were plenty who were eager to take the pullets at an advance over the price of broilers; and now he sells day-old chicks and young pullets as well as broilers.

Mr. Barton's figures for 1907 are calculated to make the average poultry keeper sit up and take notice. He began the year with 90 pullets and six cockerels. These were sold April 15th, so the entire receipts for the year were the product of keeping this limited amount of stock three and one-half months. Nothing was sold for what could be called fancy prices, but when he balanced his books he found that his receipts for the year were $1,004.29, expenditures $369.50, profits $734.79, or over $8 per hen. No account was made of the eggs or poultry consumed at home, neither was the hen manure reckoned. Mr. Barton closed the year with 158 pullets and eight cockerels on hand, which, valued at the low price of $1 each, would add materially to his profits.

Mr. Barton made his money off his chicks, 2,600 of which he hatched out. He sold day-old chicks for 15 cents each, and pullets for 50 cents each when they were large enough for the sex to be distinguished. He sold broilers for 32 cents a pound as late as the middle of June, and mature pullets for one dollar apiece and upwards. He believes that a man can easily clear $1,000 a year from 100 hens by following his methods.

It was the middle of July when the writer visited Mr. Barton at his pleasant home, to gather data for this book. He found all hands busy picking strawberries. A little patch, less than half an acre in extent, netted Mr. Barton $150 that season.

By a singular coincidence, the Boston papers that very morning had the account of a man who had committed suicide because his farm, devoted to poultry and Angora goats, did not pay.

"No man can make a success at poultry raising and hire another man to run his place," said Mr. Barton. "Success de-

pends upon a hundred and one little things that a hired man would never think to do."

"Do you intend working at your trade?" was asked.

"No," was his response. "I am done with shoemaking forever. I can see all kinds of money in the poultry business. My ambition is to clear up $1,000 the first six months of each year, and I think I can do it."

"I have another plan," said Mr. Barton, "and that is to buy up little cockerels in the fall and caponize them. There are always plenty of little cockerels that can be bought in September and October as low as 15 cents apiece. These can be caponized and sold for big money in the spring. In this way I can add to my profits and utilize my plant in the fall months when it would otherwise be idle."

EGGS FOR MARKET—MR. F. H. DUNLAP.

Even more remarkable than the story of Mr. Barton is that of Mr. F. H. Dunlap of West Salisbury, N. H., for Mr. Barton is located on the seacoast close to some of the best markets in New England, while Mr. Dunlap lives in a little hamlet, up among the hills, five miles from the nearest railway station. Then for six months in the year Mr. Barton devotes practically all his time to his stock, while Mr. Dunlap has but two or three hours a day to give them. Mr. Barton gets the highest prices for what he sells, while Mr. Dunlap ships to commission merchants and gets only current quotations.

Eggs and eggs alone are what Mr. Dunlap works for. His main business is that of a country merchant, while poultry keeping is with him a side line, an avocation. His place is small, only two acres and a half of sandy land, but the system of the trained business man shows in everything he does. His houses are well built, well arranged, and he can carry on his poultry business with the utmost economy of time and labor.

Starting in 1887 with a flock numbering but 20, he has steadily kept increasing the number, until now the annual hatch is between 1,000 and 1,100 chickens, with the average winter stock of layers about 500.

Mr. Dunlap has built houses according to the constantly increasing number of fowls, until the present number is 15. These are kept whitewashed and regularly cleaned, so that the best sanitary conditions prevail.

The old subject as to whether the poultry business is a profitable vocation is one that has been under much discussion of late, and in answer Mr. Dunlap submits the following figures:

The land, with the hen houses and frequent improvements which have been made during this period of 22 years, totals $2,047.02. This includes the poultry houses only, and is exclusive of the dwelling house.

During the past 22 years the net profits have been $11,347.13. Besides that $9,656.31 has been expended for grain and supplies, making a total of $21,003.41 for all poultry and eggs sold.

Three principal varieties of hens kept are Rhode Island Reds, White Wyandottes and White Leghorns. These birds are bred from the best strains, and their laying qualities always stand first, as no birds are ever exhibited or eggs sold for hatching.

Following is the statement of the poultry account of Mr. Dunlap from Jan. 1, 1908, to Jan. 1, 1909:

Debtor.

To 535 birds on hand Jan. 1, 1908, at cost	$ 183.75
" feed bought during year	830.46
	$1,014.21

Creditor.

By 64,117 eggs in 1908	$1,131.57
" 767 birds sold	329.13
" 210 eaten	000.00
" 592 birds on hand	207.20
	$1,867.90
Profit	$ 853.69

HIGH GRADE UTILITY AND EXHIBITION BIRDS.—LITTLE CHICKS.—MR. T. N. SMITH.

Some years ago, while pastor of Trinity church in North Attleboro, Mass., I had a young man in the congregation by the name of Smith. He was ambitious and industrious, strictly temperate, and I looked for him to make a success in whatever he undertook. I lost run of the young man after I left town,

but after a few years I began to see his name in the poultry papers in connection with a short advertisement of Rhode Island Reds. How he succeeded I shall let him tell in his own words:

"I shall endeavor to tell of my struggles to establish a good business for the benefit of those who are thinking of going into the poultry business to make a living. I started in five years ago right after I had taken the special course in poultry culture at Kingston Agricultural College. I had been breeding Rhode Island Reds for six years before, and I selected out two pens of the best birds and raised about 200. I put a small classified ad. in Farm-Poultry, run it in that paper through the spring months at a cost of $6. Sales from this advertising of eggs for hatching and breeding stock were $125.

"I worked as a motorman on the electric railroad right along while building up my trade. My wife helped me all she could. The second year sales were $478 for eggs for hatching and breeding stock. These figures do not include what was sold for market, as that was kept separate. I spent $50 for advertising this year. The third year a great many articles derogatory to Rhode Island Reds appeared in a number of poultry papers, and the boom on Rhode Island Reds had fallen out. This year I think my hat had grown too big. As I had about 300 Reds I spent $200 in advertising and a catalogue this year; my sales for breeding stock and eggs for hatching were only $251. I had lost at a time when I felt it most, but I knew the demand would increase if I just stuck to it, as the Reds would be recognized for their sterling qualities. In the meantime, wife and I worked to build up one of the best laying strains in the country. We used trap nests. We had a good laying strain to work on from the start. The fourth year I spent $78 for advertising, exhibited some and won a good share of first prizes, and sold $1,100 of breeding stock, exhibition birds and eggs for hatching. I worked on the electrics just the same, but was able to get off most any time it was necessary to attend to my poultry business. When I made full time on the road I got $16.28 per week of seven days.

"The fifth year, which has just been completed, I paid out $87 for advertising, exhibited at a number of shows, won a lot of prizes; and sold an average of over $200 per month for breeding stock, exhibition birds and eggs for hatching. Since the beginning of the new year (1905) my sales for breeding stock and eggs for hatching are from $75 to $100 per week, and

I have just started to sell newly-hatched chicks. Am now selling about $105 per week. This I keep separate from sales of eggs and breeders. I have a nice lot of fruit trees in poultry yards, peach, plum and quince. I have farmed out a lot of my stock on account of working on cars. My intention was to build up a good trade and then leave to attend to my poultry business altogether. I am now ready to go into it altogether, having no fear I will not be successful, as I now have a good trade established and customers are coming back each year, besides the new customers I get each year. I would advise anyone to do as I have: keep your situation or business while building up a poultry business, if possible. I have worked early and late to do this, and the success I have met amply repays my trouble."

Under date of August 28, 1908, Mr. Smith writes me, bringing his experience down to the present time.

"I will now take up the subject of newly-hatched chicks," he says. "The first year I started to sell newly-hatched chicks (1905) I sold 10,000. I thought that pretty good for the first season. The second year (1906) I hatched out 27,000 chicks, and sold 24,000 of them. That year I sold a little over $6,000 worth of chicks, breeding stock, exhibition birds and laying stock. The third year (1907) I sold over 35,000 Rhode Island Red chicks, and besides that hatched out a lot of chicks for other people who either bought or shipped their eggs here, charging them $2.50 per hundred for what eggs they left. I did a $10,000 business that year, selling eggs for hatching, brooder chicks, breeding stock, exhibition birds, laying stock, a few broilers and soft roasters, and making something on hatching eggs for other people. Up to this year (1907) I had done all the work myself, but this season for the first time I employed an assistant, a practical poultryman. I ought to add that my wife has helped me from the first, and now attends to all the correspondence; and as this is large, it takes her a good half day to get it out of the way.

"We are now well into another year's business (1908), and it bids fair to be a prosperous year, notwithstanding the whole country has passed through a financial crisis. I sold in the spring 35,000 chicks, the most of them for 15 cents apiece, and a few of the best for 25 cents, and inquiries for breeding and exhibition stock are beginning to come in. It looks as if I would do an $11,000 business this year.

"I attribute my great success in the poultry business to the fact that I have developed one of the greatest laying strains

of Rhode Island Reds in the country, using trap nests, and breeding only from birds that have reached a high average in egg production. I have bred birds that have won in the largest shows in the country; and have shipped birds all over the globe, to New Zealand, South Africa, Cuba and Japan, as well as all over the United States and Canada.

"This year I started in selling real estate, and find it works well in connection with the poultry business. I have a man who shows the farms, and when there is nothing doing in that line he helps me in the care of the poultry. I was brought up on a farm, and know just what kind of a farm is best adapted to poultry, and my customers profess themselves well satisfied."

SMALL CHANGE.

Capitalize your mistakes.

Don't slip twice on the same banana peel.

Don't trust anything to a hen's judgment, for she hasn't any. She is sure to do the thing you don't want her to do. The only safe way is to have your fowls where they are completely under your control.

Read widely, but check and correct what you read by experience and experiment.

The best breed is the one you like best.

Cleanliness is next to egginess.

Keep the hens at work, and the chances of their contracting bad habits will be reduced to a minimum.

A good breeding cockerel should be of good size, with well developed comb and wattles, a bright eye, and with a bright and fearless mien. In other words, he should show his masculinity in every act and look.

Separate the sexes as soon as the cockerels begin to crow.

The time to doctor a sick hen is before she is sick.

Give value received the first time, or you may never have a second time.

Fowls should never be roughly handled, violently chased or badly frightened. Best results can only be obtained when the birds feel at ease and free from the attacks of enemies of all kinds. The keeper, whose fowls fly at his approach, is not a success.

Satan finds some mischief still for idle hens to do.

In caring for the youngsters, a little neglect may mean a big loss. Better do it right or not at all.

Remember that the early hatched chicks needs an unusual amount of care in order to fully protect them from the cold of early spring.

Have the best stock obtainable, and never start with any other kind. Better get good birds and fewer of them. You can't breed anything but disappointment from poor stock. As in everything else, the best is the cheapest.

Don't be too cautious. The man who never loses anything never makes anything.

Distrust the doctrinaire who says that chicks do not need much heat. They come from a warm place and need considerable warmth until well feathered out. If they have warmth they will grow; if not, they will become stunted and die like flies at the approach of frost.

The whole tendency to-day on the part of those who have the poultry business most at heart is towards simplification of methods. The old farmer who feeds nothing but corn and not much of that, letting his hens shift for themselves on the range, may not be the highest type of a poultryman, but he makes poultry keeping pay. He doesn't get many eggs, but what he gets are all profit.

While there are an indefinite number of things a man might do in the poultry business, yet the things that are absolutely necessary are after all very few. To keep one's hens clean, to keep them comfortable, to give them plenty to eat—this is about all there is to it. Perhaps the greatest gain a man ever makes is when he resolves that he will no longer doctor sick hens—unless the sickness is very simple. While he may lose a few more hens in the course of a year than he otherwise would, yet the saving in time, the removal of the strain upon his patience and sympathy, the higher average of health on the part of the hens that remain, more than offset the loss. It was never intended that the poultryman should add a drug store to his outfit.

When a man sells eggs he sells futures, and when a man buys eggs he buys possibilities. If a buyer gets a good hatch he gets more than his money's worth, and if the hatch is poor he has no cause for complaint. If only two or three chicks come out, one of these may be a blue-ribbon bird that will be worth ten times what he paid for the eggs at the start.

One of the temptations that must be resisted is to load up the incubator just once more when the eggs are hatching good.

When you have all the chicks you are equipped to take care of, you have enough. Nothing was ever gained by crowding chicks, putting two where there is only room for one.

Before you give up your job to go into the poultry business, you should thoroughly master the art of artificial brooding of chicks. Here is where the majority of beginners fall down. It's easy enough to get out chicks (any good incubator will hatch them by the hundred), but when it comes to rearing them, that is another story. It's easy to foresee the finish of the man who is obliged to carry to the graveyard one-half to three-fourths of the chicks his faithful incubator has hatched out.

Wayside Advertising.—On my way to the city I pass a place that always attracts my attention: a very pretty little house with perhaps an acre of land attached. It is a good sized city lot, nothing more. It is owned and occupied, I understood, by a widow with three children. What interests me is the system with which this acre farm is managed. Every square foot is utilized, and every square foot is made to pay. The owner has had a number of neat signs painted, and whenever I go by one of these is out, calling attention to something she has to sell. "Eggs for Hatching" greets my eyes in the spring. Later comes "Strawberries," then "Raspberries" or "Flowers." And in the fall there is a board with the legend, "Honey for Sale." I understand that this woman makes fabulous profits out of her acre farm. Customers call at the door and pay big prices for all she has to sell. Her success suggests the possibilities of wayside advertising. Every reader of this book who lives on the main road and has anything to sell should have a number of neat signs painted with the name of some commodity on each, to post by the wayside to be read by passers by. The best market in the world is often at our very doors. I know a man who lives in a country town who had potatoes to sell. He had a sign printed, "Potatoes for Sale," and stuck up where everybody who drove by could see. As a consequence, he sold all he had for one dollar a bushel, the same price his neighbors received for theirs in the city, six miles away. If a hundred people pass your door every twenty-four hours, the chances are that some of them will be interested in what you have to sell.

POULTRY FARMS

FOR

POULTRY RAISERS.

Exeter, New Hampshire, and vicinity, in the South eastern part of Rockingham County, is an ideal location for the poultry fancier and poultry marketman.

Exeter, famous for beauty and health, noted for schools of national reputation and excellent social life, is conveniently and delightfully situated. Only 51 miles from Boston, with frequent express trains, about 15 miles distant from four smaller cities, 10 miles by road and trolley through beautiful country Scenery of Hampton and Rye Beaches, is surrounded by pine covered hills and divided by fresh and Salt water rivers, the latter navigable to the sea.

The City and local markets will take an unlimited supply of live and dressed poultry and eggs, and the beach hotels, in the season, are great Consumers of broilers, chickens, fowl and eggs at fancy prices. Fancy poultry is in great demand for breeding. An admirable show is held here yearly and greatly stimulates the business. Small and large farms and village homes are for sale at low prices and often on easy terms.

$1,500 will buy a 9 room two story house, two large barns, corn house, 15 apple trees and 5 acres good land, near neighbors, district and high schools and church. Mortgage can be placed for $1000.

$1,200 will buy a similar farm with 7 room smaller house.

$600 will buy a half acre place with a good house and barn.

$500 will buy 4 room house, shed and 3 acres with a few apple trees. $200 down will get this. A great variety of places listed. Inquiries cheerfully answered.

Dana W. Baker, Exeter, N. H.