Set Production Benchmarks for Sheep and Goat Production

Sheep and goat producers should set production benchmarks to help them achieve goals for their operation. This will help them to improve performance within their flock or herd.

Setting production benchmarks allows producers to work toward improved production and performance in their sheep flock or goat herd.

No matter what type of business you work with, those who are successful will set goals and evaluate them on a regular basis. For a sheep or goat operation, producers can set production benchmarks to improve performance that could lead to more profitability. These production goals could focus on only one year, or they could focus on reaching goals five or ten years down the road.

Producers should start by evaluating the production characteristics that are most important to their operation. Then, use the results of the evaluation to assess how to improve performance. Production benchmarks often focus on basic production or performance, reproduction, health, nutrition, marketing or finances. A few examples might be lambing or kidding percentage, weaning weight, ewe or doe production, loin eye size, fat depth, or even resistance to internal parasites.

As producers think about these production benchmarks, there are two things to consider: where you are now and where you want to go. Production benchmarks should be specific to individual operations and should balance the type of animals produced with the resources available on the farm. Producers most often should focus on optimum production rather than maximum production.

One production goal set by the American Sheep Industry is for sheep producers to increase lamb production through increased lambing percentage. The National Agricultural Statistics Service (NASS) reported the 2023 national lambing percentage at 103% although this percentage is likely higher in Pennsylvania. Increasing this would allow the United States to produce more lambs while maintaining the current flock inventory. This can be accomplished through selecting for twinning and by better managing nutrition. If we make a comparison of lambing percentages on a 100-ewe flock, we see very quickly how this can affect the operation's profitability.

Assume that lambs will bring an average of $150 per head at weaning. For a flock lambing at 150% this would mean an income of $22,500 if all the lambs are sold. If the flock is lambing at 175%, this will bring the income up to $26,250. Production costs and management practices are essentially the same, except for possibly a few extra dollars spent to flush the females during the breeding season. In this example, the producer increases income by $3,750 simply by making selection decisions based on performance traits and better managing nutrition, particularly with flushing.

Resources available on the farm should help producers decide what goal to set for lambing or kidding percentage. Higher percentages require additional feed resources to support milk production as well as additional labor to manage females at lambing and kidding time.

Conception rates can be critical for any livestock enterprise. Lambs and kids should preferably be born within two heat cycles, or 34 days for lambs and 42 days for kids. This should produce a more uniform group of lambs or kids because they are closer to the same age and they should weigh more because they were born earlier in the lambing or kidding season. Ideally, most females would become pregnant in that first heat cycle. If conception rates during the first heat cycle are less than expected, set a higher first conception rate and look at options to reach this goal.

Another critical reproduction benchmark is lamb or kid mortality. Nutrition and management practices both play a major role in lamb and kid survivability. Nationally producers experienced mortality rates around 6.5% according to NASS. A good goal would be to reduce this to 5%.
Technology allows producers to make some production decisions using ultrasound to measure loin muscle depth and fat thickness. Although producers can make judgments on loin eye size visually by looking at the width of the top of a sheep, the only accurate way to assess loin muscle size is by measuring that animal's loin muscle. This can be accomplished using ultrasound or by taking carcass measurements. By using these measurements, producers can select for increased muscling and thus can increase the value of lambs. In general, a 1 square inch increase in loin eye increases carcass value by about $10.

Internal parasites challenge many sheep and goat producers each year. In order to improve parasite resistance producers should keep records of animals that received anthelmintic treatments. Those animals that require deworming most often can be culled from the flock or herd. Or producers can run fecal egg counts on individual sheep and goats. The National Sheep Improvement Program, which develops estimated breeding values (EBVs) for both sheep and meat goats, helps producers identify animals with the genetic ability to resist parasite infections through fecal egg counts. Culling animals that require deworming more often and selecting for animals with negative EBVs for fecal egg counts can help producers reach a benchmark for a decreased need to treat animals with anthelmintics.

The National Sheep Improvement Program is designed to help producers achieve their production goals through genetic selection. Through computer-generated ratings, a producer can rank all of the sheep in his or her flock based on their genetic value for traits related to maternal production, growth, wool, carcass, and accelerated traits. By using these genetic values, producers can then identify the high producing sheep for replacement animals and cull any poor producing animals. More information on the National Sheep Improvement Program.

Production benchmarking is a tool to help producers analyze their flock or herd and help them set goals to improve performance. Benchmarks can vary greatly from one flock or herd to another and so must be designed for each individual operation's situation. The winter months are a great time to analyze flock or herd records and set goals for improved performance.

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Penn State College of Agricultural Sciences research and extension programs are funded in part by Pennsylvania counties, the Commonwealth of Pennsylvania, and the U.S. Department of Agriculture.