



Gearing up for State Fair: Understanding Market Lamb Gains

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As market lamb exhibitors get ready for State Fair, it's crucial to track key metrics that influence how quickly and efficiently your lamb gains weight. Knowing your lamb's weight throughout the summer is important for making feeding decisions as well as declaring a weight and being prepared for weigh backs after your market class. Let's start by answering a few questions:

1. What is your target end weight for your lambs at State Fair?
2. How much weight does your lamb need to gain to hit that target?

Having to push or hold market lambs can lead to questionable animal care practices, so be sure to purchase lambs that are an appropriate weight and weigh lambs regularly before any show. Knowing the average daily gain of your animals can help you adjust protein and energy levels to optimize their growth.

Average Daily Gain

$$\text{(Current weight} \div \text{initial weight)} \div \text{days on feed}$$

On average, a market lamb will gain 0.6 lb and up to 0.75 to 1.0 lb per day. As lambs reach their mature weight, their average daily gain begins to plateau. High-energy feeds (e.g., corn, wheat, barley) and high-protein feeds (e.g., soybean meal, distillers grain) will support growth. Young lambs are going to gain bone, muscle, and fat weight more quickly. When ADG starts to slow down, the lamb is going to develop less muscle and more fat. This is the point when you want to reduce protein (14-16% CP) and increase exercise. The target backfat thickness on a lamb is 0.25 inches; that layer of fat is crucial to your animal feeling fresh and going to the rail with the optimal carcass. You can also get a better understanding of feed efficiency by calculating feed to gain ratio.

Even if you feed a complete feed, it's important to look at your label and understand what you're feeding!

Feed to Gain Ratio

$$\text{Lb of feed fed} \div \text{weight gained}$$

Feed efficiency is indicated by feed to gain ratio, also known as the feed conversion ratio. This ratio is the amount of feed it takes for a lamb to put on one pound of gain. On average, 6:1 is a normal feed to gain ratio meaning it takes 6 pounds of feed for lambs to put on one pound of gain. For example, if you have fed your lamb 180 lb of feed and they have gained 30 lb, their feed conversion ratio is 6:1. The lower the amount of feed per pound of gain, the more efficiently that animal converts feed to muscle and fat. More efficient animals gain more quickly on less feed, lowering overall feed costs.

If you are raising show lambs, this could be a metric you use to select replacement ewes and rams!

Why do we need weigh backs at South Dakota State Fair?

Weigh backs ensure that market animals are judged based on an accurate weight. Even the best judges can't accurately guarantee the weight of an animal just by looking at them. There are a few things to keep in mind when declaring a weight and falling within the weigh back requirements.

1. Animals will lose at least 2% of their body weight as a result of travel and stress. This is called "shrink." In most cases, once you get your animal settled into their pen at State Fair, it will eat and drink and should recover most of that loss. However, when lambs are somewhere new, they may not consume feed and water, so you must consider what your animal weighed at home and what the potential shrink may be once you get to Huron.
2. The rumen holds a significant amount of weight. After you feed and water your animal prior to the market lamb show, remember to account for the added weight. One gallon of water weighs approximately 8 lbs., and adding electrolytes can increase water weight as the lamb's cells hydrate. Plus, you should be feeding your lamb 3% of its body weight. That means a 145 lb lamb would consume 4.4 lb of feed per day.

How weigh backs are calculated

After placing in the top 3 of a class, the market lamb must weigh within 5% of their declared weight (State Fair Book pg. 49). The weight will be rounded to the nearest whole number. Fractions of a pound less than 0.5 lb will be rounded down (i.e., 147.4 lb = 147 lb), and 0.5 lb or above will be rounded to the next whole number (i.e., 132.6 lb = 133 lb).

Example:

Declared weight = 145 lb

- $0.05 \times 145 \text{ lb} = 7.3 \text{ lb}$
- Minimum weigh back = $145 - 7.3 = 137.7 \text{ lb} > 138 \text{ lb}$
- Maximum weigh back = $145 + 7.3 = 152.3 \text{ lb} > 152 \text{ lb}$

If you declare a weight of 145, after weigh backs your lamb can weigh between 138 and 152 lb.

Begin your market lamb project confidently by exploring key calculations that will guide your nutrition and management decisions. Once at South Dakota State Fair, be prepared for weigh backs by confidently knowing your lamb's weight and how feed, water, and stress may impact that weight while there. Make sure to check out the South Dakota State Fairbook for a complete list of sheep show rules.