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DEPARTMENT OF POULTRY HUSBANDRY.

Chicken Management on the Farm.

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SELECTION OF STOCK.

THE BREED. The objects of keeping poultry on the farm are to supply the home with fresh meat and eggs and to secure an income from the poultry and eggs sold.

Those who keep poultry largely for the home supply of meat and eggs will do well to select the Plymouth Rock, Rhode Island Red, Wyandotte, or Orpington. These breeds lay a medium number of brown-shelled eggs, and at the same time have a carcass which is large enough to meet most family requirements.

At present prices, there is little question but that it is more profitable to keep fowls for egg production than for the meat they produce. Therefore, those who expect to secure a large income from their poultry will probably select such breeds as the Leghorn, Minorca, or Ancona. These fowls lay a larger number of eggs at a lower cost than the first-named breeds, but have a smaller carcass. They are superior to the heavier breeds as rustlers, but are affected more by sudden changes in temperature.

The selection of a breed within one of these groups is not as important as the selection of a good strain or family in the breed chosen. Some breeders select for egg production, while others devote more attention to shape and color. A growing number are developing families which combine all these quali-

1. The text of this circular was prepared through the cooperation of the Extension Division of the Kansas State Agricultural College with the Poultry Husbandry Department of the Kansas Agricultural Experiment Station. R. M. Sherwood is specialist in poultry husbandry in the extension division and acting head of the department of poultry husbandry during the year 1916-1917.

ties. The farmer, because of his requirements, will doubtless be more interested in the work of the last-named breeders.

CONSTITUTIONAL VIGOR. The vigor of the fowls has to do with the health and mortality of the stock, the number of eggs laid, the per cent of these eggs which hatch, and the health and growth of the chicks hatched from these eggs.

A vigorous fowl should have a relatively deep, wide head, with a short, curved beak. The eyes should be prominent and the comb well developed and fiery red. The body trunk should have the depth and width necessary to furnish ample room for the digestive and reproductive organs. A long, straight breast bone adds to the strength of the fowl, because it furnishes a better support for the digestive organs.

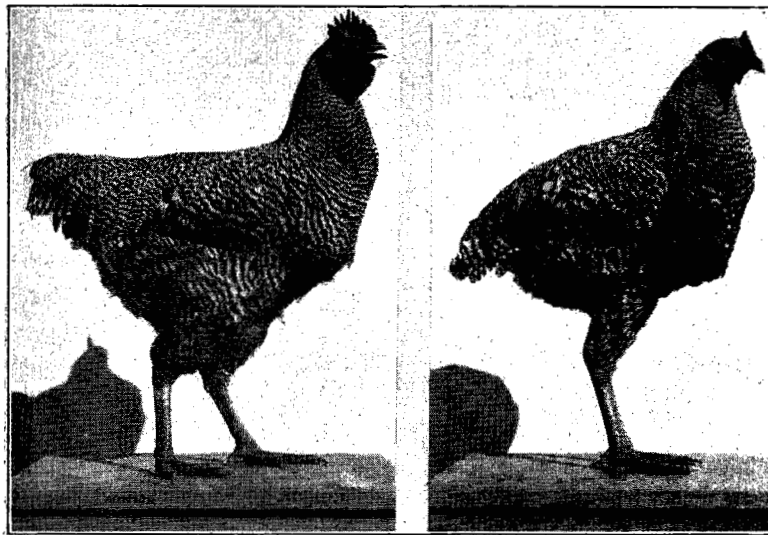


FIG. 1.—Strong and weak constitutional vigor. Note the difference in depth and width of body, shape of head and strength of thighs.

An individual supported by strong, parallel legs, with the nails of the scratching toes well worn, is desirable, while the long-nailed or "cow-hocked" individual should not be tolerated.

The development of the sex characters should not be overlooked. Hens with male characteristics lay very few eggs, if any at all. On the other hand, feminine cockerels are generally whipped out by the stronger males, and are poor breeders.

THE FARM BREEDING STOCK.

It is impossible to have the best of hatches unless the eggs are produced from vigorous hens which have been well housed and fed. The eggs from mature hens are more desirable for hatching than the eggs of pullets, for two reasons: (1) Mature hens' eggs are larger and hatch better than pullets' eggs, and the chicks hatched are larger and more vigorous; (2) pullets usually lay more eggs during the winter than hens; this tends to injure the hatching quality of the eggs laid during the following breeding season.

It is therefore advisable to select the strongest and most vigorous hens for the farm breeding flock. There is no reason why any distinction should be made between the breeding flock and the laying flock during nine months of the year. All should have the run of the farm. At least three weeks before the first eggs are to be saved for hatching, the breeding flock should be confined in a roomy pasture and mated with selected males.

MATING FOR INCREASED EGG PRODUCTION. It has been found, by recent experiment, that only the male can transmit to the female progeny the ability to lay the largest number of eggs. This is very fortunate for the farmer, because if highest egg production was inherited from the females, marked progress in egg production would necessitate the use of the trap nest and pedigree hatching, both of which are impractical on the general farm. As it is, he can improve his stock by purchasing pedigreed males from high egg-producing lines and mate to his vigorous hens.

NUMBER OF HENS TO ONE MALE, If kept closely confined, the number of hens mated to one male should be from eight to twelve for Brahas, Cochins and Langshans; from twelve to eighteen for Plymouth Rocks, Wyandottes, Rhode Island Reds, Orpingtons and other fowls of similar weight, and eighteen to twenty-five for breeds similar to the Leghorn, Minorca and Ancona.

SELECTION AND CARE OF EGGS FOR HATCHING.

Not all eggs from the best breeding stock are good for hatching purposes. They may be small in size, or poor in shape or texture of shell. Others may be slightly cracked or dirty. Small eggs should never be incubated, as they do not hatch well, and pullets from them often lay undersized eggs. A small egg is not wanted on the market; two ounces is generally looked upon as the standard weight.

Only clean eggs should be selected for incubation, as dirty or washed eggs never hatch as well as those that have never been soiled.

Since the egg begins to incubate when it reaches the temperature of 68°, they should be kept below that point. It is commonly advocated keeping them between 45° and 65°.

Eggs should not be kept for hatching any longer than is absolutely necessary, although they may be held as long as two weeks at correct temperatures, if they are turned several times during that period.

INCUBATION.

NATURAL INCUBATION.

It is advisable to have a clean, cool, well-ventilated room for sitting hens. If it can be darkened after feeding time, so much the better, as the hens will be quieter. Hens that are set in the henhouses are disturbed by the other fowls more or less, and are more likely to break eggs or become infested with lice and mites.

The nest boxes should be roomy. A nest 16 inches square and 6 inches deep is none too large for the medium-sized breeds. The nest material should be shaped to conform to the body of the hen, so that the eggs will roll into a compact group, which will be easily covered. At the same time, care should be taken that the nest material is not rounded out so much that the eggs will not roll apart when the hen steps among them. The nest should be placed where the hen will not need to fly or jump into it. If placed on the floor there is little danger of broken eggs, where the nest is properly made.

Clean, cool water and plenty of whole grain, grit and charcoal should be available whenever the hen leaves the nest.

Nothing in the nature of sloppy feed, which tends toward bowel looseness, should be fed.

A sitting hen should be rendered louse-free before being set, as lice form one of the greatest and commonest sources of danger to hen-hatched chicks. She should be thoroughly-dusted with good insect or louse powder before being placed on the eggs. This should be repeated at the end of the first and second weeks of the incubating period. It is unsafe to dust the hens just before hatching, because some of the commercial powders are of such strength that they will kill chicks under a week old.

ARTIFICIAL INCUBATION.

THE INCUBATOR. Incubators are divided into two general types, according to the means used in transmitting the heat from the heater to the egg chamber, namely, air and water. They are usually referred to as "hot-air" and "hot-water" machines. Both types have their advocates, but there is little evidence that either type is superior to the other. There is more difference between the quality and workmanship of different makes of machines than there is between these types.

PLACE TO OPERATE AN INCUBATOR. The room where the incubator is to be operated should be as uniform in temperature as possible, with good ventilation and without drafts. The cellar usually furnishes the uniform temperature, but does not always have adequate ventilation. A cellar has the further advantage of being out of the way of persons other than the one who is to operate the incubator. Many a promising hatch has been spoiled by some one innocently tampering with the machine. The location of the incubator in the room should be such that direct sunlight can never strike it. Direct sunlight falling on a machine is very likely to raise the temperature to a point beyond the power of the regulating device to overcome.

PREPARING AN INCUBATOR FOR HATCHING. The incubator should always be leveled. If one side is higher than the other, the heat will rise to that part of the egg chamber, leaving the rest of it comparatively cool. The levelness of the machine may be found by laying an ordinary carpenter's level along the top from front to back and from side to side. If a level is not available, a pan or trough of water may be used in its place. This will give fairly accurate results.

If the incubator has been used before, it should be carefully disinfected with a 3 per cent solution of one of the coal-tar stock dips. The interior of the incubator and all its parts should be thoroughly drenched.

At the beginning of every hatch the lamp must be put in perfect order if "smoke-ups" are to be avoided. Oil left over from a previous hatch should be drained out of the lamp bowl, and new oil used. The bowl should not be filled beyond a point a half inch from the top. If filled fuller it is very likely to work up on the burner and cause smoking. A new wick should be used for each hatch, and should turn up and down freely and have the corners so trimmed that when lighted it will give a round flame.

At the beginning of every season the incubator thermometer should be tested. The fact that the thermometer is all right one season is no criterion that it will be accurate another season. The thermometer may be tested with the aid of a clinical thermometer, which may be borrowed from a physician. A bucket of water heated to a temperature of about 105° should be used, and the thermometer bulbs moved back and forth through the water rather rapidly. If the temperatures registered are the same it may be assumed that the incubator thermometer is correct. If it registers high or low another thermometer should be secured.

Sometimes the ether escapes from the wafer of the thermostat, and then the regulator will not work accurately. The machine should be heated a couple of weeks before it is to be used, in order to test the regulator. If it does not work accurately a new wafer may be secured from the company. The bimetal thermostat is not subject to this trouble, but should be tested, however, to see that it is in perfect adjustment.

OPERATION OF THE MACHINE. The directions which are received with the incubator should be studied very carefully. If they are lost a new copy should be secured from the company. Different incubators operate differently, and it is, therefore, impossible to give directions which will cover all conditions.

The temperature varies with the type of incubator, season of the year, location of thermometer, and length of time eggs are cooled. The most satisfactory hatches come off on the twentieth and twenty-first days. The eggs from smaller

breeds have tendency to hatch a little earlier than those from larger fowls.

When the bulb of the thermometer is placed on a fertile egg it should register 102° to 103° the first week and raise about one degree during the period. If the thermometer hangs an inch or more above the eggs it should register a temperature of 103° and keep this temperature throughout the entire period.

Ventilation in the ordinary incubator is important in so far as it has to do with the evaporation of moisture from the egg. Some machines have enough ventilation that moisture must be supplied in pans under the eggs, to prevent them from evaporating too much. Other machines may be operated with so little ventilation that the eggs do not evaporate enough.

The eggs in the incubator may be candled during the period, and compared with eggs under hens. The ventilation of the machine may be varied to allow the eggs to evaporate similar to those under hens.

Experiments show that it is advisable to turn eggs at least twice a day after the third day. This is important because of the different temperatures in different parts of the egg tray, as well as to change the position of the germ in the egg.

A very satisfactory method of turning eggs is to remove four or five rows of eggs from the front part of the tray. The remainder of the eggs are carefully shuffled to the front and to the center of the tray. The eggs which were removed are placed in the back part of the tray. The tray is then replaced in the incubator in its original position. If the eggs are thoroughly shuffled to the center as they are rolled forward it will only be a few days before the eggs have been in every part of the tray.

With some machines better results are secured when the eggs are left on top of the incubator to cool a few minutes once a day. This practice should not begin until after the third day of incubation.

BROODING.

NATURAL BROODING.

On farms where comparatively few chicks are hatched each year, brooding is done by hens. Success may be had with little or no equipment beyond a quiet, broody hen, and a coop that will protect the hen and her chicks from weather and

enemies. A coop and a small protected run, similar to the one shown in figure 2, will be found convenient, serviceable and profitable. It should be placed on a grassy range.

Capons are sometimes used as mothers, but are considered generally as rather more of a curiosity than a success. They are clumsy and kill a number of chicks the first week. It is also rather expensive to feed a capon a full year in order to use him as a brooder.

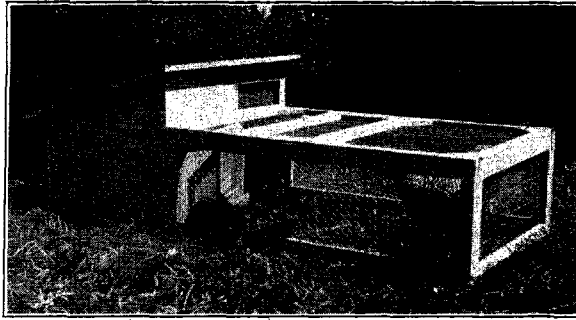


FIG. 2.—Coop for hen and chicks. With equipment of this kind the chicks are protected from their enemies or confined when the grass is wet.

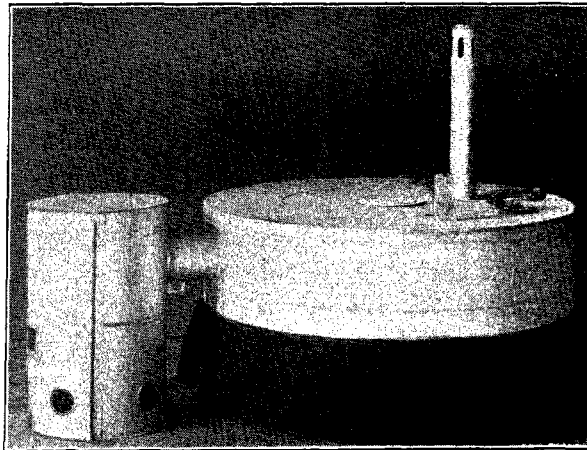


FIG. 3. Small indoor brooder.

ARTIFICIAL BROODING.

THE BROODER. The brooder, to be satisfactory, must be able to supply a temperature of 95° to 100° on cold days, without danger of fire. It should also have a cooler compartment, Ventilation, sunlight and ease of cleaning and disinfecting are also important.

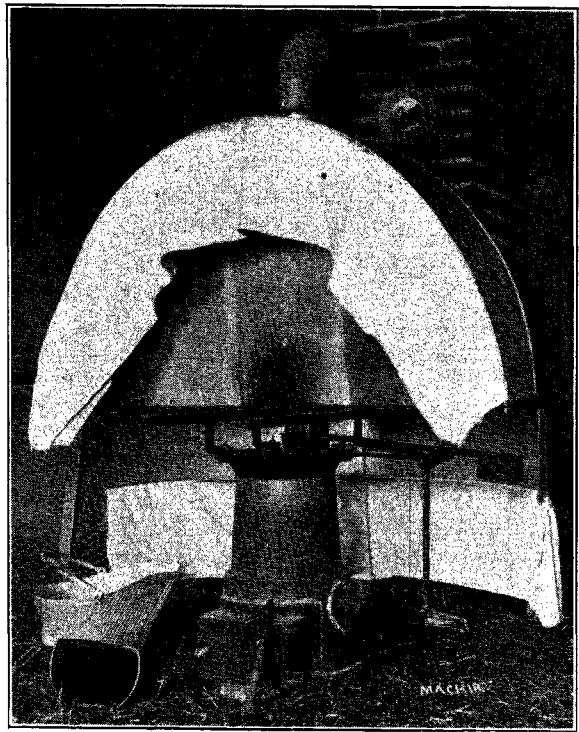


FIG. 4.—Large coal brooder, suited for 200 to 500 chicks.

There are two types of brooders which supply these conditions, namely, the small-flock brooder and the large-flock brooder. The small-flock brooder is often referred to as the portable hover, because the heater and hover are not attached to the building and are so built that they may be picked up and carried about by one person. This is a great convenience, because it allows any warm building to be used for brooding, with very little trouble. These brooders care for fifty to seventy-five chicks.

The large-flock brooder is usually a small, hard-coal stove, fitted with a hover, as shown in figure 4, although other types of heaters, using as fuel crude oil, kerosene and gasoline, are on the market. From two to four or five hundred chicks may be raised until they are ten weeks old in a single flock. These large brooders may be more in demand in this state, as the number of community hatcheries increases and it becomes possible to secure a large number of chicks all hatched at the same time.

OPERATION OF THE BROODER. The brooder and house should be thoroughly disinfected with a three per cent solution of a good stock dip. The heater should then be lighted and the house dried out. The floor should be covered with a fine litter, preferably cut clover or alfalfa hay or leaves.

For the first few days a small mesh poultry netting should be placed around the hover 12 or 18 inches from its circumference. This keeps the chicks close to the heat. If rats are troublesome a cover of similar material should also be provided.

The hover should be warmed to a temperature of 95° to 100° and carried at this temperature for a day or two before the chicks are placed under it.

The routine of handling a brooder consists of the daily care of heater, frequent and thorough cleaning of hover, and, in case of sickness, careful disinfection. Any dead chicks should immediately be burned or buried deeply, and any sick ones killed. The chances of their making a satisfactory recovery and growth are slight, while the chance of their communicating disease to the balance of the flock is great.

FEEDING.

THE FEEDS. The purposes for which farm chickens are usually fed are growth or egg production. There is no one best ration for either of these purposes. On the other hand, there are numerous combinations of feed which are equally efficient for each purpose. It must be clearly understood, however, that no ration is really efficient which does not have an ample supply of the particular kinds of feeds which come nearest to supplying the special needs of the stock fed. The

most efficient combination of feeds is also the one that supplies these special needs at the lowest cost.

The most common Kansas chicken feeds are given below, divided into four groups:

1	2
Corn.	Commercial meat scraps.
Kafir.	Sour skim milk.
Milo.	Buttermilk.
Oats.	Bran.
Wheat.	Oilmeal.
	Cottonseed meal.
3	4
Oyster shell	Pasture.
Bone meal.	Silage.
Charcoal.	Mangel beets.
Grit.	Cabbage.
	Sprouted oats.

The first group contains those feeds which are fed chiefly to supply heat and energy. They tend to cause fattening, however, when not combined with feeds of group 2. Of the feeds given in group 1, the first three are generally the most economical. Heavy oats may be used in small amounts with excellent results, but they contain too much hull to make them satisfactory for a large per cent of the ration. Wheat may be fed when low in price; but when the price is high, corn and bran may be substituted for it with equally good results.

The second group is composed of feeds rich in protein, the food material necessary for the formation of muscle, feather and egg white. This is the group of feeds most commonly omitted on the farm. Some of these feeds must be fed with those of group 1 if best results are to be secured.

The first two feeds given in group 3 furnish shells and bone-making material. They are necessary for the production of eggshells and for most satisfactory growth. Charcoal, which is included in this group, furnishes no nourishment, but is fed to young chicks for the favorable effect it has on digestion. Grit is necessary to assist in grinding the food.

The fourth group contains the succulent feeds. These furnish some food material, but are recommended chiefly for the favorable effect they have on the appetite and digestion. The green feeds give the egg yolk a rich golden color.

FEEDING CHICKS. As soon after hatching as little chicks appear decidedly hungry, which will usually be 36 to 48 hours, feed a little sand or commercial chick grit and give them sour milk or buttermilk to drink. Aside from the milk, the first feed may consist of one part hard-boiled egg, chopped fine, including the shell, thoroughly mixed with five parts rolled oats or bread crumbs. On the second day both water and milk are given, and a scratch feed of finely cracked wheat and corn in equal parts may be scattered in the shallow litter. At the same time a mash should be fed, which may consist of 9 pounds corn meal, 10 pounds wheat bran, 2 pounds bone meal, and $\frac{1}{2}$ pound granulated charcoal.

Chicks are highly susceptible to musts and molds, and to feed grains that have molded in the bin is almost as bad as feeding so much poison. Only as much of the scratching feed should be given as the chicks will scratch out and clean up in twenty minutes to half an hour. The mash should be fed in shallow troughs. If the chicks have range, this may be left before them all the time. If they are confined to small runs, only as much as will be cleaned up in half an hour should be fed.

It is best to feed five times a day for the first week. After that three times a day is sufficient. As soon as the chicks will eat it, whole wheat and kafir may replace the cracked wheat and corn.

If it is impossible to supply the chicks with sour milk, add a half pound of commercial meat scrap to the dry mash after the first week. This should be gradually increased to 4 pounds at the end of the fourth week.

When there is not an abundance of tender green shoots for the chicks it will be found highly beneficial to feed a good-sized onion every day for each fifty chicks. Slice the onion so as to form rings. This is highly relished by the chicks, and is particularly fine to liven them up when they are dumpish on a gloomy day. They fight over it, thereby gaining exercise and stimulating the appetite.

Care must be taken with growing chicks, as with older stock, not to overfeed. At the Kansas Station it is the practice to feed nearly all the chicks will consume with relish until noon. From noon on they are allowed to become quite hungry.

Toward evening a very liberal feed is given, so that every chick may go under the hover with a full crop.

GROWING THE PULLETS. When the pullets are ten to fourteen weeks old they should be separated from the cockerels and put on a free range with plenty of shade. If early hatched they should not be developed too rapidly. The ration should include a larger proportion of the feeds from group 1 and a somewhat restricted amount from group 2. A very suitable mash for the purpose is made of 2 pounds wheat bran, 1 pound shorts, and 1 pound fine corn chop, fed in a hopper and kept before them all the time. If the range is limited, so that the supply of bugs and worms is not large, meat scraps may be added to this mash, but should not exceed 10 per cent of the mash in any case. If sour milk is available it is preferable to the meat scrap and should be kept before the birds all the time. During extremely hot weather some of this mash may be mixed with sour milk or water and fed at noon. It seems to have a cooling effect on the birds and helps to keep them quiet during the heat of the day.

GROWING THE COCKERELS. The cockerels on most general farms are really the by-product of pullet production, and should be finished out for market as rapidly as possible. At the time the pullets are put on free range, the cockerels may be given a mash containing corn meal, wheat bran, shorts, and meat scrap; in equal parts by weight. Sour milk may be fed in addition. The mash and milk should be kept before them constantly, and a grain ration fed in connection with it. The wet mash at noon on very hot days is desirable for the cockerels, just as in the case of the pullets. There should be a constant and plentiful supply of grit and granulated bone or oyster shell.

Cockerels to be kept for breeding purposes should be handled in a similar manner to pullets.

FEEDING LAYING HENS. It is too common a practice on Kansas farms to let the hens shift for themselves during the spring and summer, or, at most, to throw them a little grain. Birds fed in this way seldom give a profitable production the following fall and winter. In most cases it will be safest to feed a well-balanced ration, excepting green feed, throughout the spring and summer as well as through the winter months;

the amount is limited to the needs of the hens. All but the heaviest breeds will keep active, ranging for insects and tender shoots even when fed. They will, in fact, consume only so much of the ration furnished as is necessary to supplement the feed picked up. It is only stock that comes through the summer in good condition that can be expected to lay many winter eggs, because heavy egg production, and particularly winter egg production, is a severe drain on the vitality of hens.

A scratching feed composed of two of the most economical grains from group 1 (see page 11) is satisfactory. This feed should be changed as prices become extreme. A mash containing feeds in proportion similar to those below should be fed with the scratch feed:

- 6 pounds finely ground corn chop.
- 6 pounds wheat bran.
- 3 pounds wheat shorts.
- 2 pounds commercial meat scrap.

If the birds have all the sour milk or buttermilk they care to drink the meat scrap may be cut to 1 pound. Oyster shell and grit should be kept before the birds continually.

The successful handling of hens depends as much upon how they are fed as upon what they are fed. Just as there are several good rations, so there are several routines of feeding that are equally satisfactory. The one suggested here has been used with excellent success in connection with the ration given above.

The first thing in the morning a light feed of grains is well scattered in a deep litter of straw, so that the birds will be compelled to work vigorously in scratching it out. This usually keeps the birds busy until between ten and eleven o'clock. At noon the self-feeding dry-mash hopper is opened and left open during the afternoon. If the birds are not running on pasture, as much green feed (group 4) is given as they will clean up in a half hour. If mangels are used they should be split. At least two hours before sundown a liberal feed of grain is given. The birds should go to roost with full crops; therefore there is no objection to throwing down a little more grain than they will consume.

The proportion of about 2 pounds of scratch feed to 1 pound of mash should be maintained. However, when the hens are laying a large number of eggs they require more moist feed

than when only a few eggs are laid. It is sometimes necessary to close the mash hopper or withhold the scratch feed in order to maintain these proportions.

Fresh water should always be given in the morning and again at noon. The birds need the fresh water in warm weather, and changing the water at noon in cold weather will prevent freezing except in the case of extreme temperatures.

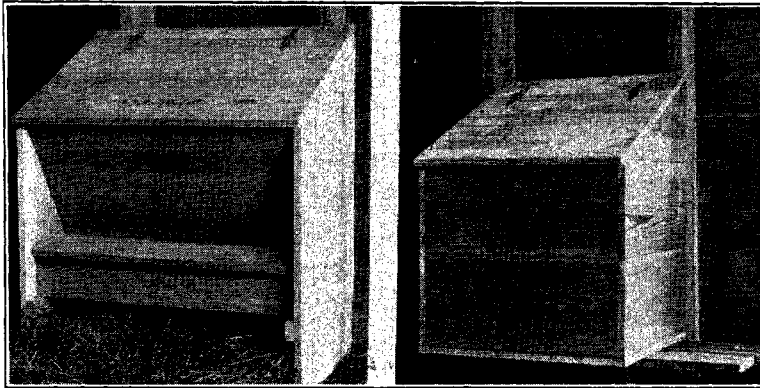


FIG. 5.—Mash hopper to left. Grain bin to right.

HOUSING.

LOCATION OF THE HOUSE. It is not always possible to locate the house in the place best suited for the fowls. When convenient, however, the house should be located on a southern or eastern slope, as they are warmer and dryer. The snow melts quicker than on level ground or on opposite slopes, therefore furnishing a much more desirable winter and early spring range for the laying flock. The air is also dryer and warmer on the slopes than in the bottom of ravines. Shelter from both the wind and sun should be considered. Trees and shrubs help to furnish this protection.

ESSENTIALS OF A SUCCESSFUL HEN HOUSE. A poultry house to be thoroughly successful should furnish the fowls with protection from dampness, drafts, filth and other causes of discomfort, as well as from diseases and from their larger enemies. Such a house will admit sunlight, provide ample floor space, and be easy to clean and disinfect.

TYPES OF HOUSES. Houses are of two general types, so far as service is concerned. These are the portable and permanent types. Both types appear in many styles and shapes. The par-

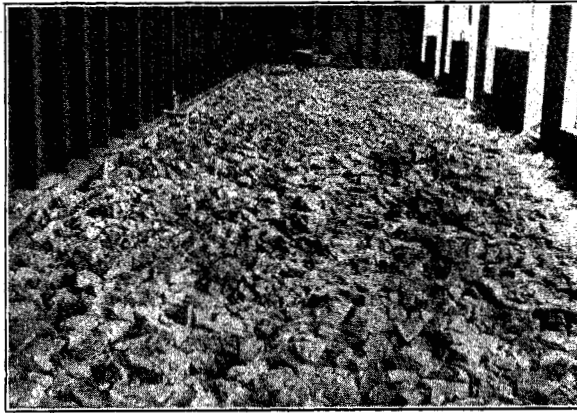


Fig. 6.—Rock foundation for cement floor. This prevents the moisture from coming up from the soil below. A floor on such a foundation should be dry.

ticular style of house makes little difference so long as the conditions it furnishes are good. Every farm should have, in addition to the permanent chicken house, at least one portable house, and many farms will find it an advantage to have more than one. They are desirable in raising young stock, which should be on fresh ground each season. Such a house, equipped with a portable hover, may be used to raise chicks from hatching to maturity. Farmers in the southwestern part of the state have been reported as saving part of an alfalfa crop in grasshopper years by hauling portable houses full of chickens to the alfalfa field and allowing the chickens to subsist on grasshoppers and alfalfa. This also works successfully in saving waste grain.

PERMANENT HOUSE FLOORS. Portable house floors are from necessity of wood. For permanent houses, however, concrete and building tile floors are coming rapidly into favor. They are easily cleaned, rat proof, long-lived, and practically as cheap as board floors. If properly constructed and well littered with straw, they are not cold or damp. With concrete floors the moisture may be kept out by putting in coarse rock as a floor foundation, as shown in figure 6.

WALL CONSTRUCTION. In building poultry houses in the more northern states it is the rule to have the house tight on three sides. The south side should be boarded up from the ground from 30 to 36 inches. Above the boarding a small

amount of glass may be used. The balance of the south side should be left open. A muslin or burlap curtain may be provided for stormy or cold weather. Such construction is splendid for Kansas winters, but during the summers there must be ventilation from the north side if it is to be comfortable for the fowls. It must also be so arranged that the birds will not be in a direct draft when on the perch.

A door under the eaves should be so made that it can be tightly closed during the cold months. At this station roofing paper is always tacked over the closed door during the winter as an extra precaution.

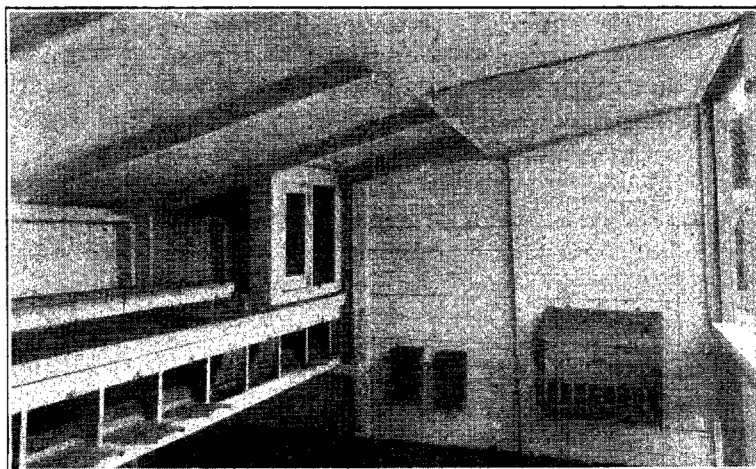


FIG. 7.—Interior arrangement of house. Note perches over dropping board, and the brooding coop at end of the perches.

FIXTURES. The poultry-house fixtures should be simple, few in number and portable. They will usually consist of a perch, with or without a dropping board, a feeding shelf, nests, and a broody coop.

The perches should provide 6 to 8 inches of room for each fowl and be 14 inches apart. Overcrowding is very likely to be followed by an epidemic of colds or roup. All perches should be on the same level, to avoid the crowding that results from the effort of all to sleep on the top perch. The most common material used for perches is 2-in. by 3-in. lumber. This may be placed on edge and the upper edges rounded to avoid bruising the feet.

If it is desirable to save the droppings for gardening purposes or to put the nests under the perches, it will be necessary to provide a dropping board. This should be made of good matched material so that there will be a minimum of cracks for mites to hide in. It should be removable, so that the ends may be easily accessible for spraying. A dropping board also keeps the straw under the perches clean for scratching. The house will thus accommodate more chickens than where a dropping board is not used.

A good nest should be roomy, easily cleaned and sprayed, dark and conveniently located. For most farm fowls a nest 14 inches square and 6 inches deep is a good size. There should be one nest for every five hens in farm flocks of ordinary size.

Hens are quite likely to roost on the edges of the nests during the molting season and foul them, owing to the fact that their bodies are tender from the growing feathers and they try to escape the crowded perch. It is a great advantage to be able to close the nests at the time of the evening feeding. This is accomplished by means of a slide door, as shown in figure 8.

A feeding shelf may be constructed to keep the feed hopper and water pan up out of the way of the floor litter as it is

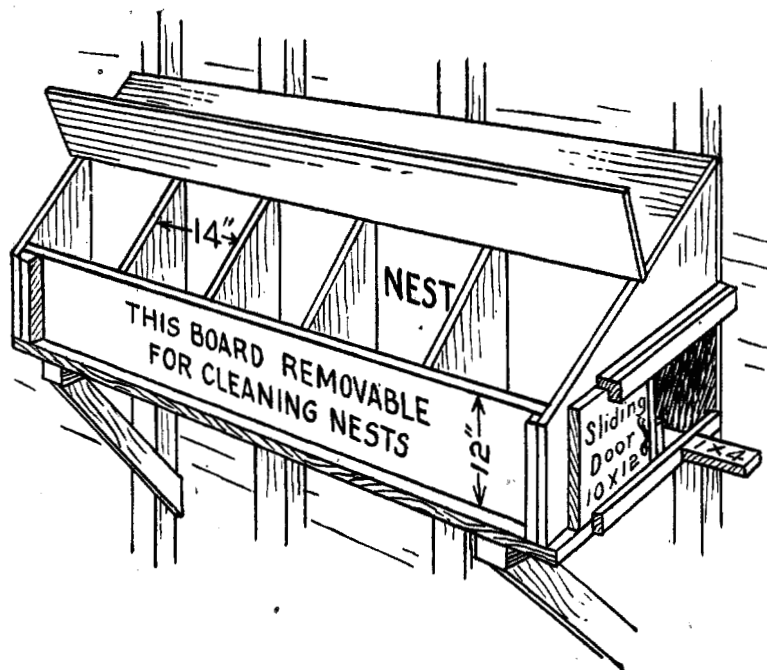


FIG. 8.—A good type of wall nest.

scratched about by the hens. It should be made of slats set 2 inches apart, thereby being partially self-cleaning. A broody coop is a convenience in every house for breaking up broody hens. It should be provided with a slatted bottom, so that it will be self-cleaning and there will be no accumulation of nesting material.

CARING FOR THE CHICKEN HOUSE. The poultry house should be littered at all times with straw 8 to 12 inches deep. This should be renewed whenever it becomes damp, badly broken up or so full of droppings that grains thrown down are not quickly lost from sight.

Where a dropping board is used it should be cleaned frequently (once a week is satisfactory), because disease germs and mites accumulate here. If not removed, the feet of the birds also become very foul, causing a large per cent of dirty eggs.

As a matter of precaution against disease, the poultry house should be thoroughly cleaned and then soaked in every part with a 3 per cent solution of a good stock dip at least once every year.

Another reason for spraying is the appearance of the chicken mites. These are usually first noticed on the under side of the perches or in the corners of the nests, where they live, rather than on the fowl's body. They stay on the body of the hen only long enough to feed. In order to get entirely rid of them it is necessary to spray two or three times, because the eggs are laid so far back that the disinfectant does not reach them. In warm weather the sprayings should follow each other at intervals of five to seven days. If it is cool, ten days will be sufficient.

The chicken louse is also a very common poultry parasite. It spends most of its life on the fowl, and is thus not controlled by cleanliness in the house. It is controlled by dust baths, dust powders and blue ointment.

A good, yet cheap, lice powder can be made by mixing 3 parts of gasoline with 1 part of cresol, and gradually stirring in plaster of Paris or building cement to take up the moisture. This mixture is dried, after which it is ready to apply thoroughly to the mature fowls.

Blue ointment may be purchased from a drug store and mixed with equal parts of vaseline. A piece about the size of a pea should be thoroughly rubbed into the fluff close to the vent.

A second application should be made eight or ten days later to kill the lice which hatch after the first application. This ointment kills the lice by poisoning, while the louse powders may suffocate them.



FIG. 9.—An easy way to candle eggs—by means of a heavy paper tube and sunlight.

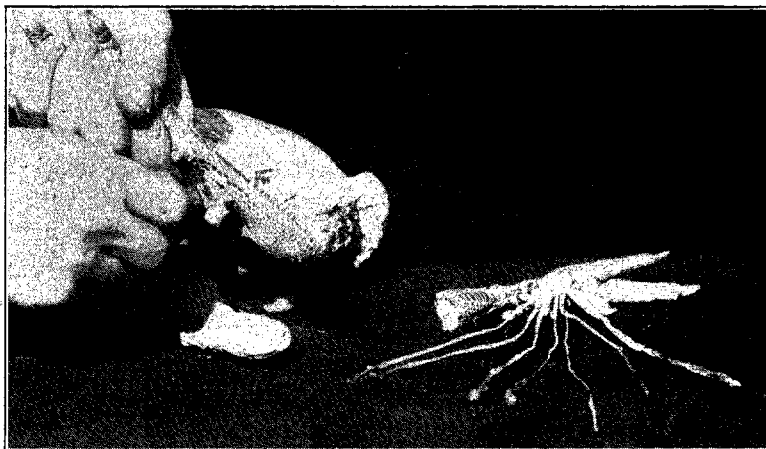


FIG. 10.—Pulling tendons and removing shanks.

MARKETING POULTRY PRODUCTS.

SAVING EGGS FOR MARKET. When not carefully cared for, eggs will spoil almost as quickly as milk or butter. In saving eggs for market, therefore, it should be the purpose to keep them as nearly as possible in the same condition as when first laid. Eggs lose their freshness by shrinking, incubating, be-

coming watery, molding, or absorbing odors. Since these defects increase with age, the eggs should be marketed as promptly as possible after they are laid.

An egg does not need to be in an incubator or under a hen in order to incubate. If it is fertile it will begin to develop at a temperature slightly above 68° F. Two or three days at summer temperature will render fertile eggs unfit for food. If it is necessary to hold eggs a short time there will be less loss if the males are taken away as soon as the incubating season is over. If fertile eggs are saved for market they must be kept at temperatures below 68°.

Although the egg shell is porous, these pores are partly closed when first laid by a mucilaginous coating called the bloom. This bloom dries quickly after the egg is laid, but is very soluble and disappears if eggs are washed. It is for this reason that washed eggs spoil more quickly than unwashed ones.

CANDLING EGGS. Most eggs from Kansas farms are sold to the local stores, although a few farmers near the larger cities develop a private trade for selected, fresh eggs. Those who have such a trade should candle all eggs sold as select eggs, while those who sell on the regular market should candle the



FIG. 11.—Starting to remove neck.

eggs which are doubtful in quality, whether they come from a stolen nest or not. This candling or grading should remove the rotten, incubated or stale eggs.

PREPARING POULTRY FOR MARKET. Most of the poultry sold from the farms of this state is sold alive. It is only where a private trade has been developed that any preparation other than having the birds in good health is necessary.

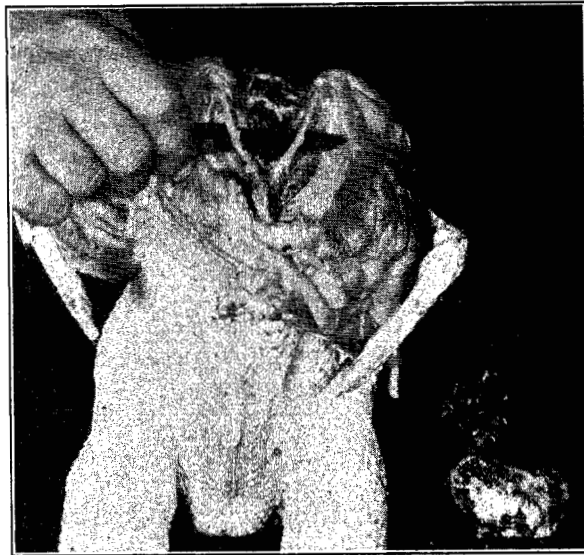


FIG. 12.—Neck removed and wishbone being taken out.

Those who may supply a private trade will no doubt kill, pick and truss or draw the birds. There are a number of methods of killing and picking fowls. Dry picking is more satisfactory for large poultry houses, but for immediate consumption scald picking serves the purpose and is easier for the unskilled picker.

If the trade desires, the fowl may be trussed, as shown in the accompanying illustration. The tendons are removed from the drumsticks, as shown in figure 10. This leaves the drumsticks much softer, more tender and more palatable. The skin is slit along the back of the neck and the neck and wishbone are removed. The removal of these parts adds to the appearance of the fowl and simplifies carving. A small opening is made around the vent to complete the preparation of the fowl. Then the neck skin is folded over the back and held in place by the locked wings. The drumsticks are tied in place, as shown in figure 13.

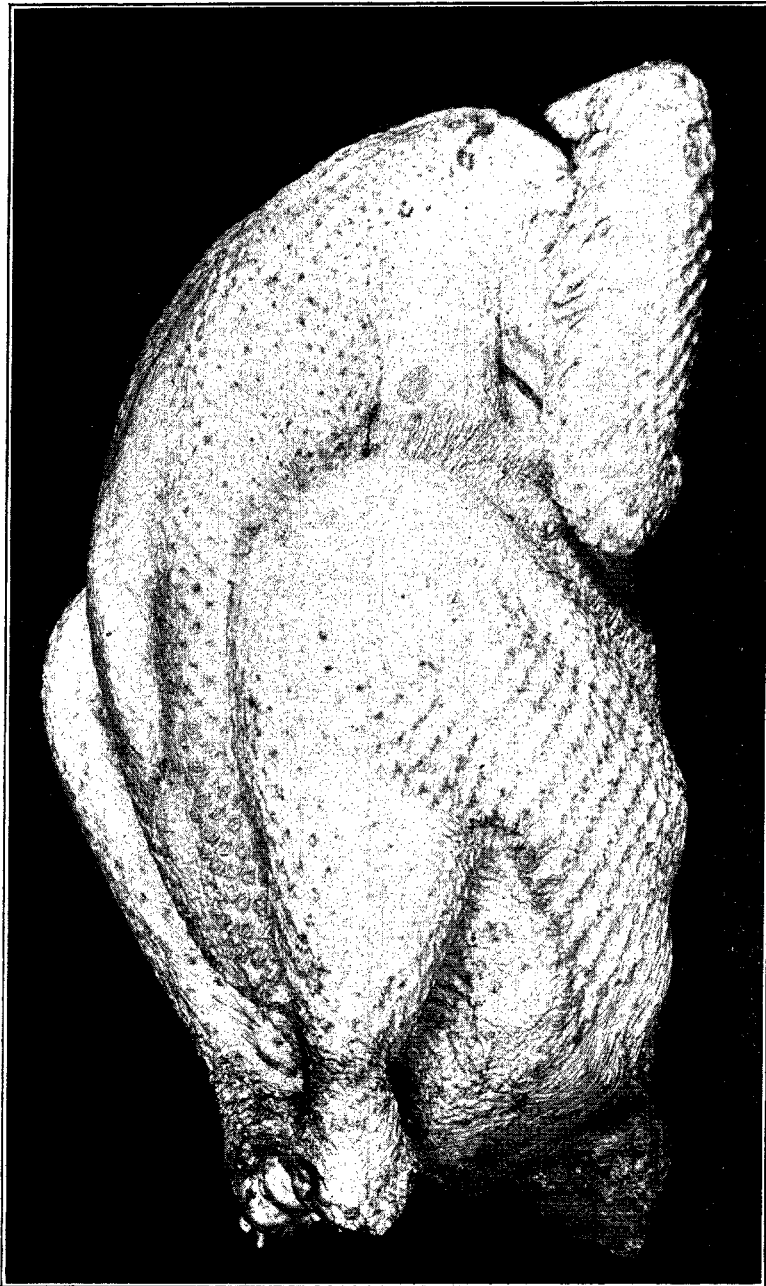


Fig. 13.—Trussed for roasting pan, legs tied.