# Jacob Sheep Breeders Association 

# Inspection Committee Fact Sheet 

## Color Percentage

October 2019

LANGUAGE FROM THE STANDARD:
Desirable Traits: The Jacob is a randomly spotted sheep, basically white with colored spots or patches...Preferably an approximate $60 \%$ white and $40 \%$ black or lilac spotting.


#### Abstract

Unacceptable/Disqualifying Traits: More than 85\% colored markings...Less than 15\% colored markings.


## DEFINITION FROM THE GUIDEBOOK:

Body color (fleece): Visually, it is a white sheep with colored markings. These markings come in the form of black (or sun-bleached brown) or lilac spots or patches distributed over the body. The spotting pattern is random; however, it is breed-specific... In sheep that have a great deal of white, it is frequently found that the dark is on the front half of the body, often a heavy dark patch over the shoulders and only small spots elsewhere." Interestingly, Jacob sheep are genetically a black sheep with a recessive spotting pattern that results in the pattern of white and black that we are used to seeing in our sheep.

## DISCUSSION AND ILLUSTRATIONS

Colored spotting is one of the identifying characteristics of Jacob sheep. The guideline for color percentage that falls between $15 \%$ and $85 \%$ was set up to help eliminate sheep that may have crossbred ancestors. In addition, the standard makes it clear that breeding for all black or all white "Jacobs" is not acceptable, and that the occasional animal that happens to fall outside the acceptable range should not be registered, other than AC ewes. Jacob sheep that fall at the low end of color usually have markings on the neck. Ideally there will be some spotting that carries on to the body as well.

Jacob sheep may have one of two color patterns—black and white or lilac and white. Facial and leg markings are indicators of the true color of the sheep. Lilac lambs are born with these markings that are a shade of gray or gray-brown whereas black and white lambs have black markings. Fleece may show brown sun-bleached tips and some sheep fade from black to gray, but the facial and leg markings are indicators of the true color of the sheep. The lilac colored wool is also a gray to gray-brown shade from birth.

Generally, the color of hair on the legs and head is not included in the percent color. However, in animals with limited color, an animal with more color on legs and head can look more typical of the Jacob breed, which may influence a decision to register that individual. Ewes that have a color percentage falling outside the guidelines may be entered in the Appendix Certified Flock Book (AC) assuming all other traits are acceptable. When bred to a registered ram, the offspring may be registered as Foundation Flock (FF) upon meeting the Breed Standard guidelines.

Occasionally, members do not fill in the line for percentage color, stating they are uncertain how to make the estimate. This information is important and printed on the registration certificate. JSBA encourages members to use information provided here and make their best guesses on percentage color. After the registration certificates are received, members may check their estimates against possible adjustments made by inspectors during the inspection process. With practice, big differences between estimates by members and by inspectors will disappear.

## DETERMINING \% COLOR:

Percentage is an objective value, but determining color percentage becomes a subjective exercise. We all make our best guess when recording color percentage on registration applications, but it is evident to inspectors that not all breeders are estimating in the same way. The goal of this Fact Sheet is to present some guidelines and visual aids to assist breeders in determining color percentage.

1. The value for \% color does not include head and legs-only the fleece.
2. Inspectors typically do not include belly wool in the \% color of the fleece. It is not visible in the photos and it is not usable fleece. However, if that portion of the white wool is necessary to register a very dark animal, photos of the belly may be included.

## 3. Methods

1. Visually "squeeze" all the spots to one end of the body and estimate the amount of coverage of the color. Think of where halfway ( $50 \%$ ) would be and then split that into halves ( $25 \%$ or $75 \%$ ). Don't forget to "squeeze out" the white parts too. Imagine if you had that fleece on the skirting table and separated all the colored wool and white wool. That should be about the percentage.
2. Trace photos of the sheep on graph paper (you can tape the paper on your computer screen). Make sure that your photos are a direct side view with the sheep looking straight ahead so that you can see all the neck. Count the squares for the wooly area and determine how many of those squares are for colored wool. Calculate percentage for each side by dividing colored wool squares by all squares. Then average the two sides. You don't need to do this for all your sheep, but it is a useful exercise if you are unsure of the color percentage.
3. Example: Using graph paper with $10 \times 10$ square grids it is relatively easy to count squares of wool cover in each 100-square unit and then determine how many are colored wool. See Figure 2 for this example. Right side: 47 squares of the total 297 squares are black. $47 / 297=15.8 \%$. Left side: 38 squares of the total 329 squares are colored. 38/329=11.6\%. Average the values for right and left sides. $15.8 \%+11.6 \%=$ $13.7 \%$, which can be rounded to $14 \%$.
4. Recognize that even this method is subjective. Slight variation may occur if photos are taken from above or at various angles. The spots on a sheep in full fleece will look a bit different than those on a freshly shorn sheep or a new lamb. However, using this method will give a close estimate of color percentage. See the guideline under "Illustrations" about
5. Use 5\% increments in color percentage estimate on registration applications. (see NOTE in the next section.)

The following figures present a wide range of color percentage and show how the percentage was calculated. Each Figure includes photos and diagrams of the same sheep. Some are adults and some are lambs. Average \% color has been rounded to nearest whole number.

NOTE: These photos and diagrams are presented for the purpose of understanding the color percentage determination, but this is still an imprecise method. We encourage breeders to use 5\% increments when estimating color percentage.


Figure 1. 12\% black - 3-monthold lamb.


Figure 2. 14\% black - 4-yearold ewe.


Figure 3. 17\% black-4-year-old ewe.
NOTE: Photos used for \% Color calculation are not the same ones that are shown here.


Figure 4. 21\% black -4-year-old ewe.


Figure 5. 29\% black -3-month-old lamb


Figure 6. 35\% lilac - 2-year-old ewe. It was difficult to see the \% Color for this ewe in the recently taken photos (upper). Using a lamb photo and a photo taken after shearing gave a more accurate way to see \% Color.


Figure 7. 45\% black -3-month-old lamb.


Figure 8. 48\% lilac 3-month-old lamb.


Figure 9. 49\% black -
3-month-old lamb.


Figure 10. 58\% black yearling ewe.


Figure 11. 76\% lilac
3-month-old lamb.


Figure 12. 84\% black -
3-month-old lamb

