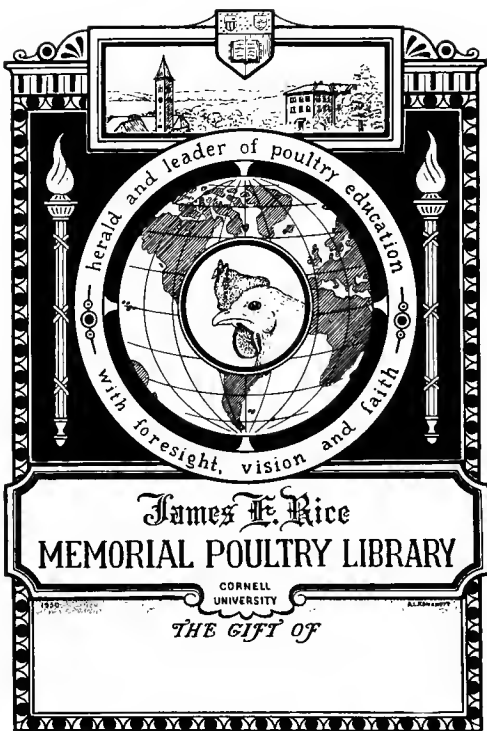


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— HOW TO —
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How to Grow Chicks

By
T. F. McGREW

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GEO. E. HOWARD
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CHAPTER I.

HOW TO GROW CHICKS.

Troubles to Overcome.

It is not generally understood by the amateur and those who have not paid attention to these matters that not more than one-fourth of all the eggs that are put to incubate in the several ways produce living chicks. There are many reasons for this, and among them infertility—which is the prime cause—bad management of both hens and incubators, and improper nesting places for the sitting hen. All of these conditions may be improved if we so desire; but to have these improved conditions we must first consider the cause of the trouble and then remove it as far as possible.

The chief source or cause of poor hatches is the large per cent of infertility in eggs laid prior to the warm days in spring. It is a well established fact that the per cent of fertility begins to dwindle after November; is lowest in midwinter; and begins to gain as spring approaches. The cause of this is the influence of the cold weather, inactivity, and lack of exercise. We can not remove the influence of the cold, but we can, to some extent, induce activity by compulsory exercise, and in this way increase fertility. This exercise can best be had by compelling the fowls to dig and hunt for all the grain food they get.

The Nest Box.

When the time comes for setting the hen, attention should be given to the preparation of the nest. To obtain the best results, it must be long, broad, and deep

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enough to hold the heat or warmth from the hen's body about the eggs and to protect them from changes of the weather, which will chill the eggs from beneath if the nest is small and shallow. When the nest is too small the cold has a good chance to chill the eggs and thus kill the germ. This causes the egg to spoil, or "rot," as the saying is; and no matter how fertile the eggs may be they will not produce many chicks under such conditions. Have the nests large enough to protect the eggs from all these conditions which are so detrimental to good results. Better have the nest box much too large than the least bit too small.

Hens that have their nests on the ground usually bring forth a good lot of chicks—but not as some suppose, because they are benefited by the moisture from the ground. The real benefit is derived from the fact that the ground holds a regular heat about the eggs. The same is true to a certain extent when the nest box is partly filled with sod or earth. The natural moisture supply comes from the air, not from the ground, for eggs that are in process of incubation; and for hatching with hens, the secret of success is to have a nest for the eggs so constructed as to hold an even, regular heat; and not place under the hen more eggs than she can properly cover and keep warm.

When Hatched.

No matter whether the chick is hatched under the hen or within the incubator, the same general rules will apply.

First,—Do not disturb the chicks until they are twenty-four hours old; and see to it that they can not get out of the nest and away from the hen.

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Second.—When one day old, remove the chicks from the nest or machine, as may be, and give them the opportunity to eat if they wish. No water is needed the first day. Keep them quiet and undisturbed.

Third.—See to it that the hen and her chicks are kept comfortably warm, that their coop is kept clean, that they have a plentiful supply of food and water, and that at all times they are protected from the damp.

Fourth.—Use plenty of good common sense mixed with other ingredients. Don't coddle and over-do the good care part of it. Keep them clean, dry, warm, well, and properly fed and watered, and they will do the rest.

Fifth.—If kept or reared in a brooder, be sure that you operate the brooder exactly in accordance with the directions for so doing, and don't do it some other way, because some one tells you to. Remember that they who build the brooder know better than others how it should be run, and it is well to follow their instructions.

Housing the Chicks.

Provide in advance proper coops for the hen and chicks, as it is absolutely necessary that they should be sheltered from the cold and damp. Nothing can be more readily provided than can the V-shaped coop, built as per illustration; of cheap boards with slats across the front. This coop may have a board floor that can be removed in warm weather, the coop set on the ground, and then changed from place to place so as to have a clean, dry spot at all times for the hen and chicks.

Thousands of young chicks are lost every season through neglect. Frequently they are not properly housed, as they can be at very little expense. Almost anyone can make a dry, warm coop for the mother-hen

How to Grow Chicks.

and her brood. It may be plainly built, and of simple construction, yet at the same time furnish warm, healthful quarters. A cheap wood box from the store, at a cost of twenty-five cents or less, may be tightly covered on the top and down the sides with tar paper, and slatted in front with strips of lath. This will keep them dry and warm while young; and when they grow older and the hen leaves them, a roost may be placed inside the box which will do for them till cold weather comes or they are sold. It may be used also for a colony coop for from twelve to fifteen growing fowls during the fall months, previous to moving the pullets into laying quarters. Consequently, for whatever purpose it is intended it should be large and well built.

If ambitious to have them housed in more pretentious quarters, build for them the V-shaped coop that can have a board floor if preferred, or be set upon the ground. This coop may have a shelter or safety-run to protect the young chicks from cats or hawks. It may be very light in weight, and moved about so as to be continually upon a dry, clean spot with fresh grass supply. Or better still, a better style of safety-coop may be built that adds to the security of the young chick, the comfort of the mother-hen, and the attractiveness of the poultry plant. These coops can easily be made an attractive feature of the poultry yards. Well kept yards bespeak a careful poultryman, and favorably impress the prospective purchaser.

Another style of safety-coop may be made cottage fashion, and as ornamental as desired. In the construction of all these coops, be sure to have them large enough for both comfort and exercise. Do not confine the hens too closely. Provide room enough for the hen to move

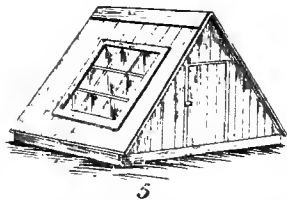
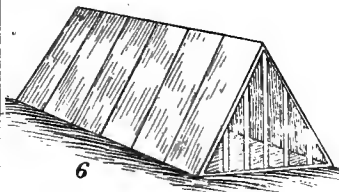
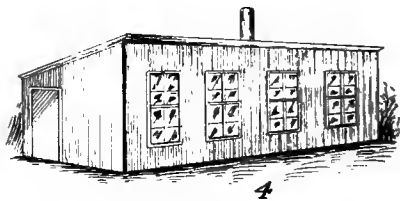
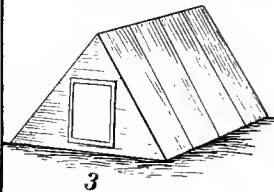
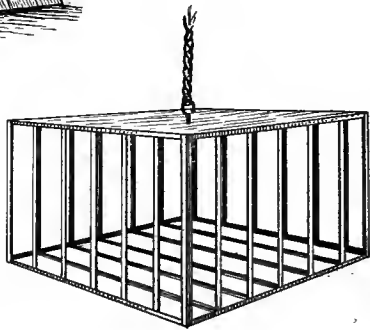
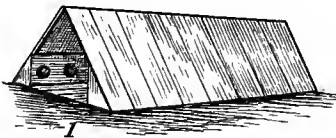
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about within the coop; she will do better and so will the chicks if the quarters are not too limited.

All of these outside shelters or runs should be made detachable so they can be moved away to give the chicks their liberty. Plenty of exercise and fresh air are necessary for both the hen and the chicks. When properly housed so that they will be dry and comfortable, chicks should do well; and they will, if their quarters are kept absolutely clean and they are properly and regularly fed—both of which are of equal importance. Regularity of feeding is of vital moment. For the first week the chicks should be fed at least every two hours; after that every three hours till they are three weeks old; thereafter every four hours, or four times a day. If this rule is followed, and at each feeding they have as much as they will eat up clean, they should do well.

Feeding the Chicks.

There are more ways presented for feeding young chicks than one could count in a day. What would we think of those who would tell us to feed a baby, a colt, or a calf in as many odd ways as we are told to feed the little chicks. To do well, the chicks must be fed along Nature's lines, with care equal to that which is given to the young child. The natural method of sustenance with the chick is to grind grain and seeds in its gizzard or mill. The strong lining of this gizzard continually moves about the mill stones or grit, and rubs the grit, the grain and the seeds together and grinds them into a soft mass which is assimilated throughout the system. To be successful we must provide Nature with her own best tools to work with—grit, grain, and seeds.



1. Laying House for Ducks. 2. To Cure Broody Hens. 3. Duck House 4. House Brooders. 5. Hen House. 6. For Hens and Chicks.

How to Grow Chicks.

There can be no possible doubt but that the natural food for the chick is composed of grains, seeds, grasses, bugs, worms, and insects such as are found in hunting about. To simplify, let us say, grain, grass, and animal food ground up in the crop is their most natural ration. This being the case, the further we depart from providing their natural food, the more artificial do we make their existence, and by so doing we make their completion less likely and their constitutions less vigorous and rugged. As we select their food, let us do so within the lines of Nature and thus secure the best results.

Their First Food.

As the chicks grow within the shell, the yolk of the egg is gathered into the abdomen; this provides sustenance for growth within the shell, also for the first hours after coming from the shell. Because of this egg food which Nature supplies, we naturally think it wise to continue the same kind; for this reason hard boiled eggs are fed to the young chicks for their first meal, which is beneficial if properly done. But many times harm comes from their use. Hard-boiled eggs mashed very fine, shell and all, and mixed with equal parts of bread crumbs and oatmeal form a good ration for the first day or two, as it provides grit and lime in the shell, grain in the oatmeal and bread crumbs, and a good substitute for animal food in the egg. When mixed in this way and fed to the chicks it will do well for their entire food for forty-eight hours—but no longer.

When too much hard-boiled egg is fed to the chick it will clog up the crop, gizzard, and bowels, and thus cause death. It will be beneficial to them to have one feed per day of the egg, bread and oatmeal; and this

How to Grow Chicks.

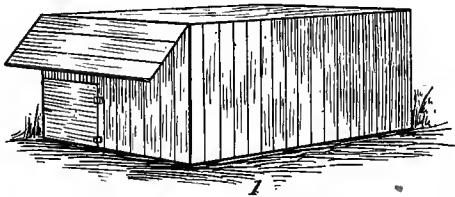
may be continued for all time if it seems advisable; but more than this is likely to do more harm than good. Therefore, it is best not to give it to them oftener than once a day. When it is prepared according to directions given previously, one-third egg and shell, and two-thirds bread crumbs and oatmeal, all thoroughly mixed together; and as much fed as will be eaten up clean within a short time, it will prove decidedly beneficial.

Methods of Feeding.

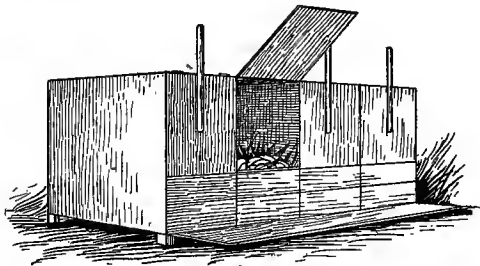
The poor or bad methods of feeding will not be given in detail, but the best methods of feeding will be enumerated so that each may select and follow that which seems best suited to his location, to the food supply at hand, or to the disposition to purchase according to fancy. We shall consider this question under the following named heads: The Dry Grain Ration, the Cooked Foods, the Mashed Food, and the Miscellaneous Food Supply. But first of all let it be thoroughly understood that slops, or wet foods, are not fit for fowls of any kind, either young or old. Thousands of young chicks are killed every year by bad feeding; about the worst of which is corn meal mixed with cold water and fed too wet. At all times it is safe to give cooked table scraps to the chicks.

The Dry Grain Ration.

For those who grow and have plenty of grain and seeds at hand the making or mixture of their own chick food is an item of economy. The dry grain ration is a mixture of small or broken grains. For the young chicks the grains used should be no larger in size than millet-seed. All should be broken very fine so that the smallest chick can readily eat it. Sometimes two sieves are



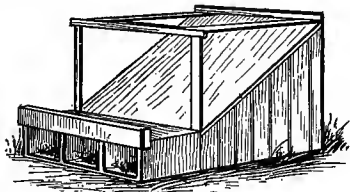
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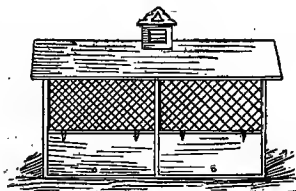
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1. Box Coop. 2. Hatching Coop. 3. Combination Roost. 4. Colony Coop, End. 5. Colony Coop, Front. 6. Colony Coop.

How to Grow Chicks.

used, of different sizes, the one to take out all that is too large, the other to take out all that is very fine, thus leaving a well-graded, clean, grain food. This dry grain ration can be made from any or all of the following grains and other materials: small broken corn, wheat, oats, and barley. Both the oats and barley should be free from hulls or chaff as oats and barley hulls are not food for chicks. When the grains are broken, mix equal parts with some millet seed, small grit, and granulated charcoal. If equal parts of all are used it will make a good food mixture; even though it lacks one or more of these ingredients it will still be a fairly good mixture.

This food may be improved considerably by the addition of some old, dry, broken peas. A small amount of charcoal is of benefit as it sweetens the crop and gizzard as it passes through them. When only corn, wheat and oats broken small are used, add some grit and charcoal. At times all of the following are used: corn, wheat, oats, barley, millet, and flaxseed, buckwheat, hemp-seed, rice, and kaffir corn, all of which make a good food for fowls, either old or young. Less of the flax seed and hemp-seed should be used than of the other grains.

Cooked Foods.

Almost any food that is suitable for mankind is good for the chick, if well cooked and sorted so they can eat it. In some instances the table scraps from a number of houses have been saved, then all put through a bone cutter, and fed to the growing chicks and the laying hens, greatly to the benefit of them all. Corn bread or Johnny cake is good for them—if made with eggs and milk, so much the better. Two or three infertile or clear eggs mixed with the meal, a little milk and some baking powder, baked in the oven, makes a fine meal bread for the chicks, and should be fed to them cold.

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Mixed Mash Foods.

The real reason for using mash or partly cooked foods for fowls and chicks is not well understood. The fact is, all their food must go through the crop into the gizzard and be ground up by the grit. To aid this process mash or mixed foods are fed, because when thus partially ground they can more quickly be reduced and assimilated throughout the system. When these foods are properly prepared they are of benefit; but if not properly mixed and fed they may do more harm than good. First of all they must be so mixed as to be fed in a dry, crumbling form; never wet like soup. There are many kinds of mixtures made for the mash, but none is better than corn-meal, ground oats, wheat-bran, and middlings—one-fourth each by measure. Scald this with milk that is thoroughly boiled, and mix till it is almost a dry mass; then let it stand till fairly cool. Sweet skim-milk or sour milk will do; sweet milk, however, is by far the better. Buttermilk will do, but it is of the least value of the three. Be sure that the milk is well boiled before being used as a mixer for the mash food.

This same kind of mash mixture may be mixed with hot, scalding water, and allowed to cool; or it may be mixed with cold water. But it should not be fed at all unless it has been scalded well with milk or water—the milk is far better than the water, for it is of itself an almost perfect food and therefore of value to the chick. Have it thoroughly mixed, and do not feed it too wet. Have it dry and crumbling so it will fall into bits; it should not be pasty or sticky like mush. For bantam chicks, part of the feed may be of boiled rice, as it furnishes a partial living, and contains almost nothing conducive to growth.

CHAPTER II.

Other Ways of Feeding.

There are almost as many plans and methods of feeding as there are people in the business. Some of these plans are good, others bad. More chicks are killed with kindness and coddling than seems possible. Hard-boiled eggs, if given within reason, are of benefit to the young chick, but if too much of this is given nothing could be worse. Milk is one of the best, if not the very best of foods; but young chicks are often killed with milk. Dry grain feeding gains in favor every day. Its value is that it meets Nature's demands. In their natural state fowls and all self-feeding birds gain their living from seeds, small grains, and grasses. To meet this natural demand chick foods are made and sold.

Feeding Milk.

Milk is good food for chicks and old fowls as well, but it should be fed as a food. When it is set about for the chicks to drink and smear around, it attracts the flies, produces germs, creates conditions in which the gape-worm thrives, and often infects an entire lot of chicks with bowel trouble. This comes from the misuse of milk. If it seems desirable to give it to the chicks provide some means so they can drink it without smearing themselves or the ground. A thin piece of board can be made into a float by having an oblong hole cut in it for them to drink through. But unless they can have it without smearing themselves and everything around with it they had better not have it at all, except when used to mix the mash. Milk is a splendid thing

How to Grow Chicks.

Bowel Trouble.

for the chicks when properly handled; but when carelessly used it may do more harm than good.

Thousands upon thousands of little chicks die every year from bowel trouble, the causes of which are numerous. The most prolific of these are cold, dampness, and indigestion, aided by lice and poor attention. When not properly housed and fed the mortality is often appalling; but when housed carefully and kept from the dampness and cold much trouble is avoided. Indigestion comes from bad food which becomes sour in the crop. This may be avoided if care and judgment are used in feeding, housing, and caring for their wants. Of all things lice do the most harm. They aid in about all the troubles the little chicks have; and they are usually on hand for every occasion. Care, cleanliness, proper housing and feeding insure success in growing the young chick to maturity.

Gapes and How to Avoid Them.

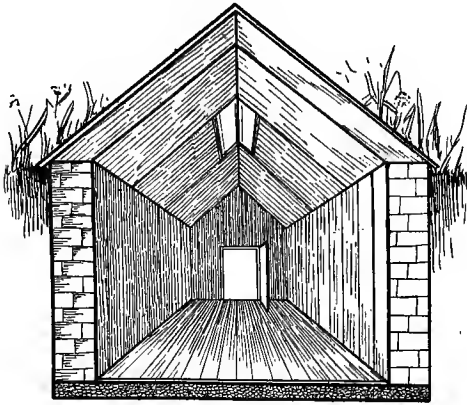
Gapes come year after year to the same locality, as the result of the ground being infested with the parasite which causes them. The only way to avoid this is to clean up the ground as thoroughly as possible each year. Early in the spring, just before the frost comes out of the ground, sprinkle about one-half an inch of slaked lime over the infected ground, and allow it to remain there until the frost is out of the ground; then scrape it up with a hoe, and with it at least one-half an inch of the soil; cart all of this away, and plow under. Do not let the fowls run over the lime if it can be prevented.

CHAPTER III.

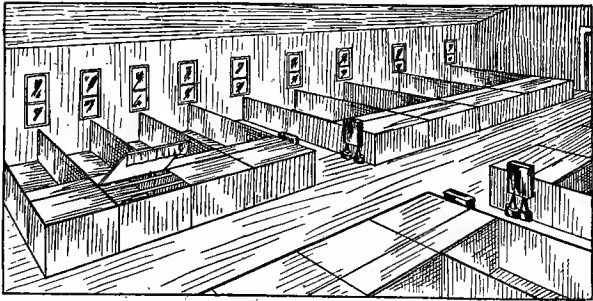
General Directions for Growing the Chicks.

To be successful in rearing young chicks, we must first of all be sure that there are no lice or insects of any kind about the hens or the nest boxes where they lay or sit. If the hens that sit on the eggs for hatching have lice upon them, the nests will soon be full of them, and as soon as the chicks are hatched, then they begin their work on them. Never place a hen on eggs for the purpose of having her hatch them without thoroughly dusting her feathers with insect powder so as to rid her absolutely of all living insects. Soak or paint the nest box with coal oil, kerosene or lice paint prior to setting the hen, for by so doing you start right, and thus insure against the lice getting the start of you. After the hen has been on the nest a week or ten days, dust her again with the powder, so as to destroy any lice that may have hatched from eggs deposited among her feathers. Dalmation Insect Powder, which is sold by the pound in drug stores, is excellent for this purpose (incorrectly called Persian Insect Powder). This can be used without danger to the user, the hen, or the chick.

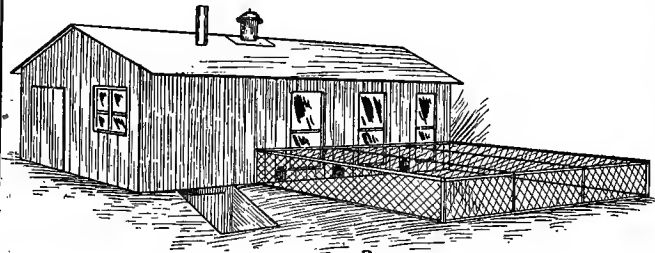
Nests made of tobacco stems are not of much value. The smoke from tobacco stems will destroy some of the small insects that infest plants, consequently some are of the opinion that the tobacco odor will destroy hen and pigeon lice; but there is no proof of this. Experience has demonstrated that lice and tobacco stems will both remain within the same nest box. Lice are not killed by an odor, unless, like tobacco smoke, it smothers them. These small insects breathe, as it were, through the pores of the body, and small, fine powder that will fill



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How to Grow Chicks.

or close these pores will kill them. Oil of any kind will do the same. When the hen dusts herself in the dry ground, or in the road dust, or fine ashes, the fine dust kills the lice on her body in this way. Lice try to locate on a hen where they are best protected from the effects of the dust bath. Any kind of fine dust will kill lice on hens if they come in contact with each other; so will any kind of grease or oil.

Having guaranteed against insect life as far as possible prior to the hatching of the chicks, it is well to thoroughly examine the head of the chick when taken from the hen, for if there are any lice about it they will be on the head. It is always safe to rub some sweet oil into the heads of the chicks so as to kill all the head lice, or keep them away if they are not already there. If later on, lice should get on the chicks or hen, the very best thing to use is very finely powdered anise-seed; this will do no harm even if they eat it, and it will kill the lice. To be effective, however, it must be very finely powdered. The Dalmation Powder will do as well; but if too much is used it will get into the eyes and make them sore. Nothing is as pleasant to use as the anise-seed, if it is very fine. This is naturally inclined to be oily, and for this reason must be very fine and dry in order to get the best results from its use.

Following these precautions and modes of keeping free from the lice pest, comes the greater need, which is most frequently neglected, and that is cleanliness. If it were possible to have every henhouse, every fowl, and all the surroundings, kept as clean as they should be, there would be little trouble in growing chicks, and few would have cause to complain.

Feeding the chicks is of equal importance with other things. Much contention has arisen about when to feed

How to Grow Chicks.

and what to feed for the first meal. The first meal should be given them as soon as the chick will eat. Let the chick be the judge. They can not be made to eat before they will; nor can they be forced to eat more than they want. If deprived of food when needed they will suffer for want of it; and for this reason, place the food where they can get it if they want it, and let them alone. They will know when to eat their first meal.

Grit, green food and fresh water they should have at all times; and have these where they can help themselves at will. Wet weather will not do them so much harm if there is a dry place for their feet, and a clean, dry coop for them to go into out of the wet. As soon as the chicks are large enough to shift for themselves, they will thrive better in colonies scattered about the place, and if the hen is kept continually in her coop, while they are allowed to have their freedom. When the hen runs with the smaller chicks, they walk too much for their good.

When growing the chicks for market, feed them as much and as often as they will eat; and don't let the hen run them about. Feed them mash food twice a day instead of once. Push them fast, and sell them for broilers as soon as ready. Never sell your early pullets—that is, the good ones. Always select the best of these for yourself. Never sell the best hens or pullets. There is no one that is too valuable for next winter's layers. Those who always keep the best for themselves go forward; those who sell the best and keep the leavings for themselves always go back. Sell only the culls and those you do not need for yourself, and keep the best. If this rule is followed, you will have better and better stock each year; and will add value to your flock. Those who kill or sell their best early chicks part with the cream of their flock.

CHAPTER IV.

SOME OTHER METHODS.

The First Meal.

The theory has been advanced of late that it is better not to feed the young chicks for seventy-two hours after they are out of the shell. Such a method seems questionable. Seventy-two hours is three days, and it seems hardly possible that any fowl that feeds its young in the nest delays the giving of food to their young so long as this. When hens or turkeys or Guinea fowls hide their nests and bring forth their young, they have them out hunting for food before they are three days old. If left to their own inclination they will begin to eat within thirty-six hours.

No Water.

Never be in any hurry about giving the young chick water. Many grow them without any water to drink until they are old enough to go and find it for themselves; others give nothing but milk to drink till the chicks are three weeks old. Bantam chicks have been known to go six weeks without either water or milk to drink, the hens being provided with water in cups too high up for the chicks to reach. Young chicks can be grown without anything to drink until they are large enough to go and find it for themselves, and they will do quite as well as will those that have it all the time. The claim is that with the no-water system there is less chance or danger from bowel trouble.

When they do have water and are then neglected and no water given them for some time, they will drink so

How to Grow Chicks.

much when they do get to the water as to over-run both crop and gizzard and cause bowel trouble. If the no-water system is tried, the chicks must not have water at one time and no water at another, it must be one thing or the other. Either water all the time where they can help themselves, or none at all. Water all the time seems best. After the chick is one day old, milk will do quite well, or better, if fed according to the directions given in the preceding chapter. Nothing is better than milk, but nothing will do more harm if improperly handled. So very much depends upon good sanitary conditions, that the use of milk must be so guarded as to prevent its smearing coops, chicks, and the ground about the coops.

Rich Food.

There are some rich, oily foods, a little of which is good for the chick, such as millet-seed, hemp-seed, flax-seed, and cotton-seed meal. These are all very rich, and a little of each may be safely fed. But the use of millet-seed alone as a ration has been known to kill hundreds of chicks. Some millet-seed is good, but do not give it to exceed one-fifth of the entire ration. Less than that proportion is better and give but very little of the others, and not too often. These are like pound cake or plum pudding for a child, a little may do well for them, but too much will almost ruin them, just so with too much rich food for the chick.

Care, judgment, and good common sense must be thoroughly combined with all branches of poultry growing. Those who succeed the best are those who apply good common sense methods from start to finish. Keep everything in good order all the while. Push your work

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ahead of you, don't let it push you. Never put off till to-morrow anything that can be done or that should be done at once. Provide all that is necessary for chickens, but don't over-do and coddle and care for them so much as to kill them with kindness, just follow this teaching as to their feeding and care, and success will surely follow.



