Past Egg Production Judging

In past egg production classes, four live birds are judged and ranked according to the number of eggs they have laid before the contest. The birds are judged on the factors of Persistency, Intensity, and Health and Vigor. The Persistency factors of pigment loss and molt tell you which hen has the longest period of continuous production and are the best indicators of the number of eggs each hen has laid. Intensity factors indicate the hen's current rate of production. Intensity is determined by the handling quality of the pubic bones, abdominal skin and vent, and lack of fat under the shank scales. Abdominal capacity and the condition of the comb and wattles are additional indicators of Intensity. Health and Vigor are indicated by the shape and brightness of the eye, proportional shape of the head and the condition of the comb and wattles.

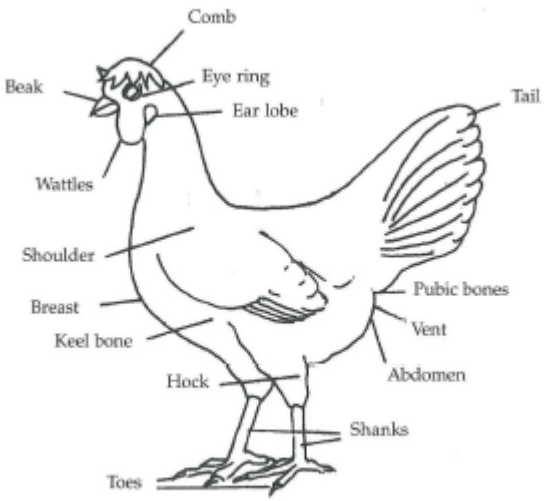


Figure 1. Parts of a chicken, giving common names used in production judging.

Pigment loss is the first and the most important characteristic that should be used to place the class. The hen that has bleached the most should be placed first. If two birds have the same pigment loss, use handling quality to split the pair. The bird with the better handling quality is placed up. Two birds with equal bleaching and handling quality are placed on differences in abdominal capacity.

The hen with the larger abdomen is the better layer. Finally, split two birds by their molt condition. The non-molter or the one that has molted the fewest primary feathers is placed over a hen with a more advanced molt. Health and Vigor are not used in placing the birds, but you should describe these factors when giving reasons. This manual will teach you how to look at a hen, see each of these factors, use them to place a class of past production hens and then give oral reasons to defend your placing.

You need to know the parts of the bird important for production judging. (Shown in Figure 1.) Learn them and you will then be able to examine birds and talk about them properly when you give reasons.

Bleaching

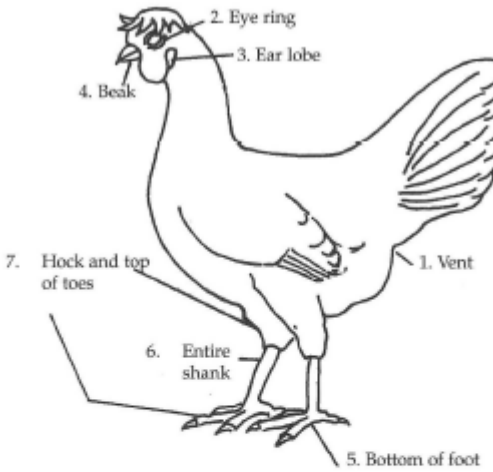
The most important factor in determining past egg production is the loss of pigment from the skin and shanks of the bird. Leghorn hybrids used for egg production have yellow-pigmented skin and shanks. This pigment is deposited in the skin, beak, shanks and feet while the bird is a growing pullet. At sexual

maturity, which is 16-22 weeks of age, she starts to lay eggs. The pigment then bleaches from the pigmented areas in a definite order according to the approximate number of eggs she has laid. If you learn the order of pigment loss or bleaching, you can easily rank the hens for past egg production. The order is:

1. vent
2. eye ring
3. ear lobe
4. beak (corner of the mouth toward the tip)
5. bottom of the foot
6. pigment loss over the entire shank (front, back and sides)
7. the hock and top of the toes

This order is shown in Figure 2. The figure also includes a table showing the number of eggs laid as pigment bleaches from each part of the body.
Memorize Figure 2.

Hens regain their pigment when they stop production. The pigment returns to the skin in the same order it is bleached: vent, eye ring, ear lobe, beak, bottom of the foot, the foot, entire shank, hock and top of the toes. Hens that show signs of repigmentation are poor producers.



SKIN ZONE	CUMULATIVE EGGS LAID	ELAPSED TIME
VENT	0-10	0-2 Weeks
EYE RING	8-12	2.0-2.5 Weeks
EAR LOBE	10-15	2.5-3.0 Weeks
BEAK	35	5-8 Weeks
BOTTOM OF FEET	68	
ENTIRE SHANK	159	
TOP OF TOES & HOCKS	175-180	20-30 Weeks

Figure 2. Diagram and table showing order of bleaching of hen pigmentation.

Getting Started

Let's learn about judging hens for past produc-tion by looking at some birds. First, prepare to take notes on each bird as you study her past production characteristics. Get a clipboard and make a form like the one below:

To begin, stand back and look at the class as a whole (Figure 3). Before you handle the birds, sort them into top and bottom individuals or pairs, based on visible pigment loss.

Look for the best producers first. Their beaks and shanks should be well bleached. They should also show good intensity by having bright red, glossy combs and wattles. Healthy, vigorous hens will have round, bright, alert eyes and well-proportioned heads. The poor layers may have some pigment in the beak or shanks. They may also have signs of low present production shown by dull, shrunken combs and wattles, dull, sleepy eyes and shallow heads. Remember that the bird with the most pigment loss has laid the most eggs, regardless of her intensity or state of health.

Catching and Handling the Bird

After seeing the class as a whole, remove each bird from her cage and make notes of your observations. To remove the bird from the cage and examine her, follow the next set of photographs.

NOTES

Months of Production _____

Bird No.	Pigment Loss (P)	Handling Qualities (HQ)	Abdominal Capacity (AC)	Molt (M)
1				
2				
3				
4				

Placing _____

Place your hand above the hen and quickly but gently pin her to the floor of the cage (Figure 4). In the photograph, her head points away from the door. Steady the bird with your free hand and hold one wing at the shoulder. Turn her head to the door (Figure 4).

Figure 4. Pin the bird to the floor and turn her head to the door.

With both hands, hold the wings next to the body; lift the bird off the floor and take her from the cage headfirst (Figure 5).

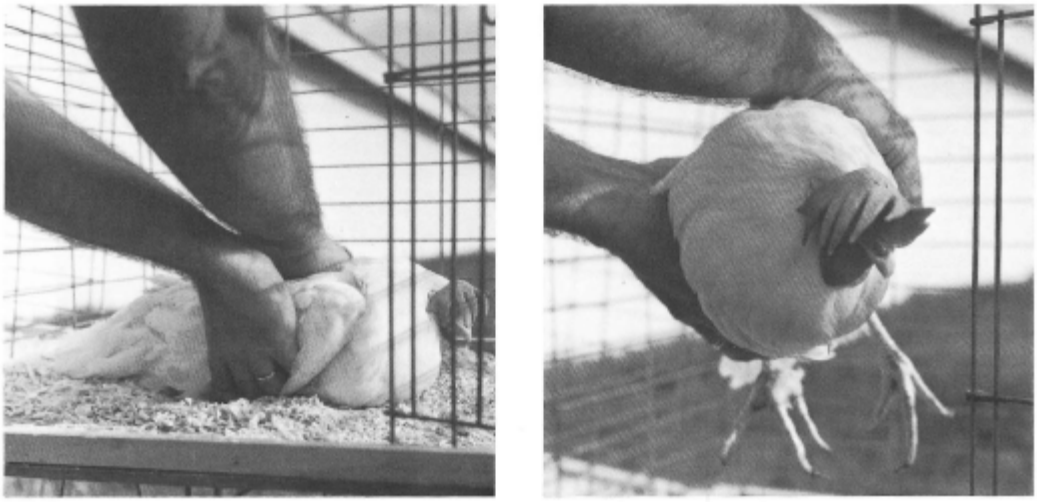


Figure 5. Hold the wings and remove the hen headfirst.

Slide one hand under the bird so the breast sets in the palm of your hand (Figure 6). Steady her with your free hand. Hold the legs gently above the hocks. Put your index finger between the hocks, your thumb around one leg and your remaining fingers around the other leg. Carry the weight of the bird with the breast in the palm of your hand as shown in Figure 6.

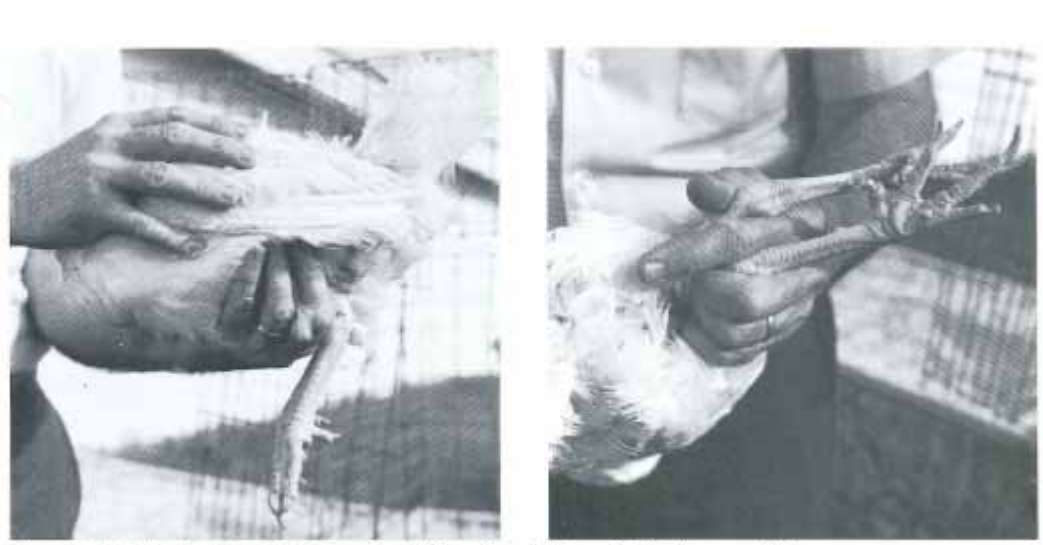


Figure 6. Hold the bird's breast in your palm. With a finger between the hocks, grasp the legs.

To examine the bird, hold her back against your stomach, head down (Figure 7). From this position you can see the vent and check handling quality, abdominal capacity, bleaching of the feet and shanks and molt.

Bleaching of Vent and Shanks and Handling Quality

Use your free hand to spread the feathers and look at the vent (Figure 7). It should be bleached, moist, large and oblong in shape. Look at the feet and shanks (Figure 7). They should be bleached through the hocks and top of the toes. Also, they should be thin and have a groove down the side. Record your observations in your notes.

Figure 7. Look at the vent, feet and shanks for pigment loss.

Handling Quality

Keep the bird in the same position. Gently feel the pubic bones for sharpness and flexibility (Figure 8). Take a pinch of skin just below the pubic bone (Figure 8). Roll it gently between the thumb and finger to feel its thinness. Feel the softness or hardness of the abdomen. Softness means a lack of fat. Hardness means fat in the abdomen. A lean, trim condition of the pubic bones, skin, abdomen and shanks means good handling quality. Also, the abdomen should be full instead of tight when handled. Record this information in your notes. When handling the hen, be careful not to damage her. Be especially careful with the pubic bones, which can break easily if handled too roughly.

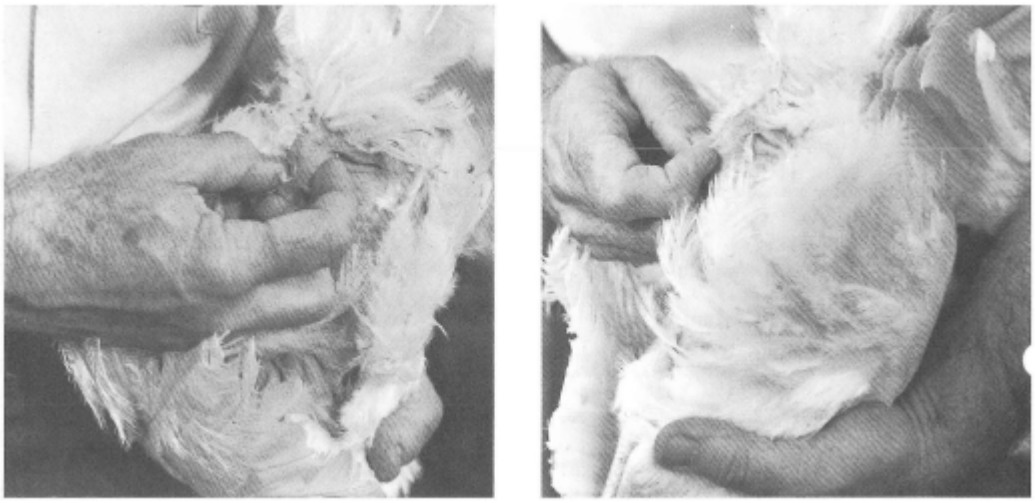


Figure 8. Feel the pubic bones and skin for handling quality.

Abdominal Capacity

Examine the abdominal capacity (Figure 9). Place as many fingers as you can between the bottom of the pubic bones and the rear tip of the keel bone. Count the fingers (our example shows three) to find the abdominal depth. Turn the bird sideways, breast toward you, with the head under your elbow. Count the fingers between the pubic bones (in this case three). This is abdominal width. These numbers are recorded as 3x3 under abdominal capacity. The use of your fingers helps you make a comparison in size of abdominal capacity among hens.

Figure 9. Measure abdominal capacity with your fingers.

Molt

With the hen tucked under your arm, hold the wing open like a fan (Figure 10). The short feather in the middle is the axial feather. There are 10 primary *feathers on the outside of the axial to-ward the wing tip. These are the feathers we will study. They molt from t*he axial *to* the tip. Old feathers that have not molted will be worn on the ends and may be broken or dirty. New or molted feathers will have neat, smooth ends and appear clean. They also may show different lengths if the bird is molting now. The good producer shows all old, worn feathers, indicating she has not molted. Our poor producer has some short new feathers just outside the axial, showing she is now in a molt. Some birds will continue to lay while molting, but usually at a reduced rate. This means they will have laid fewer eggs than those that have not molted. Preferably, a hen should not molt until she has completed 12-14 months of production.

Figure 10. Check the primary feathers for signs of molt.

Figure 11 illustrates what the wing feathers look like. **A** shows a normal wing with the axial feather dividing the primaries from the secondary feathers. **B** is a wing with primaries 1 through 4 being molted. The more primaries molted, the longer the hen has been out of production and the fewer eggs she has laid.

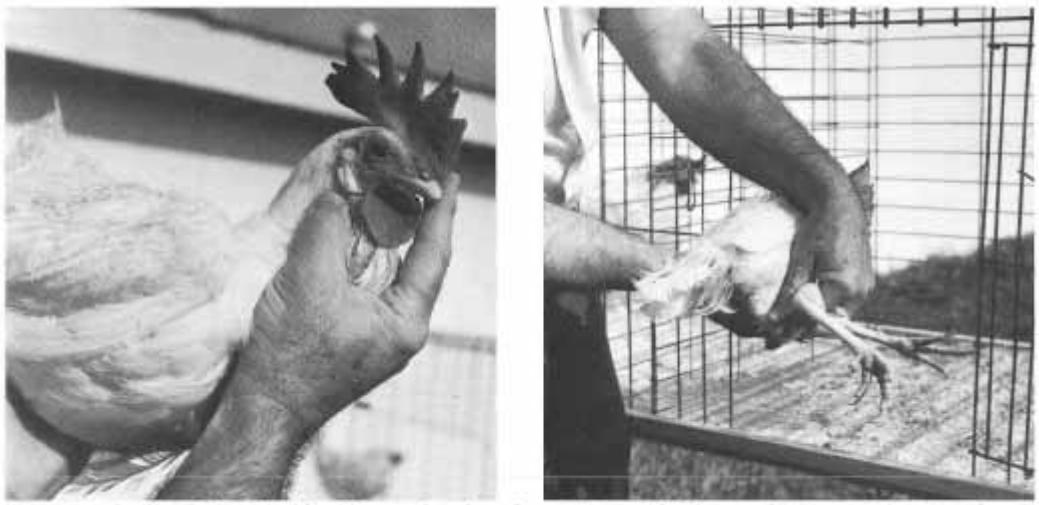


Figure 12. Look at the head for bleaching, comb and wattle condition and brightness of eye. Return the hen to the cage headfirst.

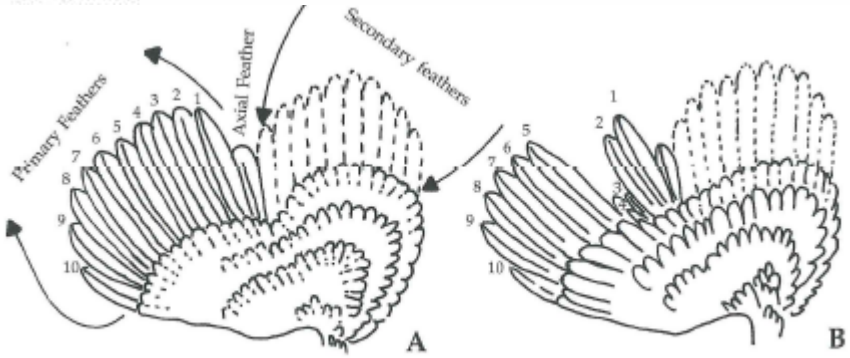


Figure 11. Diagram of primary feathers of nonmolting and molting hens.

Bleaching of the Head Areas

Lift the bird in front of you. Hold her in the palm of your hand. Your free hand should gently hold the neck and head (Figure 12). Look for pigment loss from the eye ring, ear lobe and beak. You have now looked for bleaching from the vent, eye ring, ear lobe, beak, bottom of the foot, entire shank, hock and top of the toes. Record the last area that has bleached.

Comb, Wattles, Eyes and Head

Look at the comb, wattles, eyes and head. These features can change rather quickly, but should be used to gain an overall impression of health and vigor. The comb and wattles should be bright red and glossy. Eyes should be bright, alert and round. Balance of the head means that there is good proportion to its length, width and depth. Record the condition of these parts in your notes. (

Th1s completes the examination of the bird.

Return her headfirst to the cage.

Figure 14. The heads of good and poor laying hens.

Comparison of Good and Poor Production

Now that you know how to catch and examine a bird, let's compare two birds. On the left is a good producer. On the right is a poor producer. The good producer has a bleached vent. Look at its outer edges shown on the left in Figure 13. Notice its moistness. Also, the vent is large and oblong in shape. This is the appearance of the vent of a high-performing layer. Notice the yellow pigment in the vent of the poor producer (Figure 13, right). It has some moistness, but the vent is small and round in shape.

There is total bleaching of the eye ring, ear lobes and beak of the good layer. The comb and wattles are bright red and glossy. The head has good balance or proportion. Notice the bright, alert, round eye. Yellow pigment is present in all parts of the poor layer's head (Figure 14). The comb is small and pale and the eye is dull and sleepy. The head is too long or shallow in proportion to its depth.

The bottoms of the good layer's feet are pink and show a loss of yellow pigment. If here is too much dirt on the foot, gently bend the toe and look in the skin cracks at the joints. There is a large amount of pigment in the bottom of the foot and toes in a poor producer (Figure 15).

Figure 13. Vents of good and poor layers.

Figure 17. Back of the shanks of good and poor layers.

Figure 15. Bleached and pigmented feet of good and poor layers.

Cover the top of the foot with your hand to hide any pigment that may be there. Some very good layers may never bleach this part of the foot. Start at the top of the shank and study the loss of pigment down the front toward the foot. The good layer has bleached this area of the shank (Figure16).

Just below the feathers at the top, look at the yellow in the front of the shank of the poor producer (Figure 16). It extends down to the foot. The back of the shank has bleached from the foot up to the hock (Figure 17).

Figure 16. The front of the shanks of good and poor producers.

Look closely at the bottom of the shanks on the left. There is no pigment to be seen in the area up to the hock. On the right, the poor producer has yellow color at the bottom of the shank and on up to the hock. Remember to consider the pigment loss over the entire shanks (front, back and sides) before making your placing. Pull the feathers back from the hock to see the last of the scales in this area. A few of them may have pigment. If you don't look, you can be fooled. Curl one toe back to see if pigment is in the top of the toe. The good producer is bleached in the hock and toes. Yellow is present in the hock and toes of the poor layer (Figure 18).

Remember, your placing is based on bleaching or pigment loss from the vent, eye ring, ear lobe, beak, bottom of the foot, entire shank, hock and top of the toes, in that order. The more parts that are bleached, in order, the more eggs the hen has laid. Birds with identical bleaching are split on handling quality, next on abdominal capacity and then molt.

Figure 18. Hock and top of the toes of bleached and pigmented good and poor producers.

Months of Production 14

Bird No.	Pigment Loss (P)	Handling Qualities (HQ)	Abdominal Capacity (AC)	Molt (M)
1	Bleached through bottom of foot, yellow shanks	Thick, fat pubic bones, hard abdomen	2 x 2	None
2	Bleached through hocks and tops of toes	Soft, pliable abdomen, sharp, flexible pubic bones	3 x 4	None
3	Bleached through shanks, yellow in hocks and tops of toes	Soft, pliable abdomen, pubic bones sharp	3 x 4	None
4	Bleached throughout but some pigment on toes, back of shanks	Pubic bones sharp, abdomen hard	3 x 4	None

Placing 2-4-3-1

_____
Contestant #

Class 1: Production Hens

National & State 4-H Poultry Judging Card

DIRECTIONS: Below are all the possible placings for a ring of four individuals. Draw a circle around the placing which you consider correct for the ring you are judging.

A = 1 - 2 - 3 - 4
B = 1 - 2 - 4 - 3
C = 1 - 3 - 2 - 4
D = 1 - 3 - 4 - 2
E = 1 - 4 - 2 - 3
F = 1 - 4 - 3 - 2

G = 2 - 1 - 3 - 4
H = 2 - 1 - 4 - 3
I = 2 - 3 - 1 - 4
J = 2 - 3 - 4 - 1
K = 2 - 4 - 1 - 3
L = 2 - 4 - 3 - 1

M = 3 - 1 - 2 - 4
N = 3 - 1 - 4 - 2
O = 3 - 2 - 1 - 4
P = 3 - 2 - 4 - 1
Q = 3 - 4 - 1 - 2
R = 3 - 4 - 2 - 1

S = 4 - 1 - 2 - 3
T = 4 - 1 - 3 - 2
U = 4 - 2 - 1 - 3
V = 4 - 2 - 3 - 1
W = 4 - 3 - 1 - 2
X = 4 - 3 - 2 - 1

_____
Total