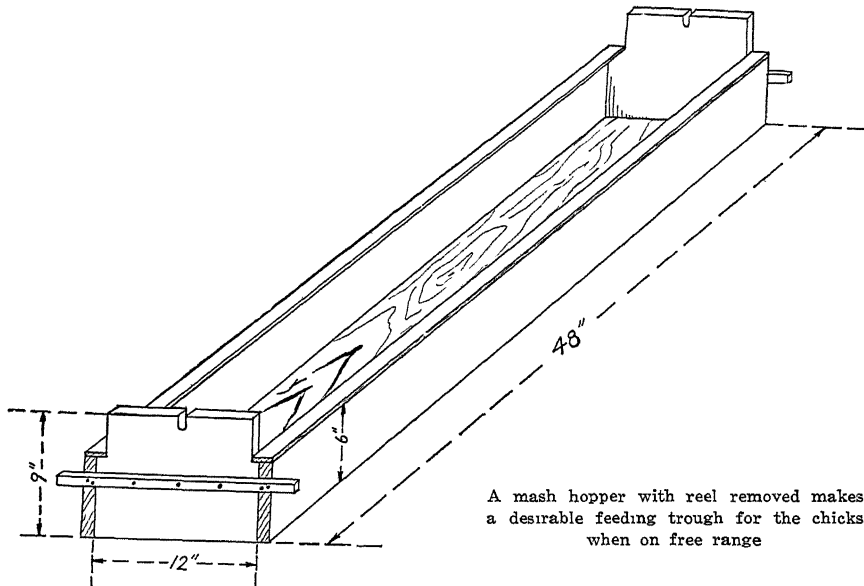


HOW TO RAISE THE CHICKS

G. S. VICKERS, Agricultural Extension Service
Cooperating with
D. C. KENNARD, Ohio Experiment Station

PROPER brooding of chicks is the foundation for profitable egg production. It has been well said that a strong chick properly hatched is half reared, but the strongest of chicks cannot survive faulty brooding without serious injury. If the chicks are poorly brooded, no amount of care afterwards will correct the damage done during this critical time.



A mash hopper with reel removed makes a desirable feeding trough for the chicks when on free range

HATCH EARLY

Early chicks are always more desirable. They grow better, have less mortality, the cockerels are ready for market earlier, hence bring more money, and the pullets are ready to lay earlier in the fall and winter, when eggs are high. Get the heavy breeds in March and the light breeds in April. If this is impossible, secure them as near these dates as possible. Get them all at the same time or as nearly so as possible. Don't put chicks of different ages together. There are few really good reasons for very late chicks.

MOVE BROODER HOUSE TO NEW GROUND

It is always desirable to raise chicks on new, uncontaminated ground. Where the brooder house is movable it should be dragged to new ground, even if only a short distance from where it previously stood. The object is to have

sod immediately around the house, as a grass range is an important factor in the rearing of chicks.

The old bare spots where the house formerly stood should be limed and seeded, if necessary, to get a sod. A good growth of alfalfa, clover, or bluegrass insures a liberal supply of green feed, is much more sanitary than bare ground, and is an insurance against disease. One cannot expect to raise real good chicks on bare ground.

PREPARATION OF THE BROODER

The brooder house should be thoroly cleaned and sprayed with some good coal-tar disinfectant or whitewashed, using unslaked lime. The brooder stove should be overhauled, cleaned, and started up a day or so ahead of time to see that everything is in working order. This practice also warms and dries the house thoroly by the time the chicks are moved into it.

The floor of the brooder should be covered with from $\frac{1}{2}$ to 1 inch of clean and rather coarse sand. This furnishes grit of the desired size and keeps the floor in a more sanitary condition. Litter of some kind should then be put on top of the sand in the form of either clover or alfalfa leaves or finely cut clean straw. One inch is enough for the first few days, then more is added as the chicks get older.

Moldy or spoiled litter must be avoided or serious loss of chicks will result. Litter induces the chicks to scratch for the grain, thereby helping to avoid tail and toe picking, and is a valuable absorbent for excessive moisture. The sand and litter, of course, should be removed when it becomes foul or damp, and fresh litter supplied.

NUMBER OF CHICKS IN ONE BROODER

A common mistake is to put too many chicks under one brooder. Taking, for example, the large-size coal-stove brooder in a 10- by 12-foot or 12- by 12-foot room or brooder house, the maximum capacity is 500, tho better results will be secured with from 300 to 400. In other words, two large-sized coal-stove brooders, each in a room of not less than 10 by 12 feet, should be provided for from 600 to 800 chicks.

It is always advisable to buy the larger size coal-stove brooders, even tho they are to accommodate but 200 chicks. They have a larger fuel capacity, which simplifies the problem of maintaining the desired temperature during the coldest nights, as well as having a reserve heating capacity when required.

TRANSFERRING THE CHICKS TO BROODER

The chicks should not be removed from the incubator until at least 36 to 48 hours have elapsed after the last chick is out of the shell. This gives them a chance to dry thoroly and to get hardened before being transferred to the brooder. It also gives them time to digest the egg yolk which is taken into the body just before they are hatched, and which furnishes nourishment for a considerable length of time. To remove the chicks from the incubator as soon as hatched and feed them immediately will surely result in digestive troubles.

A good time to remove them is in the early afternoon so that they can be watched awhile before darkness comes on. In removing chicks to the brooder they should be protected from the cold, because chilling always results in bowel trouble. A box or basket lined with cloth and a like covering for the top will serve as a means for transferring the chicks from incubator to brooder.

When the chicks are moved to the brooder the temperature should be about 100 degrees Fahrenheit, 1 foot from the stove and 2 inches above the floor under the hover. It is important that the brooder house be large enough so that the chicks can get to a cooler place during the day, if they so desire. For the first few days, in order to prevent them from crowding in the corners

and chilling, it is advisable to have a wire netting arranged about 2 or 3 feet outside and around the hover to form an inclosure. This inclosure may be enlarged a little each day, so that finally it only keeps the chicks from crowding in the corners of the house. This screen can be of ½-inch mesh hardware cloth, 1 foot wide, and of length to suit the needs.

The temperature should be regulated according to the action of the chicks, but ordinarily it may be reduced about 5 degrees a week. See to it that there is plenty of heat to keep the chicks warm under the hover, with enough room outside of the hover for them to get away from the heat. Usually no artificial heat is needed after 8 or 9 weeks.

RANGE

Provided the weather will permit, the chicks should be out on the ground within 8 or 10 days after hatching. The sooner after this time they get on the ground the better will be their health. For the first week or so out of doors they should be confined close to the house so that they will learn to know where they belong, and where the source of heat is when they get cold. After this, they should be allowed to range at will, except that they should not be let out in the morning or after rain until the grass is dry. Nothing is so good for young chicks as a good range of clover or alfalfa. They grow faster, have less disease, and make better pullets.

FEEDING

DIETARY ESSENTIALS

Too many chicks die at an early age as a result of improper feeding. Chicks are sure to die or fail to grow properly if they do not receive certain dietary essentials required to meet their needs for rapid growth. In other words, they must have a complete ration.

A complete ration embodies the following essentials: fats, carbohydrates, proteins, fiber, mineral matter, and the vitamins. The most vital of these are proteins, minerals, and vitamins, of which every ration is deficient unless liberally supplemented with milk and green feed. The welfare of every flock of chicks is vitally dependent upon these essentials.

MILK

Practical poultrymen and investigators are agreed that no ration for chicks is complete unless it contains milk. Milk is the simplest, the cheapest, and the most effective means of supplying the vital factors mentioned above. In addition, milk has the added power of stimulating the appetite for other feeds. Exhaustive experiments have shown that milk will cut down the mortality rate from all causes, hence it is poor economy to neglect to supply an abundance of milk.

Skimmilk or buttermilk are the forms easily available to most poultrymen and are the most satisfactory to feed. Where either of these forms are not available semi-solid buttermilk should be procured. This can be purchased in either 100-pound kegs or 500-pound barrels.

Start feeding milk as soon as the chicks are in the brooder. By all means see to it that milk is available until the chicks are eight weeks of age. It is also desirable to continue its use thruout the summer.

GREEN FEED

Green feed is second only in importance to milk; in fact, it is possible to use green feed to replace milk, but it is not advisable. An abundance of green feed should be fed in addition to the milk. It promotes growth and is undoubtedly a valuable insurance against digestive disorders and faulty nutrition. This is especially true when the weather prevents the chicks from running at large on the range.

The proper feeding of green feed is often neglected. It must be the kind that is relished by the birds, so that they will eat large quantities. It is also necessary to cut it fine so that it can be readily eaten, thus helping the chicks form the habit of eating it freely during the second week in the brooder.

A common mistake is the idea that if the chicks are on range they need no other green feed. Sometimes the range becomes picked over and depleted of succulent material, and in such cases additional green feed should be fed.

There are a number of green feeds which may be used, such as alfalfa, clover, sprouted oats, dandelions, lettuce, and chickweed. Sprouted oats is perhaps the best source early in the spring. While the chicks are young these sprouts should be cut in short lengths. As soon as clover or alfalfa is available it may be used.

RATIONS

Scratch Grain		Mash	
First six weeks:		First week:	
	Parts		
Fine cracked corn.....	2	Bran or standard middlings.	
Cracked wheat.....	1		
Pinhead or rolled oats.....	1	Second week to maturity:	Parts
		Ground corn.....	4
After six weeks:		Bran.....	2
		Standard middlings.....	2
Medium cracked corn.....	3	Meat scraps or tankage.....	1
Whole wheat.....	1	(Meat scraps or tankage 2 parts when milk is not available.)	

Skimmilk or buttermilk should be available at all times from the very beginning and up until eight weeks nothing else should be given to drink. After eight weeks water may be given, or they may be on range where they will get it anyway. If milk is not fed after the chicks are eight weeks of age, the meat scraps or tankage should be increased as noted.

Green feed. Give all they will eat after the first week.

Oyster shell and grit in hoppers always available.

METHOD OF FEEDING

SCRATCH GRAIN

During the first day or two the scratch grain should be fed on sheets of paper or plates of some kind. In this way all of the birds learn to eat at one time. After this, the grain may be fed in the litter. During the first 10 days the grain should be fed sparingly five times daily. Gradually the number of feedings may be decreased until the chicks are four weeks old, when night and morning feed only is given. As soon as the chicks are out on range the grain may be hopper-fed, available at all times.

DRY MASH

Dry bran or standard middlings should be available during the first week in shallow pans or boxes. After the first week the mash as given above should be fed. If the weather is such that the chicks need to be confined very long, and trouble is experienced with leg weakness, the mash should be removed and bran or middlings substituted until they are again able to be on the range. When on range have mash available in hopper at all times.

After the chicks are three or four weeks old the box part of the regular mash hopper (as shown in the cut, and recommended by the Experiment Station) is very good. Remove the reel so the birds can get into the feeder to eat. Any long, open hopper about a foot wide and deep enough that they cannot scratch the mash out is satisfactory.