

# Culling Poultry



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*The Ohio State University*

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*¶ The cover picture shows a setup for culling loafers and for selecting and pullorum testing next year's breeding stock.*

¶ Cull the loafers! They are through producing. Sell them now! By delaying this important management practice you are wasting feed.

¶ Feed the layers a complete ration! Time and money invested in feed for layers pays dividends.

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# CULLING POULTRY

By

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## The Why, When, What, and How of Culling

*Why Cull?*—Feed and food are both vital in our struggle for victory.

So far this year (June, 1943), we have substantially increased the number of poultry and livestock over the 1942 record year. Feed supplies are being used up rapidly and surplus supplies are dwindling. Feed and livestock production should balance.

You can't afford to keep loafing hens! They consume almost two-thirds as much feed as producing hens.

Regardless of how well you feed and manage the flock, there will be some culls. If the hens quit laying, cull them, to save vital feed and provide more meat.

Culling is usually thought of as picking out unprofitable birds from the flock. However, the removal of birds of low vitality and those which show disease symptoms is important to reduce laying flock mortality.

In many instances, producers fail to cull growing pullets. The poor pullets increase the number of culls that appear in the laying house during the year. This is poor use of the house, because it is not used to full capacity from the standpoint of productive birds. For successful culling, the flocks must receive a complete ration and be properly managed and housed. If not, good birds will appear as culls.

*When to Cull.*—Culling should be a continuous process from day-old chicks until all birds are disposed of. Small, weak, crippled, deformed chicks should be destroyed as soon as they are detected in the brooder house. They not only waste feed but they may be disease carriers.

In growing pullets and breeding cockerels, dispose of the slow developing, crow-headed, small bodied birds, and those that have pale shanks. Keep only the ones that are large bodied, have broad heads, prominent eyes, and comparatively short beaks.

In laying flocks, there will be culls regardless of how well bred the flock. In most instances, not more than 40 to 60 per cent of the yearly birds should be kept the second year unless they show very high productiveness at the end of the first year. By culling, the cream of the crop can be saved and the loafers moved to market or sent to a stew kettle or a roaster.

*What to Cull.*—Good health and vigor are necessary for high egg production. A bird that possesses good vigor is one that has a broad head, a beak comparatively short, and bright alert eyes. A bird with poor vigor has a long beak, narrow head, and shrunken eyes.

A good hen has a broad back with plenty of width in the heart region just back of the wings, and is wide between the legs. The body is long and comparatively deep, indicating that she has capacity for consuming feed and producing eggs. A good hen is well fleshed and feels heavy when she is picked up.

Birds that are poorly fleshed, especially on the breast, are likely soon to go out of production, even if they are laying. Removing all birds that do not show good vigor will most likely reduce flock losses in later months.

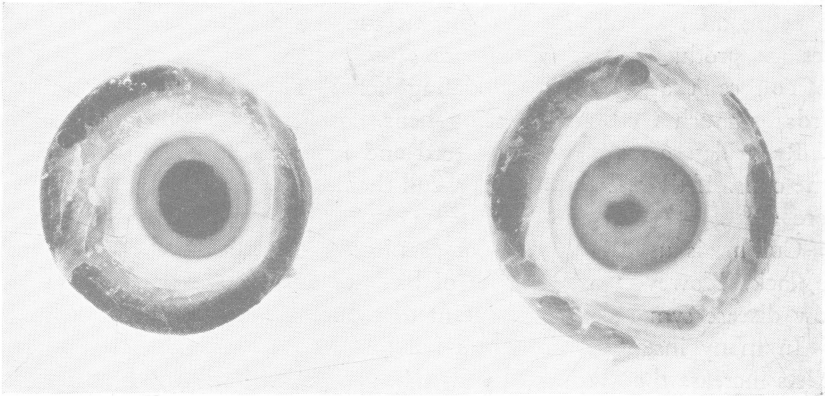


FIG 1.—“GRAY EYE”

A reddish-bay normal eye (left) and a grayish-white eye of a bird with fowl paralysis (leukosis, right). (Courtesy Ill. Exp. Station)

Fowl paralysis is prevalent in many flocks. “Gray eye” (or the fading out of the pigment in the pupil) is one very common symptom of this non-treatable disease. Always look for gray eyes. Such birds can be salvaged and sold while they are in good flesh. Failure to remove them promptly results in complete loss, and the trouble possibly may spread to other birds in the flock.

*How to Cull.*—Use all means at your command to detect good and poor layers. In many instances, it won't be difficult to decide whether to give the bird another chance or place her in the cull coop.

First of all, secure enough culling equipment, so that the birds can be handled rapidly. A catching hook, 4 to 6 feet long, made of a heavy stiff wire, should be kept in the laying house at all times. Birds that stop laying at any time can be removed and placed in the cull coop to be

marketed. When caring for the flock, one should observe the birds closely. If there are non-layers among them, usually they can be found on the roost or in a corner.

During the summer and early fall months, it is desirable to handle the entire flock. To do this, a good catching coop and corral should be available to save time and prevent undue excitement of the birds. A lath coop 4 to 5 feet long, 3 feet wide, and 18 to 24 inches high is convenient. It should be as wide as the door through which the birds will be driven. The entire end of the coop should be open, and after the birds are driven into it a sliding door is dropped in place to confine them. A door on top should be large enough so that one can easily reach a bird even in the corners of the coop.

A corral, made in two sections and hinged in the center, will help speed up the work. Each section can be made 5 feet square, and either lath or wire may be used to cover the frame.

*Night Culling is Practical.*—A flashlight or an electric lamp, equipped with a small shade so that the light will not shine on the roost, is necessary. An old floor lamp, with plenty of cord so that it can readily be moved along the roost, may be used to examine the birds as they are removed from the roost.

*Holding the Bird.*—There is a right and wrong way to hold a bird when examining it for good and poor characters. Hold the bird with its head toward you, its breast resting in the palm of your left hand (or the right hand of a left-handed person). The other hand is free to span the body for width and depth. The head and eyes can easily be observed and the wings can be spread to observe molt.

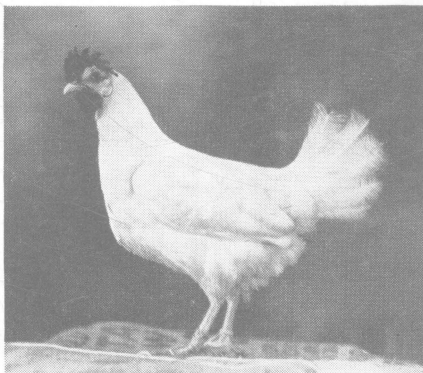
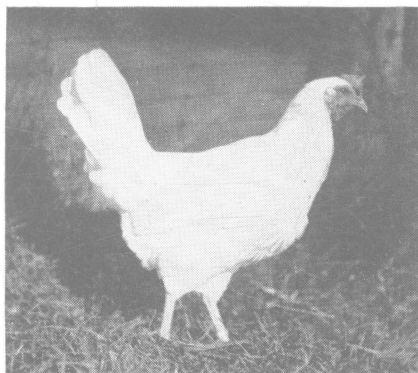


FIG. 2.—THE LOW AND THE HIGH PRODUCER

The bird on the right has good head and body type, while the bird on the left has a shallow body, indicating poor vigor.

## Culling Laying Hens

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### DETERMINING PRESENT LAYING CONDITION

In culling a flock of mature birds, the first thing the poultryman wants to know is whether the bird is laying at the present time. There are several conditions to guide one in making this determination.

*Comb.*—The comb of a laying hen is large, bright red, and has a waxy-like appearance. The wattles are enlarged. A nonlayer has a small,



FIG. 3.—HEAD OF GOOD BARRED ROCK HEN

The bird is a heavy producer. Note the enlarged bright red comb and wattles. The eye is prominent and the face is free from coarseness. The beak and face show no signs of yellow pigment.

dried-up comb, which has a dandruff-like surface. Study the two kinds of combs.

*Vent.*—The vent of a laying hen is enlarged, soft, pliable, moist, and bluish-white in color. The vent of a hen that is not in production is small, dry, and, in the case of yellow skinned breeds, yellow.

*Pubic Bones (pin bones).*—The oviduct in a laying hen enlarges many times. Therefore, the body of the hen must enlarge to make room for the active egg-laying organs. The pin bones of a laying hen are spread wide apart and are usually measured in width with the fingers. A laying hen

has a spread between the pin bones of two or more finger widths, whereas a nonlayer has a spread of less than two finger widths. There is a greater spread in a hen that is in full production than there is toward the end of the laying period.

The body of the laying hen also increases in depth. There is from two to five fingers spread between the pin bones and the rear of the keel bone. In a nonlayer, the keel bone is right up close to the pin bone and there is less than two fingers spread.

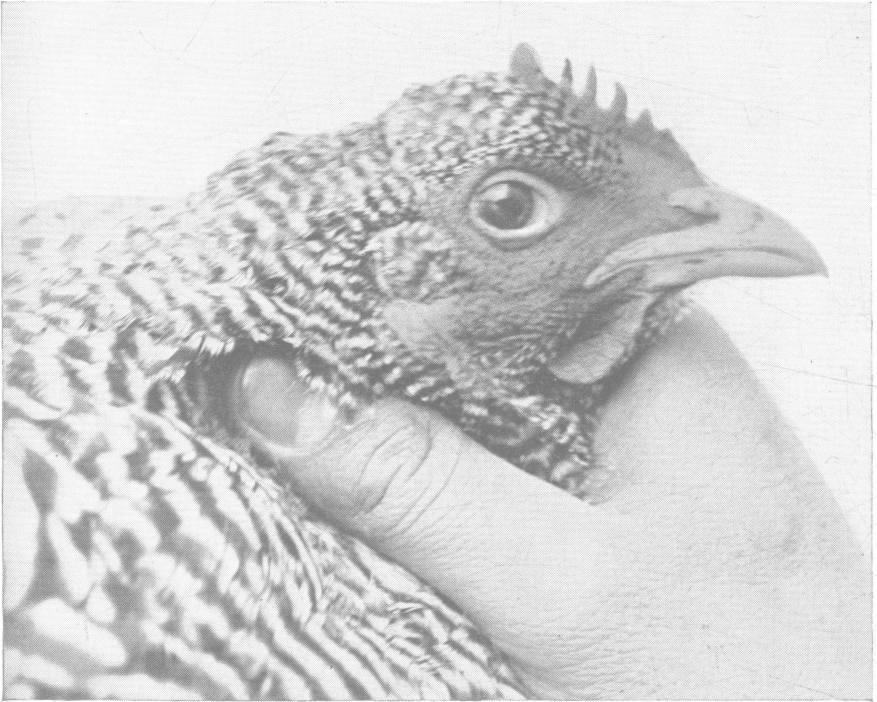


FIG. 4.—HEAD OF BARRED ROCK HEN—CULL

This is the head of a poor producer that is not in production. The comb is small, the eye dull, and the sunken eye indicates low vitality. The yellow pigment in the beak and the face indicates that the bird has been out of production for some time.

*Handling Quality.*—The skin on the abdomen of a laying hen is soft and pliable and there is no indication of hard fat inside the bird's body. In a nonlayer, the skin is coarse, thick, and tight, indicating that there is much hard fat inside the body cavity.

By picking out a hen that has all the good characters and comparing her with a hen of poor quality, it is easy to determine which hen is laying. By applying the results of such a comparison, one can, with a high degree of accuracy, detect the nonlayers.

## DETERMINING PAST PERFORMANCE

Knowing approximately how long a hen has laid is important to a poultryman at the end of the laying year. Some hens have the ability to lay continually all of the year, and others lay a short time and then take a vacation and start laying later.



FIG. 5.—CARCASS OF WHITE LEGHORN HEN—GOOD

This carcass shows the spread between pubic bone and keel bone, indicating a large capacity for consuming feed and space for enlarged egg-laying organs. The vent is large and moist, and the skin is white.



One of the guides to determine the past performance of birds of yellow-skin varieties is the degree of loss of pigmentation. Before pullets come into production in the fall, the beak, shanks, and skin of the body are highly pigmented—that is, those parts show a distinct yellow. As the bird begins to lay, the yellow fades from the various parts of the body, due to



FIG. 6.—CARCASS OF WHITE LEGHORN HEN—CULL

The carcass of a hen out of production. There is only a one-finger spread between pubic bone and keel. Note the narrow body, the yellow skin and shanks, and the small, dry, puckered vent.

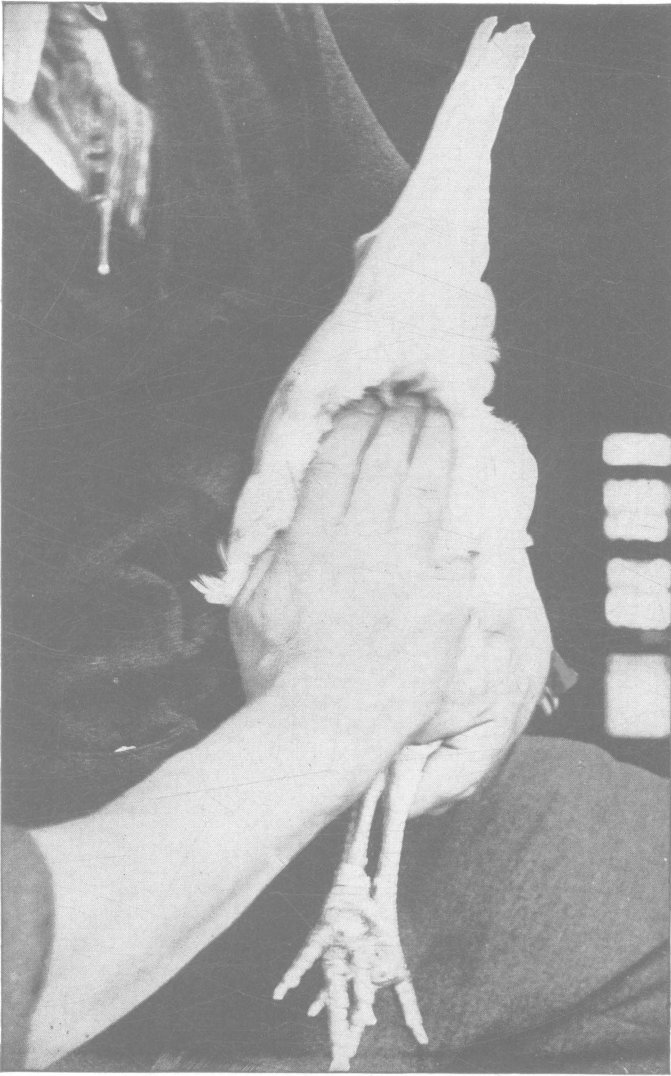


FIG. 7.—WHITE LEGHORN HEN—GOOD LAYER

This bird has a three-finger spread between pubic bones, and they are spread apart; this indicates that she is laying. She has laid long enough so that the yellow pigment has bleached completely from the beak and the shanks.

the fact that the pigment in the feed goes into production of color in egg yolks and is no longer deposited in various parts of the body. The fading out of the pigment is due to the natural shedding of the skin or the outer surface of the scales on the shanks. When new tissue replaces the old tissue

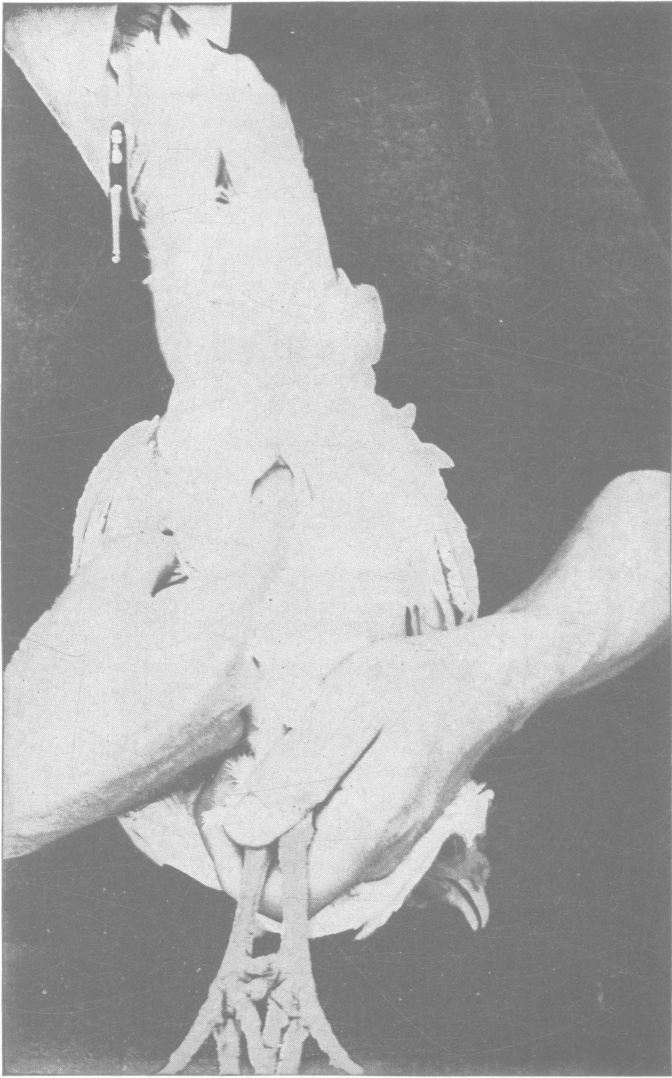


FIG. 8.—WHITE LEGHORN HEN—CULL.

This bird has only a one-finger spread between the pubic bones and they are close together; the small body indicates that the egg-laying organs are much reduced in size and are not functioning. The yellow pigment has returned to both beak and shanks.

it does not carry the pigment. When a hen quits laying, the pigment returns to the various parts of the body much more rapidly than it disappeared.

Usually, the skin around the vent will become bleached by the time the first egg is laid, or in the first few days of production. The eye ring, or

the edges of the eyelids, bleach out next, in just a few days. Birds that have white ear lobes will become white in about ten days after laying begins. Birds that have been in production continuously from 4 to 6 weeks will have lost the pigment from the beak entirely. The color leaves the base of the beak first and then fades out gradually from the base to the tip. The pigment in the beak is usually faded out completely by the time the first 50 eggs are laid.

The shanks are the next to lose their color. The front of the shanks loses the color first, and the part just below the hock on the rear of the shank is the last to lose color. The degree and the rapidity of loss of pigment in the shanks depends somewhat upon the quality of the scales on the shanks. Birds that have coarse shanks with heavy scales will lose the pigment much slower than will birds that are of finer quality and have small scales on the shanks. Thus, birds of the light breeds would tend to lose pigment a little faster than those of heavy breeds. How fast the pigment will return to the various parts of the body when the hen stops laying depends on the ration fed and on the vigor, age, and breed of the bird.

Frequently, birds start laying in the fall and go into a molt before the pigment is bleached from the beak. In such a case, there is a small amount of pigment left at the tip of the beak and the pigment will start returning at the base, thus leaving a small white band in the center of the beak. If the bird starts and stops laying several times during the year, the pigment will partially disappear and return, depending on the length of production and rest period.

At the end of the laying season, when the hens are being selected for next year's breeding flock, or birds are selected for retention in the laying flock for another year, only those hens that show continuous production by complete loss of pigmentation should be considered as candidates, assuming that there have been no drastic changes in feeding and management practices during the laying year which might have interrupted continuous laying.

#### LENGTH OF THE MOLTING PERIOD

Another good aid in determining the hen's past performance is the time and manner of her molt. The best hens in the flock lay and molt at the same time. However, the average bird ceases laying when she starts to molt. It may be a partial molt or complete molt, depending on the time of year when it occurs. Frequently, laying pullets go into a molt during the winter. Such birds usually show just a neck molt and some wing molt. If the molt occurs during the summer or early fall months, the bird usually goes through a complete molt. When a bird goes into a molt, the neck feathers are lost first, followed by the body, wing, and tail feathers. The order of the primary wing feathers molt is quite regular.

Therefore, the time and rate of molting the primary wing feathers is a reliable guide in determining the future value of the bird. Hens that molt early are the poor layers, because they molt slowly. There are usually 10 primary or outer wing feathers. The first feather to be dropped is the one next to the small feather which is called the axial feather. The slow molter usually drops one feather at a time and, usually, two or three weeks elapse before the next feather is dropped. It takes about three weeks for the feathers to make two-thirds of their growth and another three weeks, or a total of six weeks, to complete the feather growth. Therefore, a hen that

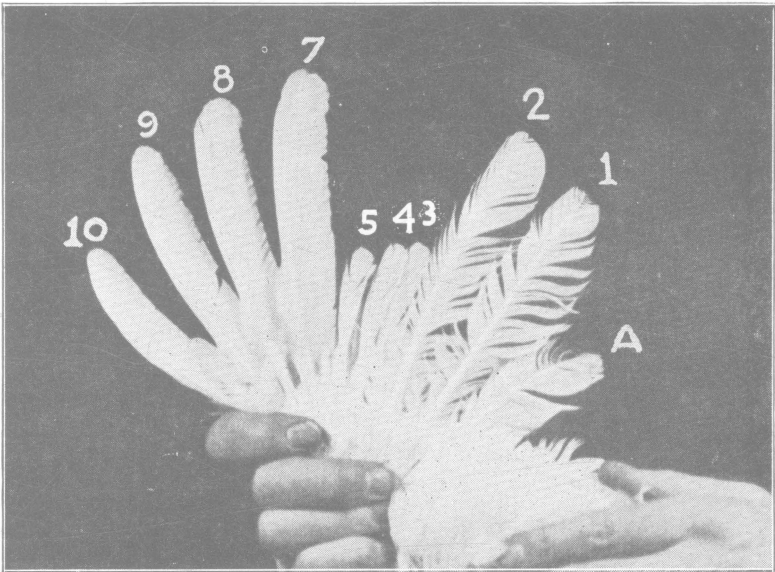


Fig. 9.—The picture of a heavy laying hen molting in December. “A” is the axial or stub feather. Feathers 1 and 2 are mature new feathers, at least six weeks old. Feathers 3, 4, and 5 are new ones growing out and are about the same length, indicating the old feathers were dropped at the same time. Feather 6 has just been dropped. Feathers 7- to 10 are old feathers and may not be dropped before she starts laying.

molts one feather at a time is going to take too much time off to grow a new coat before winter.

It is easy to detect hens that have new feathers and those that have old feathers. The bird that has not molted will have old dry feathers that are dirty and many of them broken. The hen that has molted will have feathers that are glossy, clean, and unbroken. The quills will be soft and often blood can be seen at the base of the feather. On white breeds, the new feathers have a sort of a yellowish or creamy cast to them.

A hen that molts late in the fall usually drops her feathers rather rapidly, because she has less time to put on a new coat before winter comes. Instead of dropping one feather at a time, she may drop two or three or more. Thus,

the larger number of feathers will grow out in the same length of time that it took an earlier or slower molting hen to grow out one feather. She may not molt all the primary feathers before starting to lay again. Hens that molt in June and July are likely to take four or five months of vacationing. Whereas, hens that molt in October and November are not likely to require more than six weeks to two months to complete the molt and start laying.

Whenever the flock is culled in the fall and summer months, the primary wing feathers should be spread to observe whether the bird *has molted* or *is molting*.

When a bird goes into a partial molt, not all the primary feathers will be dropped. The bird may start laying again even though there are four or five old primary feathers in her wing. However, the next time she ceases laying, she will start molting those feathers she did not drop the previous vacation. And, if it is a complete molt, she will then renew the feathers that she dropped when she went into a partial molt some time earlier. So in considering the molt in culling hens, one is likely to find some birds that do not seem to be typical cases.

Ordinarily, a good rule to follow is to discard the birds that molt in June and July and early August, and keep those that molt in September or later.

### Selecting Pullets

In selecting pullets, a different guide must be used than in selecting hens that have gone through one year of production. It is much easier to predict future production based on past performance than it is to decide whether or not a pullet will make a good layer before she has actually come into production.

In selecting pullets, head and body characters are important. A pullet, to make a profitable layer, must have a large well developed body, well covered with flesh. The head should be broad with a bright eye and a comparatively short beak. If the pullet is near laying age, she should show signs of comb development which indicates maturity. Do not house pullets that have small undeveloped combs and long beaks, commonly called "crow headed." The body of a pullet should be broad all along the back, and the width carried out well to the tail. There should be much width between the legs, indicating good vigor. Avoid birds that are coarse about the head, especially in heavy breeds, and also extremely coarse, beefy shanks.

### Selecting Cockerels

Even though the hatcheryman who may be buying the hatching eggs supervises and selects breeding cockerels, it is well for the flock owner to observe them during the growing season. It is always desirable to have a good safety margin in numbers, because some of the cockerels are likely not to be of desirable type when they are mature. They should be repre-

sentative of the breed and variety as to type and color, and be free from disqualifications. A cockerel should have a rugged head, bright prominent eyes, broad deep chest, and a long back with much width carried out well to the tail. The cockerel should have ample bone but should not be too coarse in his shanks. Cockerels of good type are likely to transmit those characters to the chicks of next year. Cockerels of low quality will most likely plant undesirable characters that the hatcheryman and flock owner may have been trying to get rid of for a number of years. Thus, extreme care should be used in selecting prospective breeding males from the young cockerels, because they are the foundation of next year's pullets. Selection of cockerels of the heavy breeds should start when they are from 6 to 8 weeks old. If they are not fully feathered at that time, they should be discarded. Slow feathering is an inherited character.

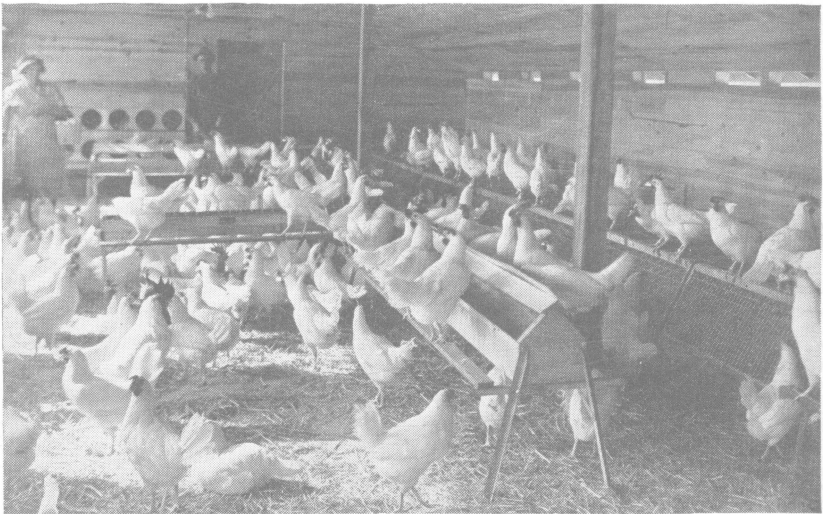


Fig. 10.—A well selected breeding flock by careful culling will produce more high quality chicks the following year.

### Selecting Next Year's Breeders

Selecting the best hens for retention in the breeding flock involves much time looking for good egg-production characters. The birds must be representative of the breed and variety, and meet minimum weight requirements. Small bodied birds, even though they possess the characters of a good layer, lay small eggs. Small eggs are not useful in the hatchery.

The cover picture shows the combined process of selecting breeding stock for health and vigor, good egg production, breed type, and at the same time pullorum testing to eradicate the disease from the breeding flock. Both culling and pullorum testing of the breeding flock should be done more than once a year in a progressive flock improvement program.

# CULLING CHART

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## JUDGING FOR PRESENT PRODUCTION

CHARACTER	LAYING HEN	NON-LAYING HEN
Comb.....	Large, red, full, glossy.....	Small, pale, scaly
Eye.....	Bright.....	Dull
Vent.....	Large, dilated, oblong, moist..	Small, contracted, round, dry
Pubic bone spread	Two to five fingers spread...	Less than two fingers spread
Body capacity....	More than two fingers spread between keel and pubic bones.....	Less than two fingers spread between keel and pubic bones

## ESTIMATING PAST PRODUCTION

CHARACTER	LONG LAYING PERIOD	SHORT LAYING PERIOD
Vent.....	Bluish white.....	Flesh colored
Eyelids.....	Thin and edges white.....	Thick, yellow tinted
Eye.....	Prominent, keen, sparkling...	Listless, sunken
Earlobes.....	Enamel white.....	Yellow tinted
Beak.....	Pearly white.....	Yellow tinted
Face.....	Clean cut, sunken.....	Full, well fleshed
Shanks.....	White, flat, thin.....	Yellow, round, smooth
Plumage.....	Worn, soiled, lifeless, close- feathered.....	Signs of molting, loose feathered

## ESTIMATING MERITS OF GOOD AND INFERIOR LAYERS

CHARACTER	GOOD LAYERS	POOR LAYERS
Head.....	Broad, square.....	Crow-headed, round
Beak.....	Short.....	Long
Eye.....	Bright, bulging.....	Dull, sunken
Face.....	Lean, smooth.....	Meaty, wrinkled
Comb.....	Large, fine.....	Small, coarse
Breast.....	Full, broad.....	Shallow, narrow
Back.....	Broad, long.....	Narrow, pinched
Abdomen.....	Soft, pliable, dilated.....	Fatty, hard, contracted
Skin.....	Soft, thin, loose, silky.....	Thick, dry, underlaid with fat
Pubic bones.....	Tips thin, point straight out..	Tips thick, curved in
Keel.....	Slopes downward.....	Slopes upward
Capacity.....	Four to five fingers.....	Two fingers
Shanks.....	Lean, fat, fine scaled.....	Fat, round, coarse scaled
Molt.....	Late, rapid.....	Early, slow

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