Does Your Flock Meet Your Performance Expectations?

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Now that lambing is completed, or for some producers mostly completed, this would be a great time to take a closer look at reproduction and performance within your flock. A few minutes calculating reproduction and production measures can impact profitability. This information can also be used to make selection and culling decisions as well as answer the question "Does your flock meet your performance expectations?"

Producers can start with a few key calculations that include, but are not limited to pregnancy rate, lambs born per ewe lambing, lambs born per ewe exposed, percent lamb survival, average weaning weights, and pounds of lamb weaned per exposed ewe. Let's look at each of these and how they impact flock production.

Pregnancy rate = # of ewes pregnant ÷ number of ewes exposed to a ram X 100. This calculation looks very simple until you start to think about ewe flock changes throughout the year. Start the with total number of ewes turned out with the rams and then subtract off any ewes culled before lambing and ewes sold before the end of the breeding season. Be sure to add in any bred ewes purchased during the breeding season. The goal is for all ewes exposed to lamb, but in reality, those rates may be lower. The American Sheep Industry suggests 100% as the benchmark for small flocks with less than 200 ewes. Medium size flocks of 201 to 750 ewes should have a benchmark of 98% and larger flocks, particularly range flocks, should have a benchmark of 96%. If your flock produces lower pregnancy rates, determine how you might improve the rate. Ask yourself some questions. What was the health status of the rams and the ewe flock around breeding season? Did disease or nutrition perhaps impact the flock at some point prior to, during, or shortly after the breeding season? Are there other reasons why the ewes may not have become pregnant? An additional consideration related to pregnancy rate would be the percent of ewes who lambed within the first or second heat cycle.

Lambing rate varies among flocks and often depends on available feed resources. Not all operations have adequate feed resources to support twins. Lambing rate can be calculated in two ways: lambs born per ewe lambing and lambs born per ewe exposed. **Percentage of lambs born per ewe lambing = # lambs born ÷ # ewes lambing X 100.**

This equation determines prolificacy in the flock, while this second equation is a more accurate method for looking at the lambing percentage. **Percentage of lambs born per ewe exposed = # lambs born ÷ # ewes exposed X 100.**

The national average for lambing rate is around 110% and is one of the industry goals to increase. ASI suggests the following benchmarks for lambing percentages in the table 1 below:

Table 1: ASI Suggested Lambing Percentage Benchmarks

	Mature Ewes	***Ewe Lambs***
Small Flocks *(less than 200 ewes)*	240%	160%
Medium Flocks *(201 to 750 ewes)*	210%	140%
Large Flocks *(more than 750 ewes or ewes on range conditions)*	180%	120%

(Information from Let's Grow Series "Benchmarks for Success" by Rob Rutherford)

Lamb survival indicates the percent of lambs that survive the first month after birth. Death losses are inevitable in any livestock operation, but all livestock producers should strive to minimize these losses. **Percent of lambs surviving to one month of age = number of lambs alive at one month ÷ number of lambs born X 100.**

A good goal for any size operation is that 95% of lambs to survive the first month of life. This calculation is particularly important because most lamb deaths occur within the first few days of life. Producers with lower percentages should explore why this is happening and pay particular attention to late gestation nutrition, milk production, mothering ability and lamb vigor.

Weaning weights allow producers to evaluate both lambs and ewes. Producers can make selection as well as culling decisions using these weights. Because large differences occur due to sex of the lamb, ewe age, birth type and rearing type, weaning weights should be adjusted to account for these factors. Refer to the Sheep Production Handbook published by the American Sheep Industry for further information on how to adjust weaning weights.

While adjusted weaning weights can be very useful, and have traditionally been a production focus, a better option would be to evaluate pounds of lamb produced per ewe. The total pounds of lamb available for sale has a greater impact on profitability than average weaning weight of individual lambs. **Pounds of lamb weaned per ewe = total pounds of lambs weaned ÷ # of ewes exposed.**

All producers should strive to optimize flock production. The more ewes that conceive in the first two heat cycles, the more likely those lambs will be heavier and more uniform in size as compared to lambs born later in the lambing season. Higher lambing percentages lead to more lambs to sell and even more importantly, more pounds of lamb to sell. All these aspects play a part in an operation's profitability. So, each producer should ask questions such as these. How does your flock perform related to ASI's suggestions? How can you make changes to improve flock production? Also, keep in mind that a great way to evaluate breeding stock is through the use of estimated breeding values from the National Sheep Improvement Program. Does your flock perform according to your expectations? Or, are there areas where your flock needs improvement?

Producers should analyze reproduction and performance aspects in their flock in order to determine if the flock meets performance expectations.