

University of Nebraska - Lincoln

**DigitalCommons@University of Nebraska - Lincoln**

---

Historical Materials from University of Nebraska-  
Lincoln Extension

Extension

---

10-1928

## EC1416 Revised 1928 How to Select Good Layers

S. J. Marsden

Follow this and additional works at: <http://digitalcommons.unl.edu/extensionhist>

---

Marsden, S. J., "EC1416 Revised 1928 How to Select Good Layers" (1928). *Historical Materials from University of Nebraska-Lincoln Extension*. 2530.

<http://digitalcommons.unl.edu/extensionhist/2530>

This Article is brought to you for free and open access by the Extension at DigitalCommons@University of Nebraska - Lincoln. It has been accepted for inclusion in Historical Materials from University of Nebraska-Lincoln Extension by an authorized administrator of DigitalCommons@University of Nebraska - Lincoln.

E.C. 1416 (Roo)  
-28

S85

E7

#1416 R

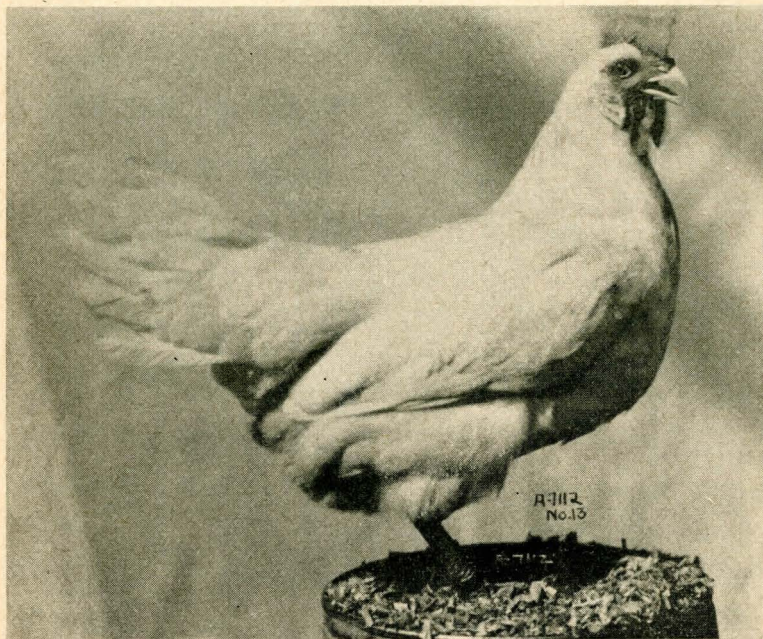
C.I

Extension Circular 1416 Revised

October, 1928

## How to Select Good Layers

S. J. MARSDEN



A GOOD LAYER AND BREEDER, A-7112

Records: 253, 212, and 186 in Three Years

Egg Size: 25 Ounces per Dozen Her First Year

This hen is the dam of many high producers

The University of Nebraska Agricultural College Extension Service  
and the United States Department of Agriculture Cooperating  
W. H. Brokaw, Director, Lincoln



## Culling Principles Condensed

### GOOD LAYERS

Usually

1. **Molt late**—starting after October 1.
2. **Molt rapidly**—dropping great numbers of feathers at one time.
3. Have cleancut, strong, refined **heads**.
4. Have large, bright, prominent **eyes**.
5. Show **refinement**—in comb, wattles, legs, and skin.
6. Are **active, alert, and healthy**.
7. Have flattened (or triangular) lean **shanks**.
8. **Lose the yellow** color from their beak and shanks. (Applies only to yellow-shanked breeds.)
9. Are **deep-chested** and **slab-sided**.
10. Have worn, weather-beaten **plumage** from spring until they molt in the fall.
11. Have pointed flexible **lay-bones** (or pubic bones, which are on each side of the vent).
12. Have broad, flat **backs**.
13. Have soft, pliable **abdomens**.

**A good layer will show part or all of these characteristics**

(The first 4 are the most important)

### POOR LAYERS

Usually

1. **Molt early**—before October 1.
2. **Molt slowly**—dropping just a few feathers at a time.
3. Have coarse, meaty, or else thin, weak-looking **heads**.
4. Have small, sleepy, or sunken **eyes**.
5. Show **lack of refinement**—roughness and coarseness in comb, wattles, legs, and skin.
6. Are "**pepless**" or **sleepy**.
7. Have rounded, fat **shanks**.
8. **Retain** part or all of **their yellow color** in beak and shanks. (Shows only in yellow-skinned breeds.)
9. Are **shallow - chested** and **round-bodied**.
10. Have sleek, shiny **plumage** at all times unless sick.
11. Have thick, meaty, rigid **lay-bones**.
12. Have rounded, narrow **backs**.
13. Have hard **abdomen**.

**A poor layer will show part or all of these characteristics**

(The first 4 are the most important)



# How to Select Good Layers

S. J. MARSDEN, DEPARTMENT OF POULTRY HUSBANDRY

Recent research work has shown that high egg production is an inherited characteristic which is transmitted from generation to generation in fundamentally the same way as are such characteristics as size, shape, and color. The selection of the best layers is of great importance therefore, not only because of the immediate effect on flock profits, but also because of the more permanent effect on the egg producing capacity of the flock.

Trapnesting is admittedly the most accurate method of getting information about the laying enthusiasm of our birds, but since trapnesting is not always practical for farm and commercial poultry producers, other methods of selection must be used. The purpose of this circular is to show how the best producers can be selected with reasonable accuracy without the use of trapnests.

Two terms very commonly used by poultrymen need definition in order to avoid confusion. The term, "cull," is used to indicate the poor layers and "culling" is the practice of removing the poor layers from the flock. Market poultry buyers have sometimes used the term, "cull," to indicate birds of very low vigor and poor market quality. As a matter of fact many culls according to the original meaning of the word are fat and plump, and of the very highest market quality. Because of the accepted understanding of these terms by poultry producers they will be used in this circular with the original meaning intended. What is apparently needed is a new term that will clearly describe the birds which are not of high market quality, but which must be removed with the others if a high flock average is to be obtained.

## THE BEST TIME TO CULL

Successful poultrymen do not restrict their selection efforts to any one season of the year, but are continually removing those birds which show signs of poor laying ability. One of the best methods of doing this periodic culling is to take a flash-light or lantern and go over the flock as a group when they are on the roosts at night. All birds that show poor fleshing, inherent weakness, and any evidence of sickness or disease should be removed. It is well on these occasions also to handle a few of the birds to see whether they are holding up in weight and see whether the crops are well filled. The birds should be examined for lice, and if these parasites are numerous, may be treated with blue ointment or sodium fluoride, the directions for the use of which are given in another circular available from the College of Agriculture.



### EARLY SUMMER CULLING

A more thorough culling of the flock may very well be given in June or July each year. More detailed attention should be given at this time to some of the outstanding characteristics which distinguish the good layers from the less profitable stock. This early summer culling should include a consideration of:

1. Head points.
2. Pigmentation.
3. Quality of skin, legs, and abdomen.
4. General health and sound physical condition.

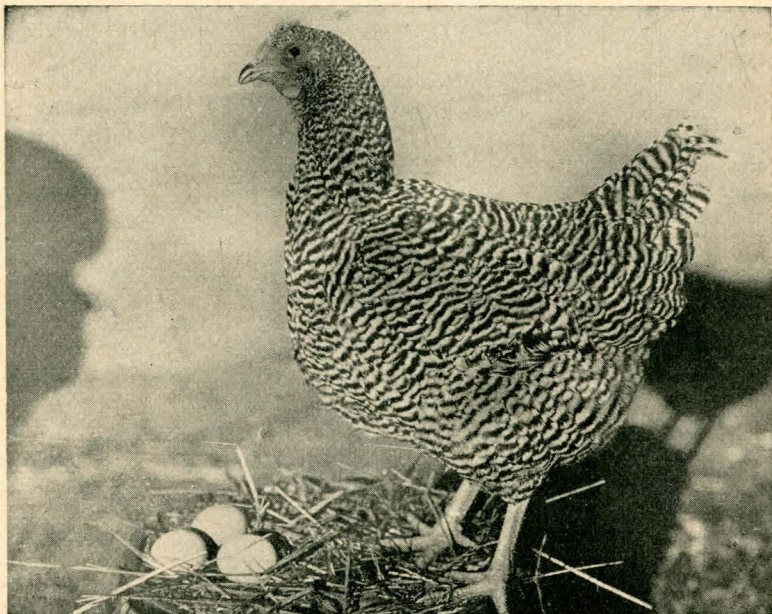


FIG. 1.—Barred Rock hen. Record, 231 eggs. Shows good body type and depth both front and rear

### FALL CULLING

In the fall, about October first, those who plan to carry out a constructive breeding program may select the very best breeding birds in the flock chiefly using the following points:

1. Time of molt.
2. Head points.
3. Quality and abdominal capacity.
4. Body conformation.
5. Pigmentation.
6. Health and vigor.
7. Standard type and color.

For best results all of these points should be carefully considered.



## GENERAL CONSIDERATIONS IN CULLING

## I. HEAD AND EYES

The head and eyes are among the best indicators of laying ability. One advantage in using head points is that they can be applied at all times of the year regardless of whether the bird is laying at the time of examination or not. Head points can also be used in the selection of pullets and of breeding males.

The head of a typically good layer reflects refinement and quality. Poor layers nearly always have coarse head features in contrast with the refinement of the good layers whose heads are free from wrinkles and not excessively meaty. We should be careful of course not to emphasize over-refinement which may often indicate weakness. The term which has been used to define the desirable quality is "rugged refinement." The head of the good layer will suggest strength, vigor, and intelligence. The general shape of the head will be quite deep and the beak rather short and well curved. A straight beak gives an impression of too much length to the head and is not desirable. The "beefy type" cull will have a coarse meaty head with an overhanging eyebrow. The over-refined birds have a thin, weak, and non-vigorous appearing head.

One should of course bear in mind that there are differences in breed type, and that the same descriptions that would fit the small varieties perfectly would not so well fit the large breeds. One must study the particular breed in question to get the fine details when using head points in judging.

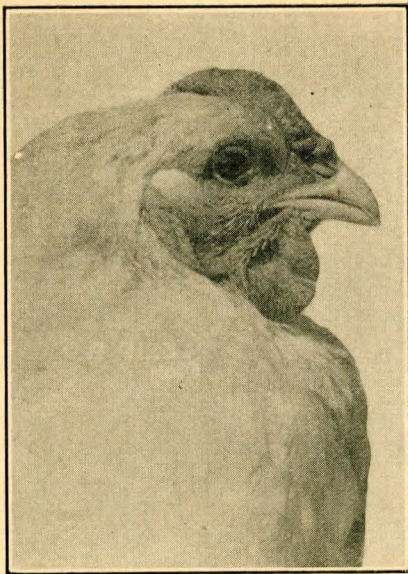
The illustrations shown herewith indicate several types of good and poor heads. The actual trapnest records of the birds are given with the illustrations.

A new method of selecting good layers is based on the shape of the skull. In this system a theory is advanced that good layers have a skull that is flat and broad at the top, the breadth being carried well forward in front of the eyes. The eyes themselves will be set toward the upper part of the bird's head and not far from the top line of the skull. A head that appears decidedly **rounded**, either from the front or side view indicates low production. The eye set low in the head is also undesirable. This head point system may be used in connection with other characteristics.

## II. THE MOLT

A study of the molting characteristics of the hen show that the best layers always molt late in the season, but they molt rapidly and come back into production again at about the same time as do those birds that started much earlier. Late molting is always correlated with exceedingly good vigor which is always an outstanding characteristic of the best layers. The molting test is of especial value; first, because it is very simple and easy to use, and second, when used in late September or October, birds, which are selected by this test, are almost invariably good producers. If breeding stock is selected by simply





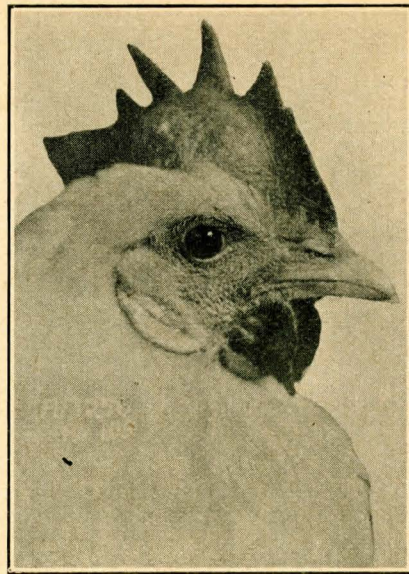
A-4123 (White Wyandotte)  
214 eggs \*

Great smoothness, fine quality, temperament, and good vigor are shown in this head. She is a good breeder, and weighs seven pounds.



B-2258 (Barred Rock)  
219 eggs

The large, bright eye, and refinement of head-gear in this 7½-pound hen bespeak her production. Temperament is also shown.



A-7256 (S. C. White Leghorn)  
245 eggs

This hen shows all the good head points of a good layer.

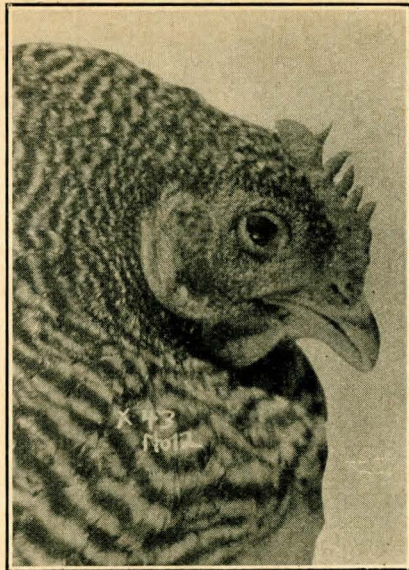
\* These numbers always refer to first year's trapnest record.





C-617 (White Wyandotte)  
118 eggs

This is a "sick" head. The dull-half-closed eye and sunken face indicate disease or weakness.



X-43 (Barred Rock)  
75 eggs

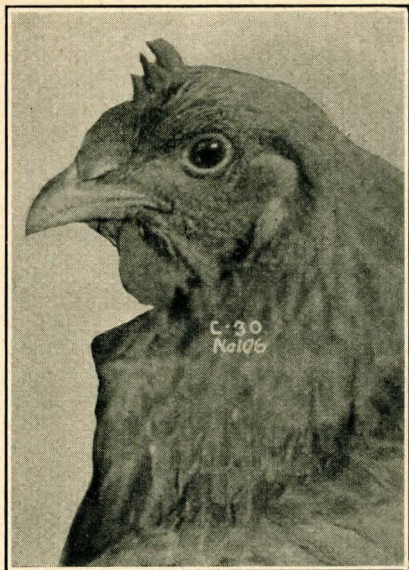
Coarseness of face, and a dull, over-grown eye serve to class this bird as a cull.



B-7431 (S. C. White Leghorn)  
44 eggs

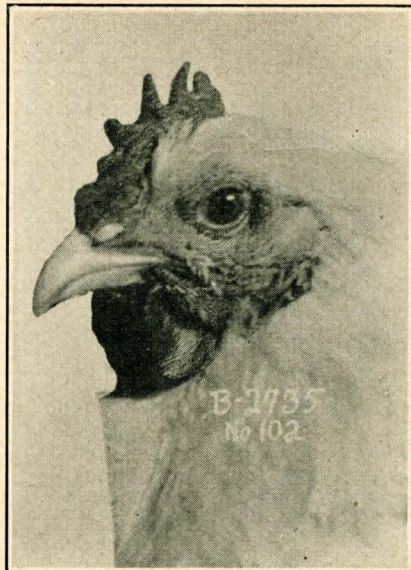
Her bright eye is misleading. A close study will bring out her coarseness, her weak, sunken face, and conspicuous face feathering.





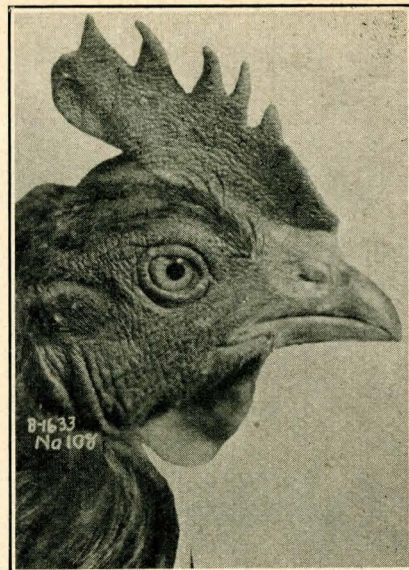
C-30 (Buff Orpington)  
246 eggs

Refinement and temperament characterize this head. The eye is very bright and open. This hen is a sister of 2230-M (page 18).



B-2735 (White Rock)  
230 eggs

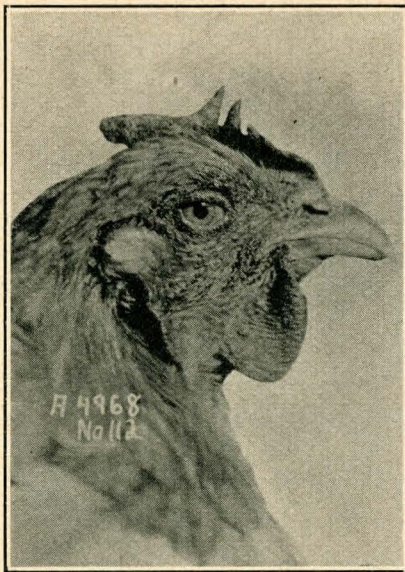
The large, prominent, and exceedingly bright eye indicates this hen's value. Refinement of headgear is noticeable. The feathers on the face are objectionable.



B-1633 (Rhode Island Red)  
250 eggs

Smoothness, refinement, great vigor, and good skull shape make this head outstanding. She is a daughter of 2167-M (page 18).





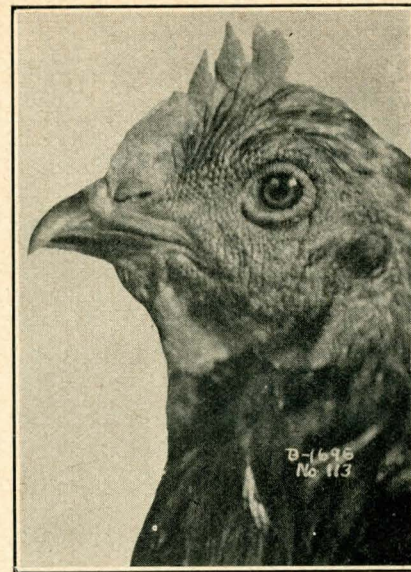
A-4968 (Buff Orpington)  
111 eggs

This head shows coarseness with many conspicuous feathers on the face. The eye is dull, rather small, and over-grown with flesh.



B 2902 (White Rock)  
142 eggs

This head shows some promise in the bright eye and smooth headgear, but the coarse, conspicuously feathered face and over-grown eye are bad features.



B-1696 (Rhode Island Red)  
128 eggs

The only saving feature of this head is the bright eye, otherwise it is a typical coarse, "beef-type," cull head.

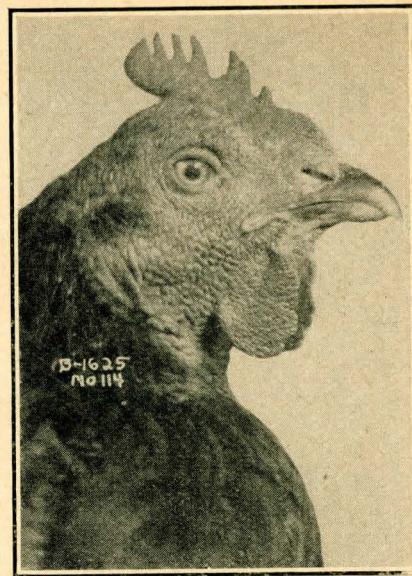




B-1803 (Rhode Island Red)



B-5742 (S. C. White Leghorn)



B-1625 (Rhode Island Red)

**Some of These Six Hens Are Good Layers, Some Are Medium Good Layers, and Some Are Poor Layers. Can You Pick Them?**

Their records will be found at the end of the bulletin

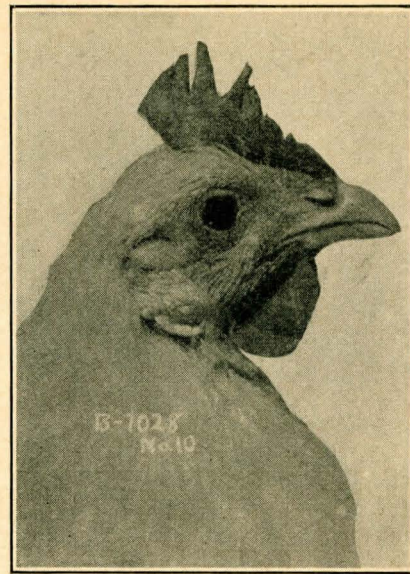




A-4986 (Buff Orpington)



C-621 (White Wyandotte)



B-7028 (S. C. White Leghorn)



picking hens that have not started to molt by October first, one will have the best birds in the breeding flock from the production standpoint. Hens that have not yet started to molt will have ragged, weather-worn plumage in the fall.

### III. THE HANDLING QUALITY TEST

Handling quality may be determined by feeling the abdomen and pelvic bones of the bird. Birds having good quality will have a pliable abdomen, free from hard fat. The skin will be loose and pliable. The pelvic bones will be thin, pointed, pliable, and free from hard patches of fat. The shanks of these birds will be rather thin, smooth, and flat with close-fitting scales. Round, plump shanks, or exceedingly coarse ones are indications of poor production.

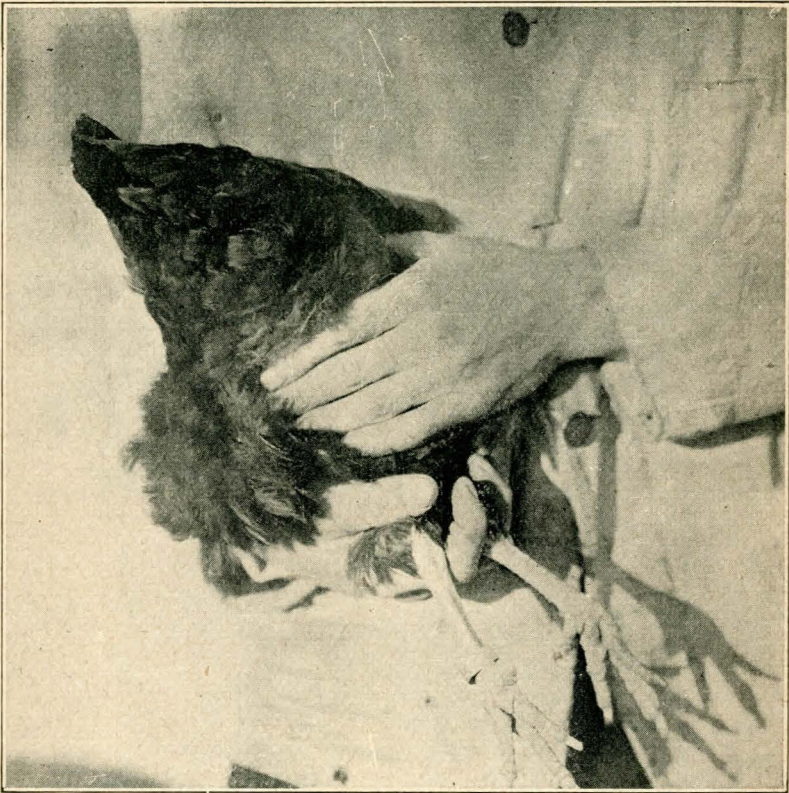


FIG. 2.—Measuring the abdominal capacity of a hen, the distance between end of the keel bone and the lay-bones. Also shows the correct way to hold a hen.



The quality characteristics are not so evident as the hen grows old, hence this test is not so accurate with birds that are two years old or over. Culling for egg production, as a matter of fact, can always be done with greatest accuracy either during or at the end of the first laying season.

Quality again is influenced greatly by the breed, strain, feeding conditions, and management factors. Large birds will not always demonstrate the quality that can be noticed in the smaller type, even though they may lay as many eggs. One would not, for instance, expect to find the same skin texture and handling quality in birds of the Brahma type as in the Leghorns. Barred Rocks of certain strains tend to become excessively fat as soon as they mature, consequently coarseness in the abdomen is very often found in the better birds of this variety. Also, hens in active laying condition will show more evidences of quality than the same hens during a non-laying or resting period.

#### IV. THE PIGMENTATION TEST

All yellow-skinned breeds experience a fading out of the natural yellow pigmentation in the beak, shanks, and skin after heavy laying. When egg production stops, the yellow color reappears, provided the ration is rich in the yellow pigment-containing elements. Given the same feed and management conditions, the loss of pigment occurs most rapidly in the best layers and least rapidly in the very poor layers. The poor layers often hold yellow color in their shanks even after the first of June, while the shanks of the good layers present a very much bleached appearance at this time. The pigmentation test is of greatest value for the spring or early summer culling.

The pigmentation test, as has been mentioned, is influenced by the breed and ration used as well as by the natural laying ability of the hen. This test, for example, is of greatest value with Leghorns and of less value when heavy breeds are being culled. Hens fed plenty of yellow corn and green feed will not lose pigment as rapidly as those which are fed rations not containing the yellow pigment elements.

#### V. DISPOSITION AND TEMPERAMENT

Another indicator of laying ability is temperament. Good laying hens are always friendly, active, and ambitious. They will not be wild or flighty, nor will they be lazy and sluggish. Good layers go to roost late at night and are always off the roost early in the morning. When in laying condition, good layers are hearty eaters and will be perfectly willing to rustle for their food supply. The toenails of good layers will, as a rule, be worn from much scratching if they are housed on a cement floor.

#### VI. THE CAPACITY TEST

Good layers must have plenty of room for the digestive and egg-laying organs. Heavy layers are hearty eaters as will be understood if we remember that a five-pound hen producing 200 eggs in a year



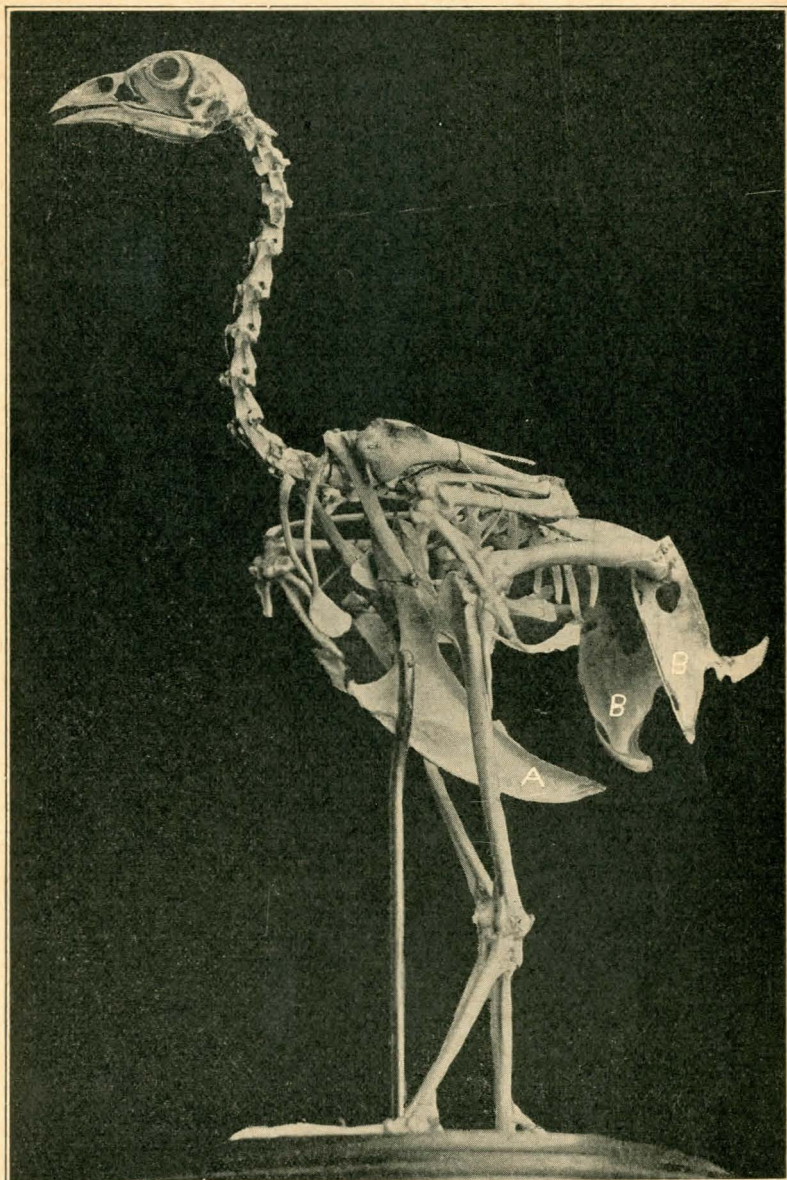


FIG. 3.—The skeletal structure of the hen. The bone marked "A" is pelvic bones. The distance between the ends of bones A and B, and between the bones B, constitutes the "capacity" measurements referred to on another page.



must convert about 90 pounds of raw material in the form of grains and by-products over into about 25 pounds of eggs. Plenty of room for a large, fully-developed digestive and reproductive system is therefore important and the term used to denote this quality is "capacity."

Comparative length and breadth of the body cavity can be noted by measuring the distance between the pelvic or lay-bones and the distance from the end of the breast bone to the pelvic bones. Body width is indicated by the distance between the two pelvic bones, depth and length by the distance from the breast bone to the pelvic bones.

One should bear in mind that poor layers often have large capacity, but that the capacity may be used for the production of meat and flesh rather than for egg production. The capacity and quality characteristics should therefore be considered at the same time. It should be remembered also that the capacity test can be used only when birds are in laying condition. It is not an indication of high production unless correlated with good quality and the relative size of the bird considered. The capacity characteristic is of no value whatever in selecting males, though breadth of back is an essential characteristic of good male breeders.

#### VII. BODY TYPE

Considerable emphasis has been given to body type as an indicator of egg-laying ability. While there is some connection between body type and high production, the tests are rather difficult to apply and their usefulness is limited to those who have had considerable experience in culling and selection. If reasonable attention is paid to standard breed type in the selection of breeding stock, birds of reasonably good egg type will automatically be picked, for the Standard type of all common breeds embodies an ideal which is not inconsistent with good egg-laying ability. Good breadth of back, a good spring of rib, depth of body, both front and rear, are the important points, especially for males. These factors are of real significance in the selection of breeding males and exhibition birds of both sexes, hence are automatically cared for if breeding stock is selected for standard qualities.

#### CLASSIFICATION OF HENS ACCORDING TO PRODUCTION

With a little experience the poultryman can divide the birds in his flock into three groups:

(1). Poor layers—those birds laying less than 135 eggs per year. These birds are the ones that should be sent to market as soon as they are discovered, provided of course that they are of good market quality.

(2). Medium good layers—birds which are capable of producing from 135 to 184 eggs per year. Such birds may be kept to the end of their first laying year, at which time they also may be discarded to make way for the more profitable pullets. Birds in this group, however, that possess certain desirable features of color or type or of good egg size, may be kept as breeders, or for flock matings.



(3). Good layers—with a record of 185 or more eggs per year. These are the birds that should by all means be kept for breeding purposes and for their second year egg production. Such birds will usually lay more than 135 eggs during their second year and the eggs will average larger in size than pullet eggs, so that they will have a higher market value. These are the birds which will still be laying on October first, which have little or no pigmentation, have good production heads, and other indications of egg-laying ability.

#### CULLING TECHNIQUE

The handling of laying hens usually slows up egg production more or less, hence the best handling method is one that will disturb the hens the least. Perhaps the best way is to use the "catching coop," which has an opening at one end that may be set against the door of the henhouse. Hens are then gently driven into it and removed one by one from a door at the top. Using a wire fence inside the house is probably quicker. A few hens are driven into a small wire pen and a catching hook is used to remove them from it.

In handling chickens there is only one good way, that is, holding the bird's head always **toward** operator's body with its breastbone resting in the palm of the hand, placing the forefinger between the bird's legs and holding the legs tightly with the rest of the hand. By this method any bird can easily be held without harm to bird or person.

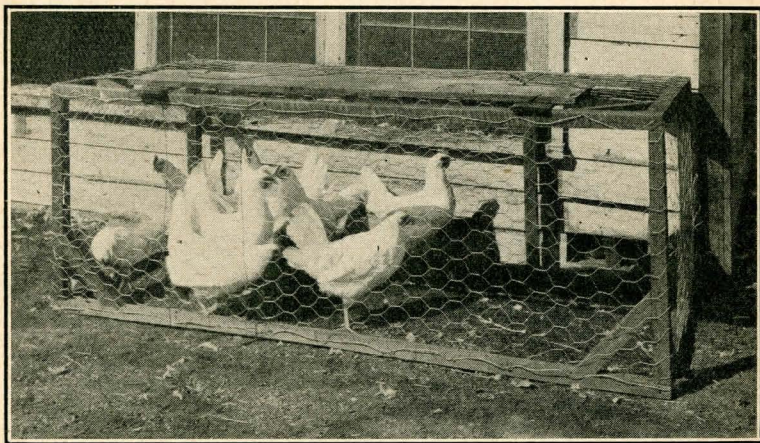


FIG. 4.—A catching coop in summer and a sun parlor in winter



### LAYING CONDITION

One should first determine whether or not the hen is in laying condition. Laying condition is denoted in three ways: (1) **Comb** and **wattles** enlarged, smooth, and usually red. (2) **Abdomen** dilated and comparatively soft and pliable. (3) **Vent** enlarged, moist, and pliable.

### AGE AT WHICH TO CULL

Culling for egg production can be done most accurately during the latter part of the hen's first production year. Hens past their first production year are hard to cull, though it is not hard to pick out the best ones. Pullets before they begin to lay or before they have laid several months can be judged only by head points, rate of maturity, and indications of vigor. By using these tests, quite a large percentage of the outstanding culls can be taken out before much housing space or feed is wasted on them. Select the pullets that have refined, strong-appearing heads and bright, intelligent eyes.

### SUMMARY

**Culling for egg production** can be done most accurately with hens in the latter part of their first year of production.

**Continuous culling** to eliminate sick or weak birds and the decided culls, should be done throughout the year. Head points, body weight, and freedom from disease are the main points to use.

**A summer culling** in June or July will serve to eliminate the outstandingly **poor layers**. Head points, pigmentation, quality, and general health are the best characters to use. Delousing may be done at this handling.

**A fall culling**, about October 1, will serve to pick out the **best layers** for breeding stock. **Molt, head points**, quality, capacity, pigmentation, health, vigor, breed type, and variety color are the basis of selection.

**The culling of pullets** before they have laid may be done on the basis of head points, rate of maturity, and indications of physical vigor.

---

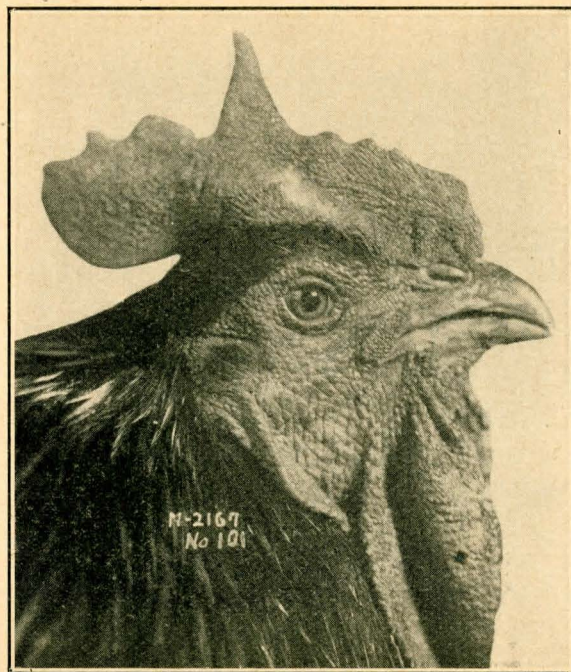
\* Records of hens on pages 10 and 11:

B-1803—107 eggs.	B-1625—241 eggs.	C- 621—138 eggs.
B-5742—197 eggs.	B-7028— 27 eggs.	A-4986—182 eggs.

[10-27-15M]



## Heads of Males That Have Good Production Breeding



\*2167-M (Rhode Island Red). Dam laid 623 eggs in 3 years. This male is the sire of many high producing hens. He is of good color and type, and weight 9 lbs.



2230-M (Buff Orpington). Dam laid 388 eggs in 2 years. All of his sisters are medium or good producers, most of them laying over 200 eggs. This is a most important point in selecting breeding males and females.

\* His comb has been frosted, which accounts for its irregular appearance.