THE
POULTRY CLUB–I

BOYS' AND GIRLS' CLUB CIRCULAR 4

COLUMBIA, MO. MARCH, 1923

COOPERATIVE EXTENSION WORK IN
AGRICULTURE AND HOME ECONOMICS
UNIVERSITY OF MISSOURI COLLEGE OF AGRICULTURE AND THE UNITED
STATES DEPARTMENT OF AGRICULTURE COOPERATING
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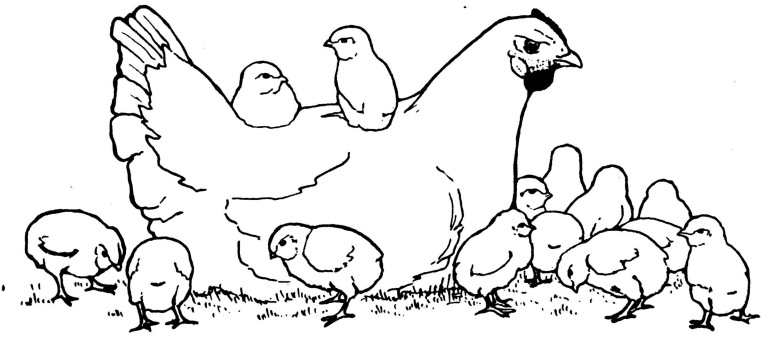


The Poultry Club—I

As spring appears boys and girls become interested in the life that is starting on all sides. They are especially interested in living things that can be trained and that show growth from their own care of them. Nothing can afford more pleasure and profit than raising a flock of downy baby chicks.

Poultry raising as a business has been neglected until of late years, but it has been found that if poultry is handled properly it is one of the most profitable farm projects. That is one of the reasons why the Agricultural Extension Service has formed a Boys' and Girls' Poultry Club. Through their work the gains from careful management can be demonstrated.

YEAR'S PROGRAM AND REQUIREMENTS

The club year for poultry begins February 1 and continues until November 1. During this period the boys' and girls' work is definitely fixed.

1. (a) For Beginner's Club. Each club member must set at least 30 purebred eggs or buy at least 25 baby chicks between February 1 and May 1. The goal shall be to raise at least six purebred pullets to maturity.

(b) For Hundred Egg Club. Each club member must set at least 100 purebred eggs or buy 75 baby chicks between February 1

NOTE.—This circular was prepared by T. S. Townsley, Extension Associate Professor of Poultry Husbandry in collaboration with Mrs. J. K. Fyfer, Special Assistant in Boys' and Girls' Club Work.

and May 1. The goal shall be to raise at least twenty purebred pullets to maturity.

2. A record must be kept of: (a) Cost or value of the eggs or chicks; (b) Hatching date; (c) Number hatched; (d) Number raised; (e) Kind of feed used; (f) Cost and amount of feed; (g) Number of chickens sold; (h) Number of chickens eaten.

3. There shall be an Exhibit and Achievement Day.

4. A completed Club Record Book must be sent to the County Extension Agent.

Meetings.—To meet the requirements of a Standard Club, it is necessary to have at least six meetings at which officers preside. After the first meeting when the officers have been elected and the club organized, probably the most satisfactory way to hold meetings will be to go to the homes of the club members and make a study of each flock of chickens. You can decide how many meetings you wish to have and how often you wish to meet. Don't forget to have some picnics or "good time" meetings as well as those for real business.

MEETINGS SUGGESTED

I. Meeting for organization.

II. Report of committees and choosing of breeds and arranging for eggs or chicks—not later than March first.

III. Arrangement for hatching and demonstration of building coop—a week later than Meeting II.

IV. Discussion of brooding and feeding baby chicks—at least within three weeks after Meeting III.

V. Study of rations for growing stock and demonstration in building feed hoppers. Two weeks after Meeting IV.

VI. Study of problems of lice, mites, parasites, and a common poultry disease.

VII. Plan for Exhibit and Achievement Day. Demonstration of exhibit coops and selection of birds—at least two weeks before exhibit.

VIII. Exhibition and Achievement Day.

I. Organization

At the first meeting the Local Club Leader will take charge and explain carefully the plans for the club year.

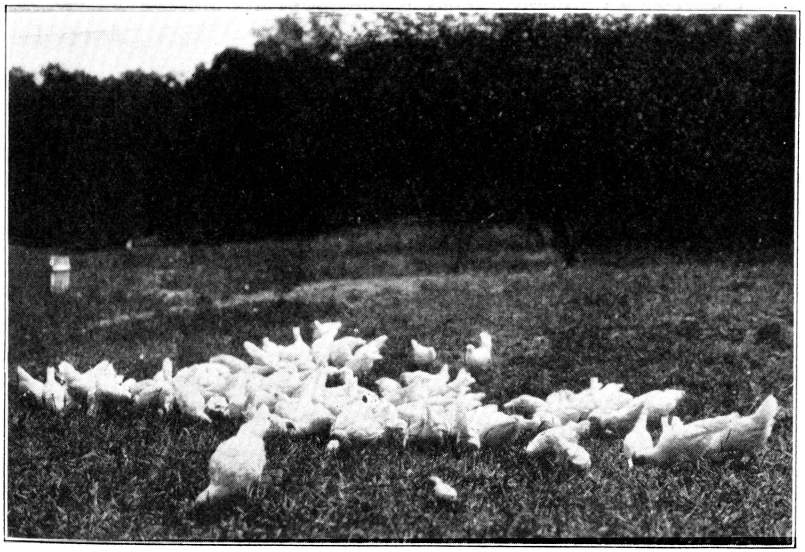
At this meeting the officers, president, vice-president, and secretary should be elected. The date of meeting, the place, and name of the club should be discussed.

A committee should be appointed to make a simple constitution and by-laws and present them at the next meeting. A committee should also be appointed to make out the program for the year.

The Club Leader should carefully explain what tools are necessary for the work and tell the members how to keep the records.

RECORD BOOK

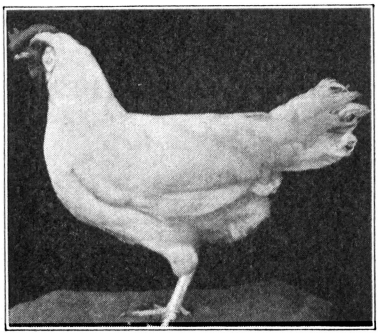
After the meeting for organization each member should make a record of the place, date, the officers elected, and the committees appointed Did you decide on a name for the club and your club motto? Tell about any other matters of business or any social part of the program.



The young flock should have a shady range. See page 16.

II. Choosing the Breed

Reports of the Constitution and Program committees that were appointed at the last meeting should be made. The next important thing to consider is the breed of poultry you wish to handle. It is best to choose a breed that is commonly found in Missouri and is fitted to Missouri conditions rather than one not so well known in your state.



Single Comb White Leghorn.

The Important Commercial Breeds of Poultry Are:

1. Barred Plymouth Rocks.
2. White Wyandottes.
3. Single Comb Rhode Island Reds.
4. Single Comb White Leghorns.
5. Single Comb Brown Leghorns.
6. Buff Orpingtons.
7. White Plymouth Rocks.

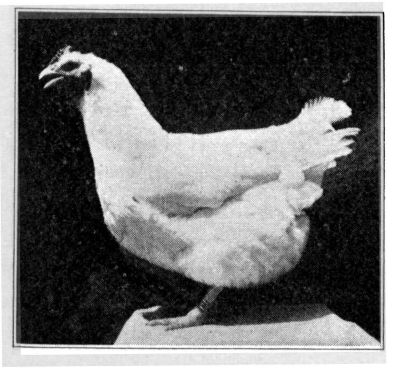
The first four mentioned are the most popular varieties. The Local Leader will help you secure purebred eggs or chicks of the variety of poultry that you choose to raise. If your Club Leader finds it difficult to secure enough eggs or baby chicks at a reasonable price the County Leader will give you information about securing them from some nearby county. If you do not have a County Agent the Agricultural Extension Service at Columbia will gladly assist you.

As far as possible secure the eggs from a breeder who keeps a definite record of the egg production and whose flock has proven itself profitable on account of the large number of eggs laid. High egg production is more important for most club members than show records, though eggs should never be chosen from a flock that does not show uniform color and good healthy appearance.

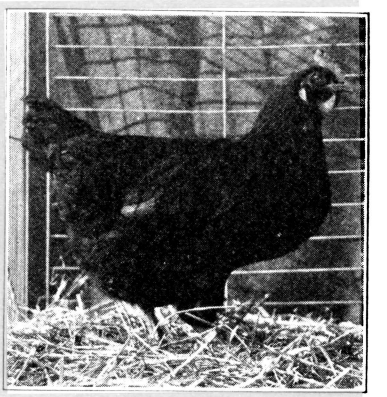
RECORD BOOK

Every club member must realize how necessary it is to keep a record of everything connected with poultry raising. The Rec-

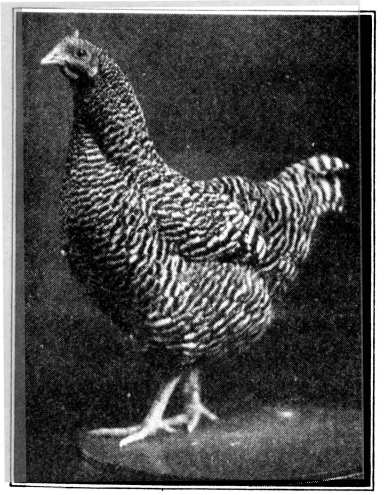
ord Book has a number of items to be filled out, besides a space to be used for a report of each meeting. Don't wait to record important facts, put them down at once for you might forget if you wait. If you have a kodak take some pictures, showing your brood-coop, the hatch, the different stages of growth, etc. These will make your book more interesting and show the Agricultural Extension Service worth while things you are doing.



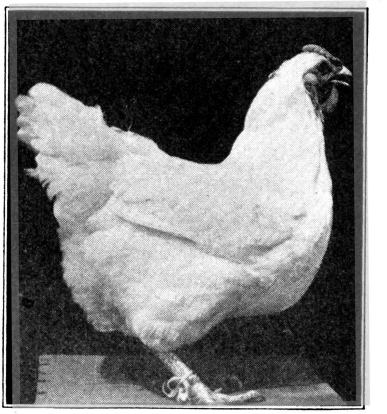
White Plymouth Rock.



Single Comb Rhode Island Red.



Barred Plymouth Rock.



White Wyandotte

III. Arrangement for Hatching and Building Brood Coop

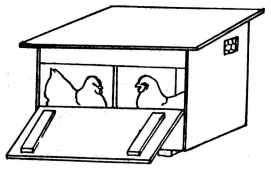
HATCHING

Just as soon as the breed of poultry is chosen each member of the club must look ahead and consider the methods of hatching and the best equipment for brooding. A meeting devoted to this subject is very necessary for success.

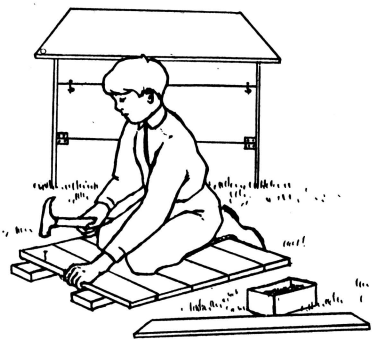
There are two methods of hatching: (1) Setting the eggs under hens; (2) Setting the eggs in an incubator.

Setting Eggs Under Hens.—The members of the Beginner's Club should set the eggs under hens. Those of the Hundred Egg Club may set the eggs either under hens or in an incubator.

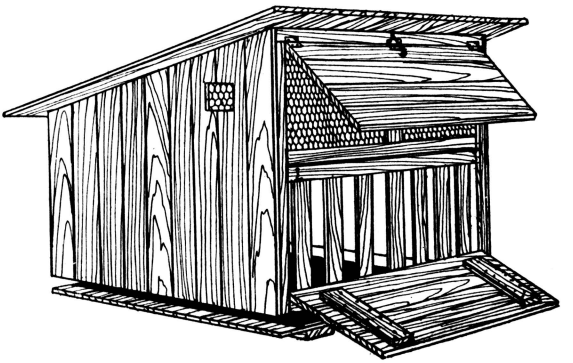
For 100 eggs provide good, quiet nests for at least seven hens where they will not be disturbed by other birds. A very good way to handle the sitting hens is to build coops in which you expect to brood the chicks and set the hens in these. A coop large enough for two hens to sit in is best, since one of the hens can be removed when the hatching is over and all the chicks given to the other one.



Some boys and girls build their coops in the winter so as to have them ready for spring use. When the hens get broody on the nest transfer them at night to a well made nest in the brood coop and set them on nest eggs to see whether they will like their new surroundings. As soon as they show signs of being satisfied with their new coops, they can safely be trusted with 15 eggs apiece. Most broody hens can be readily moved after they have been on the nest two or three days. When chicks are hatched in a brood coop, the nest should be removed and the coop thoroughly cleaned and disinfected before putting the hen in with her chicks. Dust the hen thoroughly before she is given eggs or chicks. Sodium fluorid is the best powder for this purpose.



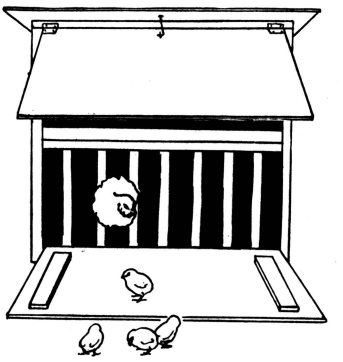
Hatching in Box Brood Coop.—The coop suited for hatching as well as brooding is shown in the illustration. A wire screen door (1 inch mesh or smaller) of some sort should be provided, to place over the front at night. This will prevent rats and other enemies from entering the coop and killing the chickens, and will also keep



the little chicks confined early in the morning when the grass is wet. A hook or clasp of some sort should be put on the door to hold it firmly in place.

The mother hen should be confined to the brood coop or small enclosure until the chicks are weaned. Arrangements should be made for the chicks to get out on the ground whenever the weather will permit.

The coops should be put on ground that has not been previously used by chickens, and they should be placed near shade and away from the rest of the flock.



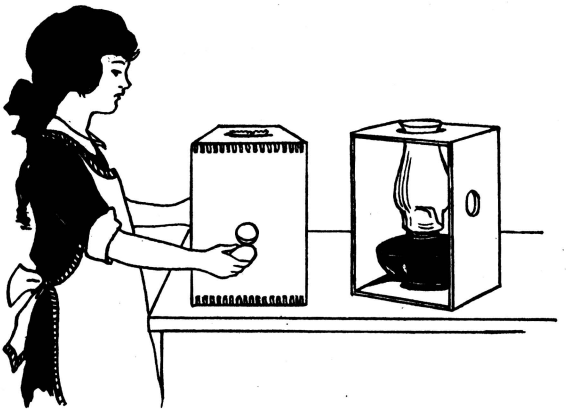
Brood coops should be well lighted and ventilated and floors should be constructed for the coops to rest on for these will keep the chickens dry, and if kept clean and well disinfected they will prevent losses from disease.

It is a good plan to keep some dry sand or chaff on the floor of the coop for this helps to keep the coop dry and to make cleaning easy. If a coop has been used previously it should be scrubbed with boiling water, or painted with crude oil or strong lime-sulphur to be sure it is free from mites.

Brood coops can be made rainproof by covering all cracks on the top, back and sides with strips of wood or tin, or better still with roofing paper of some kind if you have it. A well made brood coop can be used year after year.

Nests.—In making the nests in the coop it is best to first place a piece of grass sod in the bottom of the nest to provide moisture, then the nesting material or chaff. Pack the nesting material down firmly and shape a circular nest slightly deeper in the center than at the edges. This shaped nest will prevent the eggs from rolling out from under the hen and becoming chilled. The nest as well as the hen should be well dusted with sodium fluorid.

Testing Eggs.—To secure the best results all eggs should be tested on the 7th and 14th days of incubation and all infertile eggs or those with dead "germs" should be removed.



An egg whether fertile or not, has a small grayish spot on the surface of the yolk known as the "germ spot". As soon as a fertile egg is placed under a hen, or in an incubator, development begins. White eggs can be tested on the 4th or 5th day, but the development in eggs having brown shells often can not be seen by the use of an ordinary egg tester until the 7th day. Infertile eggs make good feed for young chickens.

A good homemade egg tester, or candler, can be made with a large shoe box, or any box that is large enough to go over a lamp, by removing the end and cutting a hole a little larger than the size of a quarter in the bottom of the box, so that when it is set over a kerosene lamp, the hole in the bottom will be opposite the blaze. A hole a little larger than the size of the top of the chimney should be cut in the top of the box to allow the heat to escape.

The eggs are tested with the large end up, so that the size of the air cell may be seen as well as the condition of the embryo. The testing should take place in a dark room. The infertile egg when held before the small hole with the the lamp lighted inside the box will look perfectly clear, the same as a fresh one, while a fertile egg will show a small dark spot, known as the embryo, with a mass of little blood veins extending in all directions, if the embryo is living. If it is dead, and the egg has been incubated for at least 46 hours, the blood settles away from the embryo toward the edges of yolk, forming in some cases an irregular circle of blood, known as a blood ring. Eggs vary in this respect, some showing only a streak of blood. All infertile eggs should be removed at the first test. The eggs containing strong, living embryos are dark and well filled up on the 14th day, and show a clear, sharp, distinct line of demarcation between the air cell and the growing embryo, while dead germs show only partial development, and lack this distinct outline.

When the Chicks Are Hatched.—When the chicks begin to hatch, the hen should be confined to the nest and should not be disturbed until the end of the 21st day after setting. Do not take the hen off to see how many eggs are pipped as this chills the chicks and may cause some to die in the shells. If the hen is very quiet so she will not be disturbed by putting your hand under her to remove the egg shells, this can be done on the morning of the 21st day, otherwise the shells had better be left alone until the hatch is finished. If the hen is sitting quietly in the nest, leave her until the 22nd day and then move her to a dry, well lighted coop. If two hens hatch at the same time, the chicks may all be given to one hen, providing there are not more than 25.

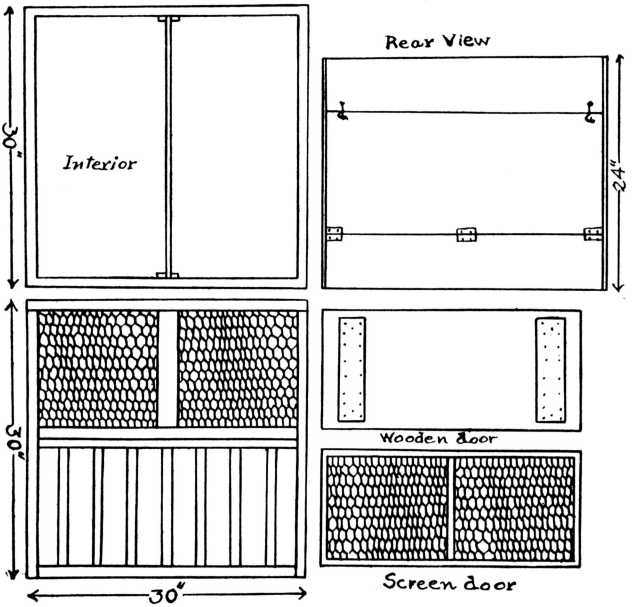
Do not take the chicks out of the nest until the hen is moved to the brooding coop, and then move them in a covered basket so they will not be chilled.

Setting Eggs in an Incubator.—Those who wish to use an incubator should be careful in selecting one. A good way to decide on the kind is to consult some successful poultry raiser who has used incubators for a long time. Be sure that the incubator has a well built wooden cabinet and a large heater. Carefully study the directions that come with the incubator and remember that probably the most common failure with incubators is carelessness and neglect in attending to the machine.

Test Eggs.—On the 7th and 14th days test the eggs as described on page 10. Do not open the incubator from the 18th day to the end of the 21st day.

CLEANLINESS IMPORTANT

Only those club members who give their birds good care and keep coops and surroundings clean will be successful. Cleanliness is as important with poultry as it is with human beings. Other necessary factors are, good coops and houses, proper feed, fresh water, shade and free range.



Detailed plans for building brood coop.

DEMONSTRATION OF BUILDING COOP

The Local Leader or some member should demonstrate the building of the brood coop as shown in the illustration.

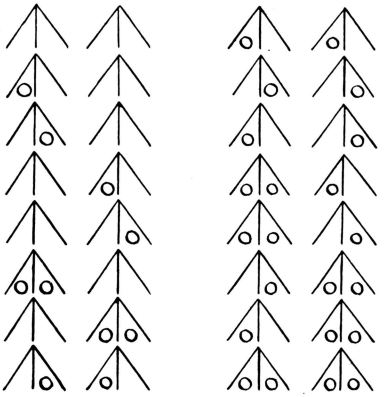
RECORD BOOK

After this meeting you will have a great deal to tell about setting and testing the eggs, and about the coop you built. Any drawings or pictures you can get will make the record much more interesting and complete. If you have weighed out a supply of feed don't fail to record it in the Record Book.

IV. Brooding and Feeding

Before taking off the hatch a meeting should be held to discuss the handling and feeding of baby chicks. The first ten days after hatching is the most critical period in raising chicks and much care must be taken in brooding and feeding them.

As soon as the chicks are hatched they should be toe marked in order to help tell their ages later. Each hatch of chicks should be given a different mark and a record should be kept as a key. A few combinations of marks are shown in the accompanying diagram.



BROODING DETAILS

Place the brood coop on ground that other chickens have not used, where there is plenty of green grass and shade. Move the coop each week to a new location. Slip the chicks under the hen after dark and watch them carefully the next morning to see that the hen does not fight them.

If the mother hen should die or in case the brooder is ordered and fails to arrive in time, and you are at a loss to know what to do with the chicks make a temporary or homemade brooder as follows: take a box without cover about 18 to 24 inches square and 10 inches high. In one side next to the bottom cut an opening 3 inches high and 8 or 10 inches long for the chicks to pass through. Protect this opening with a strip of woolen cloth; tack at the upper edge, having perpendicular slits cut from the lower edge to within ½ inch of the top to allow the chicks to pass through.

Several of these strips or a sagging cloth should be fastened inside to the top of the box to keep the backs of the chicks warm. This box covered over the top with a heavy blanket or any warm cloth may be used without heat when the room temperature where the brooder is located is 70° or over. If the temperature is lower, however, or the chicks appear to be cold, take a large bottle or jug and fill with hot water and place inside the box, refilling it as often as necessary to keep the chicks warm and comfortable.

With any home-made brooder, be careful to see that the chicks can get fresh air while under the hover. The chicks should be allowed to use the brooder until they are from six to ten weeks of age (depending largely on weather conditions and the development of the chicks) when they may be removed to the colony houses or coops.

FEEDING BABY CHICKS

Success in raising baby chicks depends largely upon feeding proper rations. Chicks must get a good start if they are to develop into vigorous growing stock and good layers. Chicks strong at the start are necessary, but they require good surroundings such as clean quarters, fresh grassy runs, freedom from dampness and a comfortable temperature and properly selected food.

First Ten Days.—The food of baby chicks should contain nourishment necessary to produce heat and energy, and to make bone and muscle.

The first morning after they are moved to their brooding coop they should be given fresh water or milk. Fresh buttermilk or freshly soured skimmilk is best. A small amount of fine sand should be placed where it can be easily picked up, since grit is most necessary for assistance in grinding the food.

Care should be taken not to over-feed chicks during the first ten days. They should not be fed before they are 48 hours old and the first food should consist of easily digested foods such as dry, uncooked rolled oats, crumbled fine, or dry bread crumbs. These should be fed on a board or paper and after chicks have had feed for ten minutes remove all that is left. Follow this feeding practice four times daily for the first ten days.

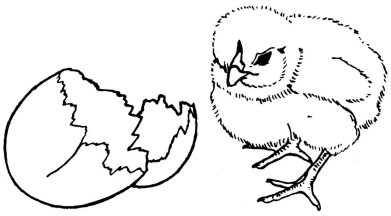
If the chicks are not getting milk to drink they should daily be fed a hard-boiled egg (boiled for one-half hour) grated fine and mixed with other feed. Use one hard-boiled egg for every 50 chicks.

Milk, eggs, meat scrap or tankage, bugs and worms contain protein which makes the muscles, bones and feathers grow.

RECORD BOOK

The Record Book has a number of items for you to answer about brooding and a record of the feed used. Be sure your records are accurate and not guess work. Here is a good place to have a kodak picture of your flock. Did you help in demonstrating at any of the meetings?

V. Rations for Growing Stock, and Building Feed Hoppers



RATIONS

Baby chicks like baby children should have the food changed very gradually and never suddenly.

At the end of ten days they may be changed from oat meal, bread crumbs, etc., to finely cracked grains, either cracked corn alone, or a mixture of cracked corn and cracked wheat or a commercial "chick feed". As the chicks increase in size the chick feed will naturally consist of larger grains. The reasons for using a commercial chick food are that a variety of grain is easily obtained, and, that it saves much labor in preparing.

Mash.—At the end of ten days a dry mash should be added to the ration. A dry mash is ground feed fed dry. It is a necessary food because it furnishes variety and aids in digesting other foods.

Any grain like whole wheat makes a good mash when ground. The simplest mash is wheat bran and wheat shorts.

Dry mash should be fed in pans, shallow boxes, or hoppers and there should always be a supply so that the chicks may have all they want.

If the chicks are not getting milk the protein that has been furnished by hard-boiled eggs up to this date can be supplied by adding commercial tankage in the proportion given below:

2 lbs. bran, 2 lbs. wheat shorts, 1 lb. tankage, or—

3 lbs. bran, 3 lbs. shorts, 3 lbs. cornmeal, 2 lbs. tankage.

After the first ten days of the chicks' life when the gradual change of feeding has been completed give them all the feed they can eat three times a day for there is then no danger of over-feeding. Keep dry mash always before them.

The hen brooding chicks should be fed whole corn so that she will be properly nourished and will not eat the chick food.

Protective Foods.—Beside the grains and mash mentioned above there are other foods known as protective foods. Without

these no matter how much or how often chicks are feed they will not grow. These foods are eggs, leafy parts of plants, and skimmilk. Eggs have been mentioned on page 10.

Green Feed should be supplied as early as possible. There is no difficulty in supplying the chickens' needs if they are given range which is covered with grass. If they are confined in small yards they should be fed tender leaves of lettuce, clover, alfalfa, onion tops chopped fine, or boiled vegetables and finely cut grass from the lawns.

Skimmilk is one of the best possible foods for growing chicks if it can be obtained. Don't forget that chickens need protein food for muscle, bone, and feather growing.

Grit.—Chicks need grit to help grind their food. Any sharp substance used for this purpose is called grit, as sharp sand, fine pieces of gravel, and commercial grit.

Charcoal.—It is a good plan always to keep charcoal before the chickens. The use of it keeps down gases in the digestive tract.

Granulated Bone.—Although milk and meat scrap or tankage supply part of the materials needed for bone building it is advisable to keep granulated bone secured from the store so that the chicks may eat what they need.

Water.—Large quantities of fresh, clean water are required at all times for the successful growth of chickens. Fountain lids that screw onto glass jars will keep the chicks dry and the drinking fountains clean.

Wet Mash.—This is a dry mash moistened with milk or water.

During hot weather growth is sometimes encouraged by feeding a crumbly wet mash about 4 o'clock every afternoon, but this should be given only in such amounts that it is cleaned up that night. Wet mashes spoil very quickly and sour musty feed is sure to cause trouble.

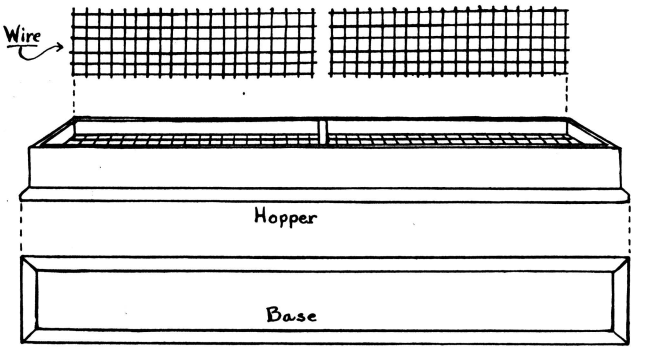
Success in raising good poultry depends on your care in the following details:

1. Cleanliness
2. Good brood coops and houses
3. Proper food: (a) grain, (b) mash, (c) green food, (d) milk, (e) grit, (f) charcoal
4. Fresh water
5. Shady range with an abundance of green food.

Chicks need shade as they become prostrated with the heat and often die where shade is not provided.

SELL COCKERELS

It is recommended that cockerels be sold before they reach three pounds in weight. There are several good reasons why this rule should be carefully followed. The greatest profits come when the cockerels are sold as early as possible. In many cases a two-pound fryer will bring as much on June 1 as the same bird would bring as a four-pound roaster on August 1. Then, the principal reason for selling the cockerels is to give the pullets a better chance. The males develop more rapidly than the females and the cockerels will crowd the pullets away from the feed if both are kept. It is not good breeding practice to keep the cockerels hatched from the same setting as the pullets, so there is really no good reason for keeping them past the frying stage.



DRY MASH HOPPERS

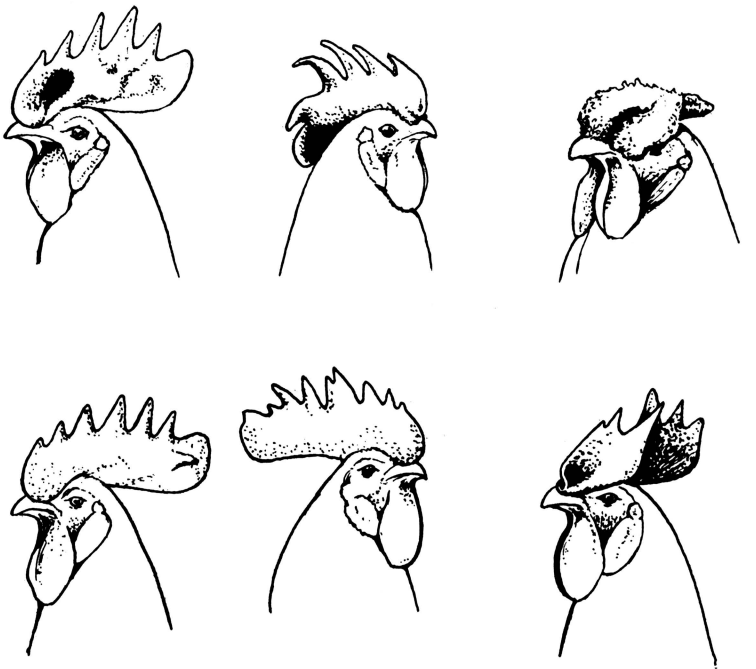
As a dry mash should always be kept before the chicks so that they can eat whenever they are hungry it is necessary to have well made and convenient hoppers. They should be large enough for all the chicks and should have two compartments; one for mash and the other for grain. By this time the grains should be cracked corn, whole wheat or kafir.

RECORD BOOK

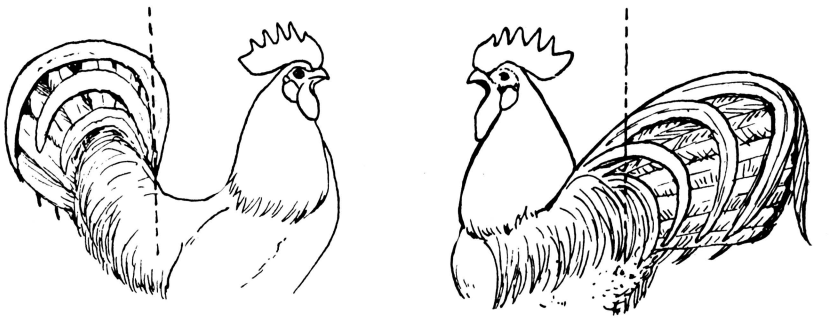
Again you have an opportunity to tell about the progress of your chicks. What feed did you use? What kind of a hopper did you make for the mash and grain? A picture should be drawn, or one taken with a kodak should be pasted into the Record Book. Give all the facts about the last meeting and a copy of the program for that meeting.

DEFECTS THAT ARE IMPORTANT IN CULLING COCKERELS

Male Heads Showing Defective Combs.



1.Thumb Mark 2. Lopped (single) 3. Hollow Center
4. Side Sprig 5. Uneven Serrations 6. Twisted



Defective Tail Carriage

Squirrel Wry

VI. Lice, Mites, and Disease

The boys and girls of this club must realize that they will have to wage constant war if they are successful in their club work. Poultry always has enemies at work and it is the duty of each member to protect his flock against these pests.

These pests are very small, but if they are not destroyed the poultry will either die or be unprofitable. The most common pests are lice, mites, gape worms, and intestinal worms.

There are more than 40 distinct species of lice that infest the different varieties of poultry, but as you are concerned with chickens you will find that there are two kinds that you will need to know about: (a) Body lice, (b) Head lice.

HOW TO GET RID OF LICE

Body Lice.—Since poultry lice stay on the fowls nearly all the time, the most effective treatments are those applied directly to the birds.

Sodium fluorid, a powder which can be purchased at most drug stores, is a very effective remedy, being exceedingly poisonous to all kinds of poultry lice. It should be applied by placing a small amount of the powder (as much as can be held between the thumb and finger) among the feathers next to the skin on the head, neck, back, under wings, on the breast, below the vent, and at the base of the tail.

Care should be taken not to inhale the powder, as it irritates the nose and throat.

Head Lice.—Head lice are found most often on young chicks. They are longer and more slender than body lice and dark brown

in color. They are almost always in greatest number on the top of the head, around the ears, and underneath the bill and are generally found with their heads close against the skin of the chicks, the body extending outward.

Head lice confine their attacks principally to the head of the chick or fowl and are very injurious. They breed rapidly and pass from one chick to another, which makes it necessary for boys and girls to watch their flocks carefully in order to keep the chickens free from these pests.

To kill head lice on chicks, a very small pinch of sodium fluorid should be applied at the top of the head, under the wings and around the vent. Care should be taken not to get too much fluorid on the chick as it may prove fatal. These head lice are very injurious and chicks should be examined often for them and treated at once if the lice are found.

Dust Bath.—It is always advisable to provide a good dust bath, consisting of road dust and wood ashes so that chickens can dust themselves whenever they wish. In doing so they help to keep the lice under control. Strange as it may seem, chickens use this dust bath to keep themselves clean the same as boys and girls use a water bath.

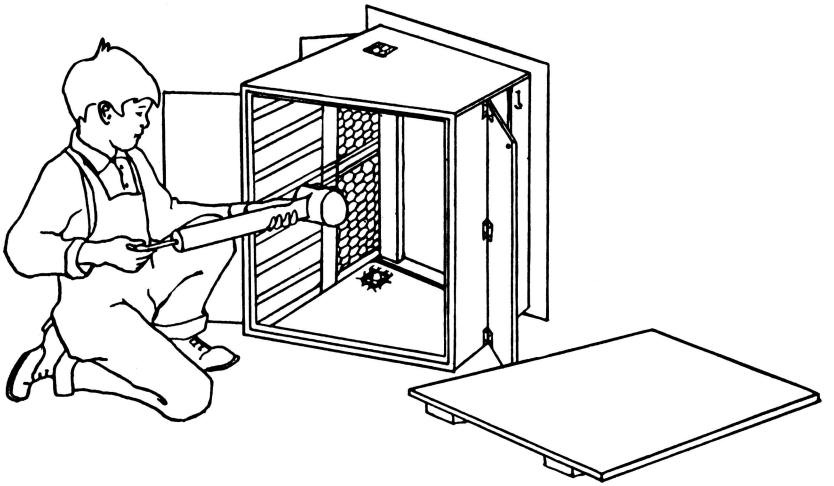
MITES

Mites live on the blood of the fowls and are not usually found on the bodies of the bird, like lice, except when at roost or on the nest.

During the day mites hide in cracks and crevices, behind boards that are near the roosts, in the cracks of brood coops, and in other places where fowls or chicks are kept. At night when fowls go to roost, the mites come out of their hiding places, crawl onto the fowls or chicks, and suck the blood from their bodies. The irritation and loss of blood will cause mature fowls to become pale in comb and wattles and poor in flesh. Sitting hens are often so annoyed that they desert their nests and spoil their eggs, if they do not die on the nests. Chicks will become weak and droopy and in many instances die from the attacks.

Don't let these mites deceive you, boys and girls. Since you know their hiding places look for them carefully every ten days or two weeks, especially during the summer when they breed fastest; and if any sign of their presence is found, start at once to get rid of them.

How to Get Rid of Mites.—Give the poultry houses, roosts, and nests a good cleaning. Next spray them thoroughly with kerosene, crude oil, or some heavy coal-tar preparation, making sure that the spray reaches all the cracks and crevices and every other hiding place for mites. The heavy coal-tar preparations are most effective and last longest. They can be purchased at most drug stores with full directions for mixing and using.



OTHER PARASITES

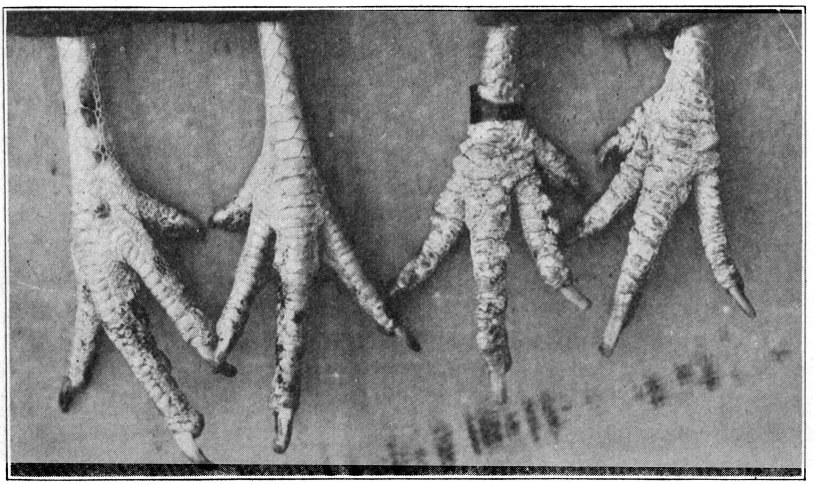
The other parasites that are troublesome are gape worms, and intestinal worms. Lice, mites, gape worms, and intestinal worms are called parasites because they live in or on the chicken and secure their nourishment from the chicken rather than through any efforts of their own.

Gapes, which is quickly noticed because of the sneezing and gaping of the chick, affects only young chicks and turkeys and usually develops during the first few weeks of their lives. It is caused by a little worm which attaches itself to the inside of the windpipe, making it difficult for the chick to breathe, and unless the worms are removed at once, it will soon strangle, choke, and die. The female worm produces large quantities of eggs while in wind pipe, and these are thrown out by the chick in sneezing or are swallowed and pass through the intestines, and are scattered with the droppings. After a few days, young worms will hatch from

these eggs and will live in the earth for a long time. If picked up and swallowed by young chicks they quickly find their way to the windpipe, develop and cause the disease to appear.

This explains how infection is carried over from one year to another, and why ground used year after year becomes so infested or filled with these worms that chicks cannot be raised on it.

As there is no effective treatment for gape worms the best preventive is to keep the chicks on fresh, clean soil at all times, and away from turkeys. If they become affected with the disease remove them at once to fresh ground where there is plenty of green grass. Ground occupied by chicks affected with gapes should be covered with a thick coating of lime and then spaded up thoroughly or plowed to destroy any worms that may possibly exist. And for at least two seasons no attempt should be made to raise chicks on this ground.



Legs of healthy hen (left); and of hen badly affected with scaly leg (right).

Scaly Leg.—Scaly leg is easily recognized by the enlarged, roughened appearance of the feet and legs. It is caused by a little mite which burrows beneath the scales and causes the formation of a yellowish, powdery substance which keeps raising up the scales until they present an unsightly appearance. In severe cases, where the birds are not cared for, the joints of the toes become inflamed and make the birds lame and sometimes unable to walk. The disease is contagious, although it spreads rather slowly.

To treat this condition wash the birds legs well with soap and warm water and remove all loose scales. Rub well with a half and half mixture of kerosene and linseed oil (melted lard or vaseline may be used in place of linseed oil) or fill a can with the mixture, and after the birds have gone to roost at night dip each bird's legs into it and allow them to soak for a minute. Then return the bird to the roost. Repeat the treatment every three or four days until the scales are removed.

To prevent scaly leg spray the roosts, dropping boards, and all cracks and crevices nearby thoroughly and often so as to keep them from mites. Examine the birds' shanks occasionally and if any signs of scaly leg appear rub them well with oil as described, to prevent the disease from developing.

Intestinal Worms.—If the chickens are free from lice and mites and yet do not seem to grow, are light in weight, and lame it is more than likely that they are afflicted with intestinal worms.

The only preventive is the same as that for gapes, keep the chicks on fresh soil.

A COMMON POULTRY DISEASE

The old saying, "an ounce of prevention is worth a pound of cure," is very true in poultry raising. The things to prevent disease are: (1) Absolute cleanliness; (2) Good ventilation; (3) Proper feeding; (4) Pure water; (5) Sunlight; (6) Fresh air; (7) Good care and attention.

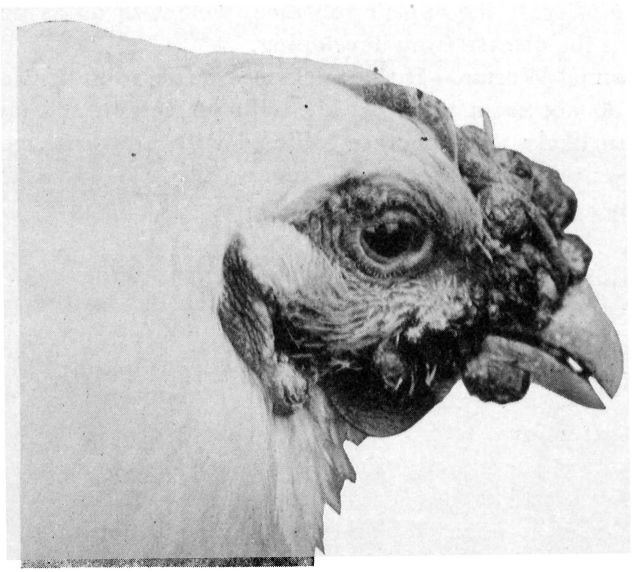
In spite of these precautions, disease sometimes creeps into the flock. When it does, be sure to separate the diseased ones from the well ones at once. Should the disease be one that spreads rapidly, kill the diseased chickens at once and burn or bury them. It is best to kill them for three reasons: (1) Because the cost of medicine and the value of the time required for treatment are greater than the value of the bird when cured; (2) Because sick birds that are affected by contagious disease may spread it to the rest of the flock; (3) Because of the very fact that the bird is sick shows that it has a tendency to disease and only strong birds that can resist disease are desirable in a flock.

The most common disease which the club members are likely to find troublesome is roup.

Roup.—Roup is a disease which affects the eyes, nose and throat. The first signs are watery eyes, swollen eyelids, loss of appetite, and a thin, watery discharge from the nostrils. After a

few days the discharge becomes thick and interferes with the bird's breathing. In severe cases the side of the bird's head is hot and badly swollen and the eyelids stuck together with a yellowish, cheesy substance.

Roup frequently develops from a hard cold, but more often is brought into the flock from other birds that have the disease or have been exposed to it. It is very contagious. The saliva or discharge from the mouth and nostril carries the germs, and if the sick birds are allowed to remain or eat and drink with the others, the disease will spread quickly through the entire flock. Birds that



are out of condition or lacking in vitality are usually the first ones to become affected and the last to recover, and sometimes carry and spread the disease for several months after they appear to be cured.

Treatment.—The sick birds should be removed at once from the rest of the flock and put into warm, dry quarters where there is plenty of fresh air but no drafts. Take some warm water, add a little salt (about one teaspoonful to a quart of water), and carefully wash the eyes and mouth, using a soft cloth or a piece of absorbent cotton. It is also well to rub or massage about the nostrils and under the eyes to loosen any of the watery discharge or

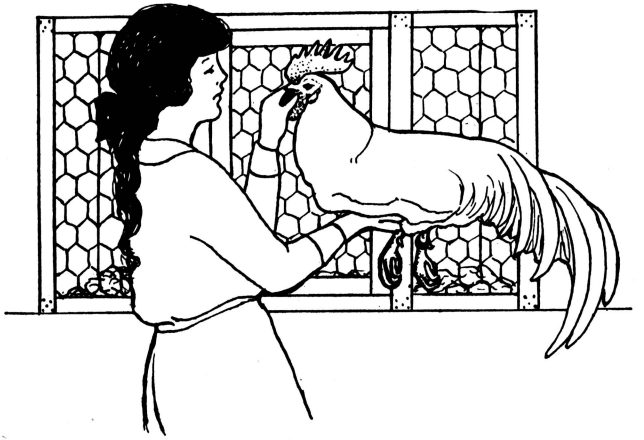
secretion that may have accumulated there. It is also advisable to put a small quantity of permanganate of potash into the drinking water, as it helps to prevent disease from spreading. In very severe cases it is best to kill the bird at once, as seldom, if ever, can it be fully and permanently cured.

Prevention.—Keep the house or coop clean, well ventilated, and disinfected. Be sure the birds are not exposed to draft so as to catch cold. Fowls or chicks purchased from other breeders should be put into a separate house, or, if this is not possible, watch each specimen closely two or three weeks for any signs of the disease so, if it appears, the bird may be removed before the others are affected.

RECORD BOOK

Have you recorded your expenses to date? Have you told of any parasites or diseases you have met with in brooding the chickens? All of your experiences will be interesting to the rest of the club members, so be sure to tell about them. Have you recorded in the Record Book, page 8, the last quantity of feed that you weighed?

VII. Plans for Exhibit and Achievement Day

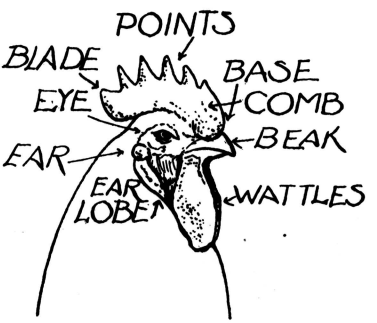


FAIRS AND EXHIBITS

In your club work you are probably looking forward to the county fairs or local exhibits at which you will be eager to win the prize. One should not wait until almost time for the exhibit, but begin preparing as soon as the chicks are hatched, as proper brooding and feeding help to produce the best birds for show.

The preparation for showing birds is called "conditioning" or "fitting". An ordinary bird well "fitted" will often win over a finer specimen poorly "fitted".

It is a good plan to watch the chicks in the yard and select the large, growthy, active, well featured ones that have broad backs, deep bodies and stocky shanks. The birds selected should be typical of the breed in color, feathering and comb.



About six weeks to a month before the fair or exhibit examine the main tail and wing feathers. Pull out any feathers that may show off-color or that are broken, as new ones will grow in before time for showing. In solid colored birds except white ones a plucked feather if it is not "ripe" will almost surely come in with a white tip. In ripening a feather, cut it an inch or more above the skin, and after the quill dies, pull out the stub.

Birds that are to be shown will need some training. They will need to be placed in exhibit coops at least part of the day so as to become accustomed gradually to the new surroundings. Handling them by quietly and gently removing them from the coop will soon tame them so that they will not be frightened when the judge handles them. A good way to calm a bird is to stroke and smooth the wattles gently with the fingers. Four good pullets should be selected for exhibition by first-year members of the Hundred Egg Club, and two good pullets, by the Beginners' Club members.

Washing the birds.—It is generally unnecessary to wash dark-colored fowls for exhibit, but white ones if washed properly are

much improved. It is not a difficult process but practice is quite necessary in order to do it with ease.

Perhaps it would be a good plan to practice on two or three fowls that are not to be exhibited.

The birds should be washed in a room or building where the temperature is from 70° to 80°, and in a place that is free from drafts. The washing should be done in the morning so that the birds may have time enough to dry completely before night. Before washing the birds place the exhibition coops a short distance from a stove or other source of heat so that the birds will dry off readily after being washed. Place clean shavings in the coop, and cover the top, back, and sides of the coop with cloth or paper to prevent a draft. The front of the coop should be left open. Get three, or better, four tubs and arrange them on a bench or plat-

form of convenient height. The water in the first tub is to be used for the actual washing and cleaning, the second, third, and fourth tubs are used for rinsing or removing all the soap. Each tub should contain water enough to cover the body of the bird when immersed, or in other words, it should be about two-thirds full. If possible to obtain it, clean rain water should be used. Hard water will not produce so satisfactory results as soft water.

Any pure white toilet soap may be used for washing. The water in the first two tubs should be heated to a temperature that will be comfortable to the hand, while the water in the third and fourth tubs may be slightly cooler. Before beginning to wash the fowl, soap the water in the first tub well, so that there will be plenty of suds floating on the surface; next, wash the face, comb, wattles, shanks and feet of the fowl by scrubbing these parts with a small nailbrush and plenty of soap and water. Before actually rubbing the feathers of the fowl be sure that the water has thoroughly penetrated all sections of the plumage so that the bird is soaked to the skin. Next, apply the soap by working up, with the fingers, a good lather through all sections of the plumage of the fowl.

Rub the lather with the feathers instead of against them. A small sponge helps considerably in applying lather and in cleaning the wings and tail feathers. Should the feathers especially those of the tail and wings, be very dirty the nailbrush can be effectively used. If after the first washing the plumage seems still to be dirty it will be advisable to wash the feathers thoroughly a second time before transferring the fowl to the second tub. Remove as much of the soap as possible from the bird before immersing it in the second tub. The operator should realize the importance of completely removing all the soap from the feathers in the second, third, and (when used) the fourth tubs. When even a trace of soap is left in the feathers it will cause them to appear streaked and to be matted together when dry. In rinsing the feathers be sure to see that the water penetrates all parts of the plumage. After four or five fowls have been washed, change the water in all the tubs before washing additional fowls.

On removing the fowl from the final tub remove the surplus water from the feathers by blotting the surface of the feathers with a Turkish towel. Do not under any circumstances rub the feathers with the towel, for it may do considerable damage to the plumage. Next, place the bird in one of the coops described be-

low. Should the fowl shiver and appear cold when placed in the coop, move it closer to the stove or other source of heat. Do not leave the coop close to the stove for any length of time, as it may cause the feathers to dry too quickly in which case they are apt to curl instead of drying smooth and straight. Should the bird, on coming from the bath, appear to be too warm, move the coop farther from the stove. The birds after being washed should be kept in this room at a temperature of about 70° for at least 12 hours before being moved.

The Final Preparation.—When the fowl is thoroughly dry, examine the shanks and feet closely to make sure that no dirt remains under or around the scales on the legs. Such particles of dirt as do remain may easily be removed with a toothpick. It is well at this time also to moisten a small cloth with a little sweet oil or vaseline and rub it on the shanks, wattles, ear lobes, face, and comb. This will help considerably to bring out the true color of these parts. Do not apply too much oil or vaseline to the head or shanks, as it may soil the plumage.

EXHIBITION COOP

The exhibition or show coop can be easily made for the use of poultry club members in exhibiting fowls at county and school fairs or other exhibitions. It should not be used for shipping poultry, but may be used to take the birds to the show if carried by wagon or other vehicle. It can be made from a dry-goods box or almost any other available material. The floor should be solid and the framework of wooden strips 2 inches wide and 1½ inches thick. The top, back, and sides may be covered with lath, wire netting or any kind of thin, strong cloth. The front should be of 2-inch wire netting. If impossible to obtain netting, however, lath may be used, but should be placed about 2½ inches apart so as to afford as much opportunity as possible to see the birds. The coop is made 2 feet wide, 3 feet long, and 2 feet high and will accommodate a pair, trio, or pen of chickens.

Every poultry club member who intends to exhibit his birds should have one or more exhibition coops of this nature, depending upon the number of specimens he intends to exhibit. Birds can be trained and conditioned in these coops previous to the exhibition, and in becoming accustomed to same they will appear to better advantage when being judged and are more likely to win a prize.

Furthermore, when your birds are shown in coops of this kind that are uniform in size and style, they not only improve the appearance of the showroom but add considerably to the attractiveness of your exhibit.

Training and exhibiting some of the best specimens every fall in both old and young birds is an interesting and important part of boys' and girls' poultry club work. The boy or girl who is able to produce the best has much to be proud of, and each one should take part in this educational but friendly competition.

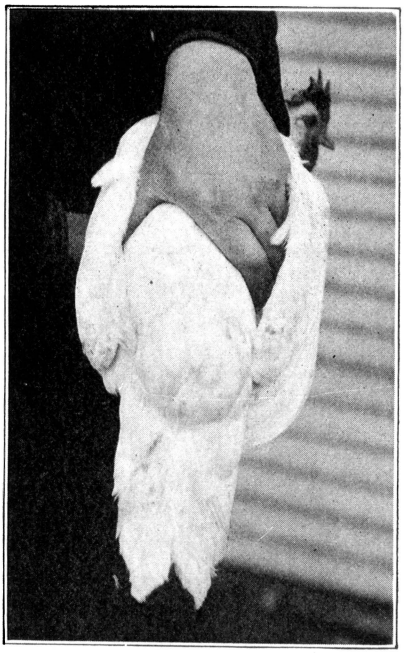
CULLING

In looking forward to a second-year poultry club and to the production of high grade poultry this will be a good time to take out or cull those birds which do not have desirable qualities.

Since early maturity is one valuable indication of high laying ability, the pullets which show the best body development, as indicated by body weight and redness of comb, should be saved. Pullets that are undersized, deformed, lacking in vigor, or hatched too late to begin laying before winter sets in, should be sold in the fall.

Laying type in the pullets is indicated by a broad head with short well curved beak, prominent eyes, a deep rectangular body, and a broad back with the width well carried to the tail. The depth of body may be determined by taking the bird in the two hands, placing the thumbs on the middle of the back with the little fingers

Ideal head.



Measuring width of pullet's back.

at the front of the keel and the index fingers touching the rear of the keel. To determine the width of back the hand should be spanned across the back, beginning at the chest and running the hand toward the tail, with the fingers well down on the sides of the bird. Pullets that show unusual coarseness and those that have restricted body depth caused by the rear end of the keel curving up toward the back bone, or that show a decided pinched back from the hips to the tail, should be classed as culls. No attention should be paid to the color of shanks, condition of molt, or distance apart of the pelvic bones in culling pullets which have not begun to lay.

Arrangements for Culling.—To cull a flock systematically every bird must be handled. To accomplish this without causing undue excitement in the flock definite arrangements should be made for catching and handling the fowls. For catching the birds a coop or crate open at one end is a great convenience so that the fowls may be driven through a small door, in the hen house directly into the crate. If this crate has an opening at the top so the birds may be easily lifted out, an entire flock can be handled quickly and without much disturbance among the birds.

In culling the pullets remember to keep all early hatched, quick maturing, vigorous, healthy, broad-backed, deep-bodied pullets and to sell or eat all late hatched, slow-maturing, weak deformed, pinched-backed and undersized ones.

RECORD BOOK

You will find items in your Record Book under Stock Record for you to answer after culling the chickens. If this record is kept carefully it will show clearly the value of your undertaking.

VIII. Exhibition and Achievement Day

Before you set the date for Achievement Day it is well to consult those who are to help. If you expect the County Agent or the Agricultural Extension Service to assist you, your date will be governed by their convenience.

Make this a fitting end of a good club year and have an interesting program. A good story of your club work might be told or read, some well planned demonstrations could be given, and club songs should be sung.

RECORD BOOK

In writing up your Achievement Day meeting, give the program, the awards, or ribbons given. If there were any interesting talks made by visitors tell about them, too. Did you receive any benefits from the exhibit by observing the work of others? The Record Book should be up-to-date and in good, neat condition so that it might be on display.

SUGGESTIONS FOR ROLL CALL

1. Breeds of chickens
2. Points to observe in setting eggs
3. What baby chicks need
4. Foods for growing chicks
5. Pests of poultry and how to get rid of them
6. Things to consider in "conditioning" pullets
7. Some conditions that make for success

SUGGESTIONS FOR DEMONSTRATIONS

1. Setting a hen
2. Starting an incubator
3. Candling eggs
4. Treating birds for lice
5. Home mixing and preparation of feeds
6. Making Equipment:
   (1) dry mash feed hopper,
   (2) home-made drinking fountains,
   (3) brood coops for the hen and chicks
7. Culling pullets
8. Handling eggs for setting
9. Marking baby chicks

POULTRY CLUB MAXIMS

1. Keep Better Poultry.—Standard bred poultry increases production and improves the quality.

2. Select Vigorous Breeders.—Healthy, vigorous breeders produce strong chicks.

3. Hatch the Chicks Early.—Early hatched pullets produce fall and winter eggs.

4. Preserve Eggs for Home Use.—Preserve when cheap for use when high in price.

5. Produce Infertile Eggs.—They keep better. Fertile eggs are necessary for hatching only.

6. Keep Standard Bred Poultry.—It is more uniform in size, type and color.

7. Keep Standard-Bred Poultry.—The products are in greater demand and bring better prices.

8. Cull the Flocks.—Dispose of all unprofitable producers and reduce the feed bill.

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