

DORSET COMMERCIAL CONNECTION

Selecting on More Than Just Good Looks

by *Melanie Barkley, Extension Educator*
Penn State University

"Wow, don't these lambs look good this year!" Would this describe how you feel about your lamb crop for this year? Are you sure that what you are looking at is really good? One way to measure how "good" these lambs are is to weigh lambs at weaning and then adjust those weights to make a fair comparison across your lamb crop.

Programs such as NSIP (National Sheep Improvement Program) and LambPlan are designed to help you make comparisons across a breed and provide you with selection parameters for a number of traits. If you aren't part of NSIP or LambPlan you can do some simple comparisons within your own flock. Adjusted weaning weights are one example of data that you can generate for your own flock. Weaning weights should be taken between 40 and 120 days of age and post weaning weights between 80 and 240 days of age. These are the data collection ranges recommended by LambPlan. Adjustments should be made for birth type, rearing type, sex of lamb, and age of dam. Let's take a look at an example for two lambs born in a flock.

Lamb No.	Birth type/ Rearing type	Dam Age	Sex	Weaning Age	Weaning Weight
1101	Tw-Tw	3	Ewe	60 days	72 lbs.
1107	S-S	6	Ewe	67 days	70 lbs.

We start our calculations by determining the preweaning weight per day of age. The calculation formula is:

$$\text{WW} \div \text{weaning weight age} = \text{Pre-weaning WDA}$$

The next calculation uses this preweaning weight per day of age and then adjusts to a specific age plus an additional adjustment factor. For lambs that were weighed at an average age of 75 days or less, the adjustment is made to 60 days of age. For lambs weighed after an average of 75 days of age, the adjustment is made to 90 days of age.

$$\text{Preweaning WDA} \times \text{Standard Age at Weaning (60 or 90 days)} \times \text{Adjustment Factor from Table 1} = \text{Adjusted WW}$$

The adjusted weaning weight for these two lambs would be calculated as follows:

Lamb 1101 $60 \div 72 \times 60 \times 1.19 = 59.5$
 Lamb 1107 $67 \div 70 \times 60 \times 1.00 = 57.4$



Objective measurements can help sheep producers determine which lambs are superior and should be kept for breeding purposes.

Producers may also include birth weight in the equation by subtracting the birth weight from the weaning weight and then dividing by the days of age at weighing.

So, what can we conclude from these calculations? Lamb 1101 should be genetically superior by Lamb 1107 for weaning weight because both lambs were raised under the same environmental conditions. We can also conclude that Lamb 1101 should be more likely to produce twins. However, bear in mind that the heritability of prolificacy is only 10% (SID Sheep Production Handbook) so environmental factors can greatly affect the likelihood of ewe 1101 to produce twins.

These adjusted weights should be one piece of the principles that a sheep producer uses for selection. Other selection factors might include, but not be limited to, post weaning weight, yearling weight, carcass data, other reproductive traits, and fleece traits. And, a very important piece of those principles is visual appraisal. Even though the measurements might look great, sheep still need to be structurally correct, be free of faults such as inverted eyelids (entropion), and have a good disposition. (Just ask a cattle producer about decreased production caused by cattle with a bad attitude and they will tell you how important a good disposition can be!) There are other selection principles that sheep producers use within their flocks. The goals of your operation will dictate what these selection principles entail and what is acceptable and what is not acceptable for animals kept for breeding stock.

Information for this article was adapted from "Recommendations for Sheep Selection Programs" written by Dan Morrical, Professor at Iowa State University. For more information on sheep selection using performance data adjustments, check out Dr. Morrical's fact sheet that can be found on the internet at: <http://www.extension.iastate.edu/publications/pm989x1.pdf>

Table 1. Adjustment Factors for Correcting Weaning Weight

Birth Type	Rearing Type	Age of ewe and sex of lamb								
		1 year			2 or > 6 years			3-6 years		
		E	W	R	E	W	R	E	W	R
S	S	1.13	1.10	1.02	1.08	1.05	0.98	1.00	0.98	0.91
S	Tw	1.21	1.17	1.07	1.13	1.11	1.03	1.05	1.03	0.96
Tw	S	1.29	1.25	1.15	1.19	1.16	1.08	1.10	1.08	1.00
Tw	Tw	1.38	1.33	1.21	1.29	1.26	1.17	1.19	1.16	1.08
Tr	S	1.40	1.26	1.23	1.28	1.25	1.16	1.18	1.15	1.07
Tr	Tw	1.51	1.45	1.31	1.28	1.35	1.25	1.27	1.24	1.15
Tr	Tr	1.80	1.72	1.53	1.54	1.50	1.38	1.36	1.33	1.23

Table 1
E = ewe, W = wether, and R=ram
 This adjusts lamb weights to a single born ewe lamb basis.
 Lambs born as quads or more should use the triplet-born correction factors.