

**NATIONAL 4-H POULTRY JUDGING MANUAL**  
**Revised December 2020**

**PAST PRODUCTION HENS**

In past production hen classes, four live laying hens are judged and ranked according to factors that help determine the number of eggs they have laid prior to the contest. The laying hens are judged on **PAST PRODUCTION** and **CURRENT PRODUCTION** factors. These judging factors are based on scientific principles and observations. These

of eggs the hen has laid. By knowing the order of pigment loss or bleaching, you can easily rank the hens for past egg production. Learning the order of pigment loss is critical prior to judging any hen classes.

Pigmentation loss is displayed in the following order:

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. Hock and top of the toes

Hens can regain their pigment when they go into a molt and stop egg production. The pigment returns to the skin in the same order it is bleached: vent, eye ring, ear lobe, beak, the bottom of the foot, the foot, entire shank, hock, and top of the toes. Hens that show signs of regaining their pigment tend to be poor producers.

## **2. ABDOMINAL CAPACITY**

Abdominal capacity refers to the size of the laying hen's abdominal area. The larger the abdominal capacity the better the current level of production. The abdominal spread is a term used to refer to the measurement associated with the width and depth of the abdomen. Abdominal capacity is usually measured by comparing the number of fingers you can get 1) between the pubic bones and 2) between the pubic bones and the ts)

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When evaluating live animals, the welfare of animals is important and should be considered. Being well-trained in handling hens is important to prevent discomfort or harm to them. In order to maintain the welfare of the hens, the following procedure should be adhered to. Approach the cage slowly, open the door quietly, and prepare to remove the hen from the cage, headfirst. To remove the hen easily and properly, maneuver it until it stands with its head facing you. Place your hand above the hen and quickly, but gently, pin her to the floor of the cage. With both hands, hold the wings next to the body; lift the hen slightly off the floor, and turn her to face the cage door. W. %

HEN #1	HEN #2	HEN #3	HEN #4
<b>P-</b> Through bottom of the foot, most intense yellow in shanks	<b>P-</b> Throughout	<b>P-</b> Well into shanks, slight yellow over top of toes and shanks	<b>P-</b> Through shanks with slight yellow on toes, but pearly white shanks
<b>C-</b> 2x2	<b>C-</b> 3x4	<b>C-</b> 2x4	<b>C-</b> 3x4
<b>F-</b> Fat hard abdomen	<b>F-</b> Soft, pliable abdomen	<b>F-</b> Soft, pliable abdomen	<b>F-</b> Fat, hard abdomen
<b>M-</b> One feather in each wing	<b>M-</b> None	<b>M-</b> None	<b>M-</b> None
<b>Notes:</b> Small, pink comb	<b>Notes:</b> Bright eye, large red comb	<b>Notes:</b>	<b>Notes:</b>
<b>Class placing:</b> 2 - 4 - 3 - 1			

## BEFORE HANDLING HENS IN A CLASS

To begin, stand back for 30 seconds and look at all four hens in the class (see Figure 5). Take notes of obvious pigment loss. If you can choose a top and bottom hen, make note of that observation. The top hen should have a beak and shanks that are well bleached. This will be the best egg producer in the class. They should also show good intensity by having bright red, glossy combs, and wattles. Poor layers may have some pigment in the beak or shanks. They may also have dull, shrunken combs and wattles. Remember that the hen with the most pigmentation loss has laid the most

eggs, regardless of her current production factors or state of health.

After seeing the class from a distance remove each hen from the cage and make notes of your observations. Remove and observe only one hen from a cage at a time. Remember that in this contest the hens will be handled by many contestants so all effort must be taken to handle them gently. In the contest, you can only handle one hen at a time, and you must return her to the cage you took her out of before removing another hen from its cage.

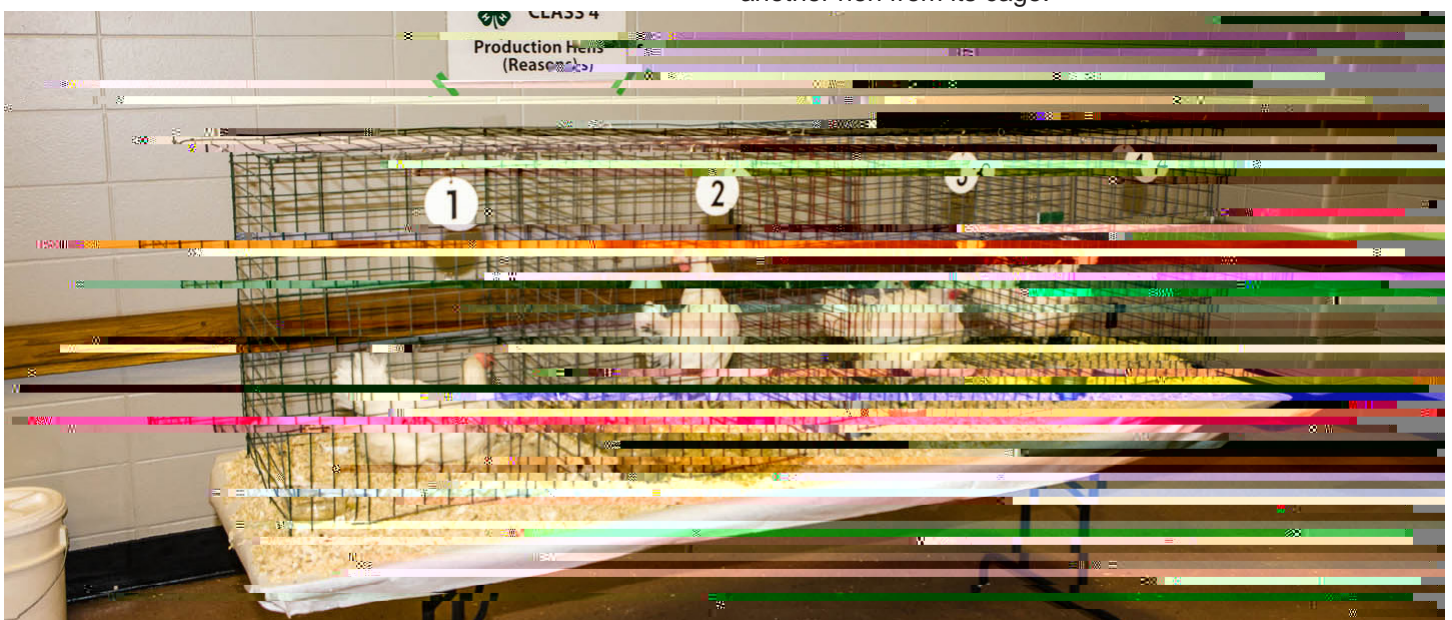


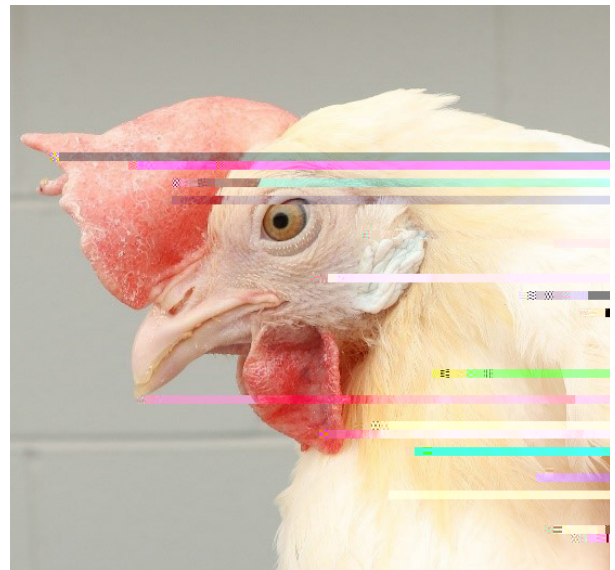
Figure 4. A class of past production hens at the national poultry judging contest.  
Photo credit: Stephen Patton, University of Kentucky

## EXAMINING HENS FOR PIGMENT LOSS

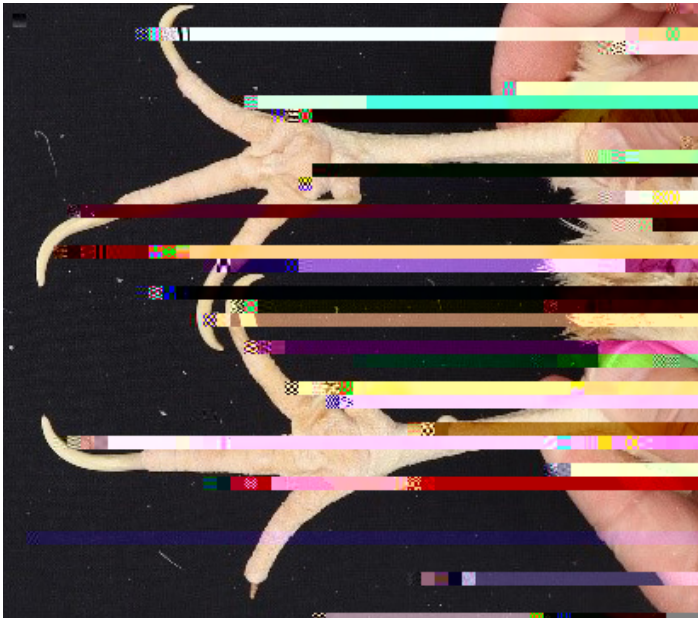
Lift the hen in front of you. Hold her in the palm of your hand. Your free hand should gently hold the neck and head. Look for pigment loss from the eye ring, ear lobe, and beak (Figure 5).

To examine the hen further, hold her back against your stomach, with her head slightly downward. From this position, you can check the hen for pigment loss in the back of the shank and bottom of the foot (see Figure 6). You can also look at the shanks and top of the toes (see Figure 7). They should be bleached through the hocks and top of the toes. Record your observations in your notes.

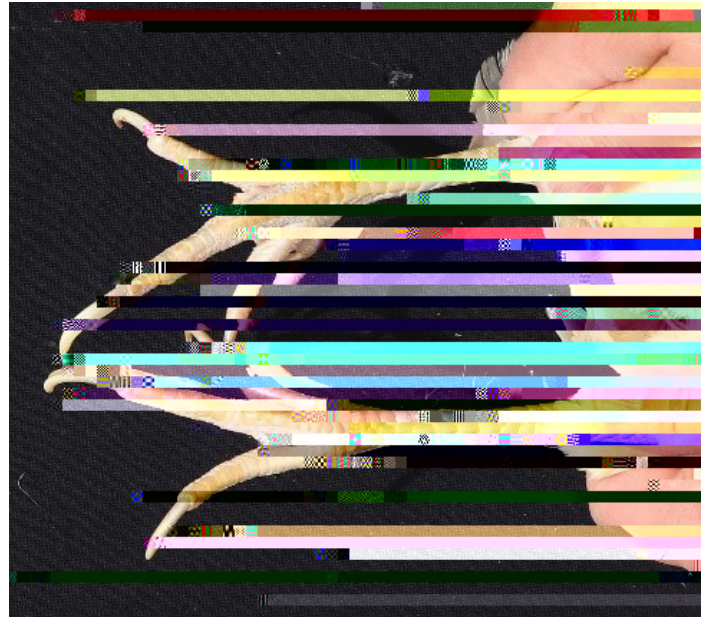
You have now looked for bleaching from the vent, eye ring, ear lobe, beak, the bottom of the foot, entire shank, hock, and top of the toes. Record the last area that has bleached. In other words, select the part of the hen that seems to be the last part that shows color when taking notes. If a hen has a white beak, white skin at the bottom of the foot but shows a good bit of yellow in the shank, that hen should be noted as bleached through the bottoms of the feet. After you observe all the hens you may wish to add more specific notes about the level of color (yellow) intensity in the shank or other areas.



*Figure 5. Head of a single comb white leghorn hen  
Photo credit: Dr. Jacqueline Jacob, University of Kentucky*



*Figure 6. Back of shanks and bottom of the foot of a hen  
Photo credit: Phillip Clauer, Pennsylvania State University*



*Figure 7. Front of shanks and tops of toes of a hen  
Photo credit: Phillip Clauer, Pennsylvania State University*

Next holding the hen in the palm of your hand, tipping the hen slightly forward examine the abdominal capacity. There are two places to look at.

1. Place your hand gently over the vent opening and place your middle fingers between the pubic bones (bones located on each side of the vent) to see how many fingers fit between the two pubic bones. Count the number of fingers between the pubic bones. This is abdominal width. See Figure 10 which shows a two-finger width between the public bones.

2. Then place your index finger just below the bottom of the pubic bones and place as many fingers as you can between the bottom of the pubic bones and the rear tip of the keel bone. How many fingers fit between the pubic bones and the keel bone? How many fingers fit between the keel bone and the vent? How many fingers fit between the vent and the pubic bones?

While holding the hen with its back against your stomach, a pinch of skin on the abdomen between the vent and the tip of the keel (Figures 12 and 13). Pinch and roll the skin gently between the thumb and finger to feel its thinness. Feel the softness or hardness of the abdomen. Softness and thinness mean a lack of fat. Hardness and thickness mean fat in the abdomen. A good soft, pliable abdomen will feel like you are pinching and rolling the skin on your cheek.

A lean, trim condition abdomen means good current production. Record this information in your notes. Good Abdominal Fat Condition is usually expressed as "Thin and Pliable abdomen." Poor Abdominal Fat Condition is usually expressed as "Hard or Fat Abdomen."

# COMPARING A GOOD AND BAD LAYER

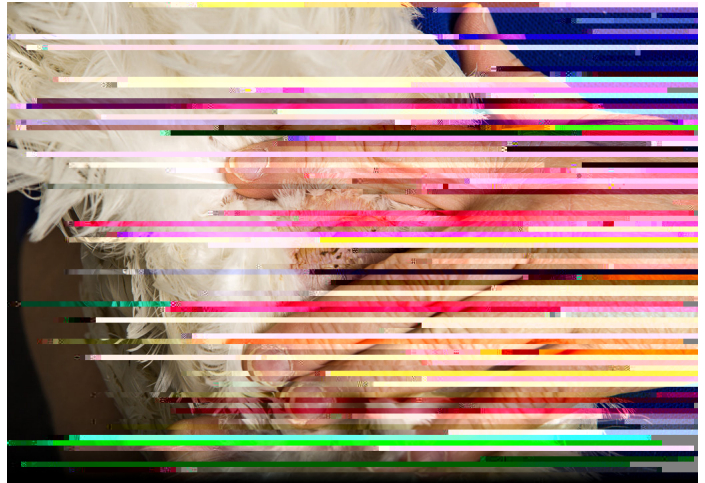
## Vent

The good producer has a bleached vent (see Figure 14). Look at its outer edges of the vent. 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 15). It has some moistness, but the vent is small and round.



*Figure 14. The vent of a good layer with good bleaching.*

*Photo credit: Dr. Jacqueline Jacob, University of Kentucky*



*Figure 15. The vent of a poor layer with considerable yellow pigment.*

*Photo credit: Dr. Jacqueline Jacob, University of Kentucky*

## Bleaching

Turn the hen so you can observe the bottom of the feet and back of the shanks. Figure 18 shows the bottom of the feet and back of the shanks of a good layer. The bottom of the foot webs are pink and show a loss of yellow pigment. The back of the shank has bleached from the base of the shank to the hock. The color is in the web between the toes and next to the footpad. The footpad is often light-colored or stained from walking. There is no pigment to be seen in the area up to the hock (where fingers are holding the shank).

Figure 19 shows the back of the shank and bottom of the feet of a poor egg producer. There is a large amount of pigment in the bottom of the foot webs and toes. There is some yellow color at the bottom of the shank and on up to the hock.



Turn the hen so you can see the front of the shank and top of the toes. Figure 20 shows the front of the shank and tops of the toes of a good egg producer. There is some yellow pigment at the base of the shank (where the shank meets the top of the toes). 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.

Figure 21 is an example of a poor layer. Poor layers show intense pigmentation down the front of the shank and the pigmentation extends down over the tops of the toes.

Remember to consider the pigment loss over the entire shanks (front, back, and sides) before making your placings. 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 do not look, you may miss pigment in this area.

The good producer is bleached in the hock and tops of the toes. Yellow is present in the hock and toes of the poor layer.

Remember, your placing is based on bleaching or pigment loss from the vent, eye ring, ear lobe, beak, the 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. Hens with identical bleaching are split on abdominal capacity, abdominal fat condition, and then molt.

This completes the examination of the hen.



