

## Central Washington Animal Agriculture Team



Fact Sheet # 1013-2003

### Monitoring Your Lamb's Progress

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Raising quality livestock for junior fairs and shows requires a combination of a good feeding program, a good animal health program and good overall management. These programs should not be treated as separate subjects, particularly when feeding market lambs. When you have a market project animal, you must also remember you are raising a food animal and you need to be concerned that you are producing a safe, wholesome and quality product for consumers.

The first step in producing a quality end product is the selection of a young, healthy lamb with plenty of growth potential. Selecting a lamb in the right weight range for your market lamb project is critical. However, you must remember show lambs are being fed for a particular date, rather than weight (like in the sheep industry). It is difficult even for experienced producers to determine the exact date a lamb will be ready to go to market. Therefore, it is necessary to monitor the lamb's weight and back fat, adjusting diet and exercise accordingly. If the lamb is not in the right weight range, often it is either "held back" or "pushed" to meet the weight limits of the show or fair. This often leads to questionable practices which are not in the best interest of the lamb or the image of

youth projects and the sheep industry. Humane care is essential in providing a quality, wholesome product for the consumer. Therefore, when selecting your lamb, check with the sheep producer to see if a scale is available. If the producer does not have a scale to weigh lambs, it might be wise to take a portable scale with you. This will take the guesswork out of selecting a lamb of appropriate weight.

There are other less accurate methods of estimating weight, such as using a weight tape, or using two body measurements (body length and heart girth) and then applying a formula. To use the formula method: measure the heart girth, or circumference of the lamb around the foreribs behind the elbow, (distance C of the figure below). Then measure the length of the body from the point of the shoulder to the point of the rump, or pin bone (distance a – b in Figure 1). Take these measurements in inches and apply the following formula:  $\text{Heart girth} \times \text{heart girth} \times \text{body length} \div 300 = \text{weight in pounds}$ . There is one important precaution when using this method on unshorn lambs. Be sure to part, or compress the wool to ensure an accurate heart girth measurement.

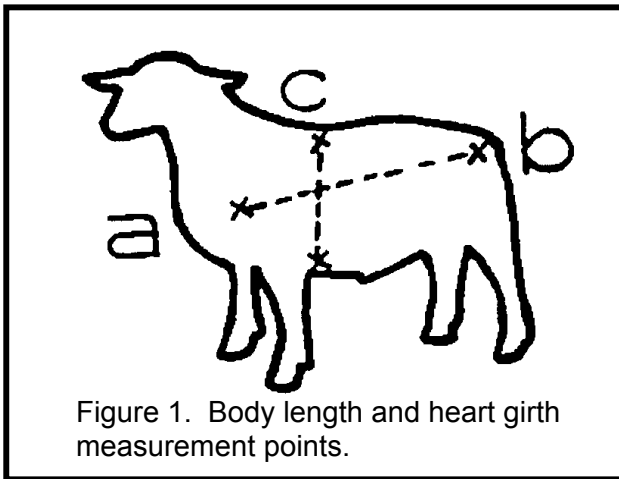


Figure 1. Body length and heart girth measurement points.

Depending on breed and frame size of the lamb, most will achieve the desired level of back fat or finish, between .15 and .25 inches; between 110 and 140 pounds. Market lambs are typically considered correctly finished when they achieve a yield grade in the high “ones” or “twos”. The yield grade of a lamb carcass is defined as the percent of lean red meat from the leg, loin, rack and shoulder and is measured on a scale of 1-5, with 1 representing leaner animals. The yield grade for lambs is determined by multiplying the back fat (between the 12<sup>th</sup> and 13<sup>th</sup> rib) by ten (10) and adding point four (.4).

How much your lamb should weigh at the time of selection is determined by knowing how much it should weigh at show time, estimating how much it will gain, and then doing a simple calculation. One of the most difficult things in the selection process is to predict how fast your lamb will gain because of the many variables that influence rate of gain. Weaned lambs on pasture alone often average 0.25 to 0.35 pounds per day. However, lambs on a high quality, pelleted ration sometimes gain over a pound per day. A fast growing junior show lamb that is properly fed and managed should average at least 0.7 pounds of gain per day. Lambs will often grow at a slightly slower rate during the summer because they tend to eat less during extremely hot weather. Also, many of you will be exercising and working with your lambs to prepare them for fitting and showing, which requires energy use and decreases average daily gain performance. An average of at least 0.5 to 0.6 pounds per day gain should be expected for healthy, growthy lambs on a finishing ration.

It is important to remember each fair may have different weight limits and many have both minimum and maximum weight limits. Once you know how many days to the show or fair, what the target weight or weight limits are for the show, and you’ve predicted a reasonable expected weight gain, you can calculate a good weight range for selecting your feeder lamb. For example, if you select a growthy, large-framed feeder lamb on May 10 and the show weigh-in date is on August 19, it has about 100 days to grow. At a rate of gain of 0.7 pounds per day and a target weight of 130 pounds at show time, the lamb must weigh at least 60 pounds at the time of selection. This is calculated by multiplying the number of days times the expected gain and subtracting that from the target ending weight.  $130 - (0.7 \times 100) = 130 - 70 = 60$ . You may want to follow this same procedure with several rates of gains and end weights so you feel comfortable with a weight range.

If you are a new lamb project member, you may want to give yourself a little more leeway. Therefore, you may want to project only a 0.4 to 0.5 pound per day of gain with a target weight of 125 pounds. With this example you would select a 75-pound lamb.  $125 - (0.5 \times 100) = 75$ . It is important to avoid selecting a lamb that is too big or too old and consequently might be too big or too fat at show time or one that might have to be held back too severely at the end of the feeding period, resulting in an undesirable carcass.

When purchasing ewe lambs for project animals, be sure that they have a USDA or WSDA scrapie flock identification tag. Law requires these tags for trace back purposes.

Adequate housing is another crucial factor in making sure your market lamb project gains well. Your lamb’s performance will be improved by providing it with plenty of pen space, shelter and shade from the sun and weather with good ventilation. Keep your lamb’s pen, feeder, and water trough clean. You should provide your lamb fresh, clean, cool water (water should be kept out of the direct sun so it stays cooler) and a trace-mineralized salt at all times.

When you purchase your feeder lamb, check the health care history of the animal with the producer you are buying from. This

will help you design a health program of your own, including: when and what booster shots you need to give your lamb; how soon to treat for internal and external parasites; and if medication is needed (such as a coccidiostat) in the feed. Be sure the lamb has been castrated correctly if it is a male. Your lamb should also be wormed if it hasn't been within a month. The other important thing to check is the date your lamb was last vaccinated for *Clostridium perfringens*, often called enterotoxemia type D or over-eating disease.

Feeder lambs should be vaccinated or boosted for *Clostridium perfringens* before they are put on a growing and finishing ration. Many lambs receive protection through the colostrums, if the ewes in the flock are vaccinated 30 days before lambing, and then the lambs should receive a booster shot just prior to weaning. If your feeder lamb hasn't been vaccinated, it is important to vaccinate it before it is put on a high energy feed. Two doses of *Clostridium perfringens* type D or type C & D toxoid bacterin, given according to label directions, will effectively protect these lambs against overeating disease.

When giving your lamb any medications or animal health products, always follow the label directions. Follow withdrawal time requirements carefully for all market lambs because they will enter the human food chain. Failure to follow withdrawal times can result in illegal residues in the carcass. The misuse of drugs, vaccines, pesticides, and various other medications in meat animal production can have serious legal consequences, including civil and/or criminal prosecution. This can also cause condemnation of the carcass and loss of payment, as well as jeopardize the safety and quality of the food you are producing.

If you have a choice of the route of administration of any medication between subcutaneous and intramuscular, always choose the subcutaneous route. Intramuscular injections do affect the quality of the food product you are producing. They not only cause lesions in the form of abscesses or scars, but they can result in the surrounding muscle tissue being unacceptably tough. Therefore, if you must give an intramuscular injection, it should be given forward of the front shoulders in the

neck region because this is a lower value area of the carcass.

For ruminant animals (animals with a four compartment stomach such as sheep) the Food and Drug Administration regulation, Title 21 Part 589.2000 of the Code of Federal Regulations (effective August 4, 1997), prohibits the feeding of ruminant meat and bone meal at any time. For example, do not use any feed that is not specifically formulated for ruminants (i.e. do not use feed or treats formulated for pigs, horses, poultry, rabbits, dogs, etc.).

Coccidiosis can be a common and serious health problem for feeder lambs. It is a contagious disease of the intestinal tract caused by single celled protozoan organisms called coccidian. Acute coccidiosis can flare up when crowding, poor management, poor housing conditions, adverse weather, inadequate nutrition, transporting, or any combination of these factors stress lambs. Symptoms of coccidiosis are diarrhea, loss of weight, and depression; lambs sometimes die. Treatment of acute coccidiosis is a last resort, since by the time it is identified; the disease has been affecting the animal for two to three weeks. Treatment may prevent death loss, but if a lamb recovers from coccidiosis it will often become a "poor doer" and gain slowly on feed because of the permanent damage that occurs in the digestive system. Effective prevention can be achieved by feeding low levels of a coccidiostat either in the feed or mineralized salt mixture. Lasalocid, marketed under the trade name of "Bovatec", and Decoquinat, sold under the name of "Deccox", are approved as a feed additive for use in sheep. These products are feed additives and must be fed as directed on the label. They interfere with the life cycle of coccidian in the intestine, preventing a buildup of coccidian, which can cause the disease. On farms where coccidiosis is a problem, lambs should stay on a coccidiostat regimen until they are about 6 months of age when most seem to become immune to damage caused by coccidia. When you use any type of medicated feed, always read and observe if there is a withholding period during which the lamb is not to be sold for slaughter.

Sheep are susceptible to severe digestive upset with any sudden changes in

diet. Before you bring your lamb home, it is always wise to ask questions of the producer you purchased it from about what type of feed the lamb is used to. If you can use the same or similar feedstuffs when you first bring your animal home, you can minimize the stress the animal experiences. When you make changes in the diet, make them very slowly to avoid digestive upset that can sometimes lead to the death of the animal.

It is important to feed a balanced diet, paying close attention to minerals. Macro and micro minerals are required for proper skeletal and nervous system function. In the Pacific Northwest, you need to pay attention to selenium. Only provide lambs with salt formulated for sheep because they are very sensitive to certain minerals such as copper. A salt formulated for cattle can poison lambs.

When increasing the amount of grain fed, do it gradually. Increase the amount of grain you feed by 1/8 to 1/4 pound per day over a 3-4 day period. Feed on the same time schedule each day. Divide the total ration into two meals per day, fed approximately 12 hours apart. Grain rations can vary in weight even between bags of the same diet, so it is important to weigh out the feed at each meal to avoid digestive upsets. Just measuring the feed out with a coffee can is generally not recommended.

Bloat and acidosis can be life-threatening conditions when a lamb has had more than his share of a growing or finishing ration. Probiotics (a mixture of different bacteria beneficial to rumen function) and/or bicarbonate of soda are good to have on hand when feeding high grain diets to show lambs.

The level and ratio of calcium and phosphorus are also important for proper growth and health of lambs. When feeding show lambs the calcium:phosphorus ratio should be approximately 2:1. A properly balanced diet should contain approximately 2 parts calcium to 1 part phosphorus. Diets high in phosphorus levels compared to calcium may cause urinary calculi, formation of blockage stones in the urinary tract. Roughages have high levels of calcium and low levels of phosphorus levels, while many protein supplements and most grains are low in calcium and moderate to high in phosphorus levels. Therefore, caution must

be used when formulations show lamb diets with little or no roughage. Some pre-mixed lamb diets have ammonium chloride added at the rate approximately 10 pounds per ton of feed to help prevent urinary calculi.

Monitor your lamb's performance by weighing it about every other week, in the morning before feeding, and calculate its daily gain since the last weight. Record its weight and date on a chart. If its daily gain has fallen off, ask a knowledgeable adult for some help in determining why. It may be a simple matter of making a minor change in the facilities to minimize the stress on the lamb; it may require changing the amount of feed given, the energy level of the ratio; or it may require addressing a health related problem.

Sometimes lambs that are too big early in the feeding period need to be held to a lower rate of gain for a period of time to prevent them from exceeding the proper show weight. This can be done by providing a lower energy ration using whole oats as part of the diet. Most or all of the ration can come from hay or pasture, but this may lead to an animal with a "hay belly". If you choose this method of slowing your lamb's rate of gain, consider doing this mid-way in the feeding period and finishing the lamb on a pelleted ration with a higher energy level during the last three weeks before the show to give it a trimmer appearance. This will usually also result in a more desirable carcass. Large lambs can also be limit-fed a higher energy ration in conjunction with an exercise program to hold the lamb's weight gain to a minimum.

Be aware that when you have your lamb tagged for a junior show or fair, an infection or abscess will often develop around the area the ear was pierced. Cleaning the area and treating it with a disinfectant will help clear up the infection quickly and minimize the loss of ear tags.

The days prior to the fair and during the fair can be stressful time for a lamb with the added activities. With this in mind, it is beneficial for your lamb to be prepared for the setting of the fair prior to the actual event. Four to five days prior to the show, feed the lamb in the pan that will be used at the fair. If the lamb has reached the desired weight, reduce the feed intake to about two-thirds of

the normal intake two days before the fair. Water the lamb in the water bucket that will be used at the fair 5-7 days prior to arrival at the fair. If the animal will be drinking chlorinated water at the fair, add 1/2 cup of molasses per 5 gallons of water to mask the odor and taste. Electrolytes can also be added to mask the taste and odor of chlorinated water. When you arrive at the show do not feed the lamb immediately upon

arrival. Allow the lamb to calm down and become accustomed to its new surroundings. The first show feeding should be one-half to two-thirds of the normal feed intake to help reduce stress symptoms; gradually increase feed to pre-show amount over the next couple of feedings. Continue to add molasses to water until the lamb becomes accustomed to the water.

Table 1. Projected feed intake and average daily gain of the average show lamb.

## Show Lamb Project: Feed Projections

**Purchase Date:** Depends on Show Date  
**Beg. Wt.:** 80 lbs (70-90 lbs)  
**Birth Date:** Approx. 90-110 days

**Weigh-in Date:** Shows typically have 60-90 day test  
**Weight:** 80 lbs (65-90 lbs)  
**ADG goal:** .35 to .6 lbs/day

**Show Date:** Know the date of the fair  
**Finish Wt:** 125 lbs (120-140 lbs)

Many lambs can perform at higher ADG levels when fed a high quality grain and forage diet. However, you must remember show lambs are being fed for a particular date, rather than weight (like in the industry). It is difficult for the trained eye to determine the exact date a lamb will be ready to go to market. Also, many of you will be working with your lambs to prepare them for fitting and showing which requires energy use and decreases ADG performance. Therefore, it is necessary to monitor lamb's weight and backfat and change diet and exercise accordingly.

Increases in the amount of grain fed must be made gradual. Do NOT make increases at end of each time period. Rather--work up to these amounts over a period of time. Increase the amount of grain they get by 1/8-1/4 pound per day over a 3-4 day period. Watch the lambs eating habits and fecal sample. Do they have left over feed? Do they have diarrhea? ---If you answered YES, you are increasing the grain too fast or you are feeding them too much -- BACK OFF!

### FEEDING

| Date In | # days | grain (lbs/d) | total grain   | hay (lbs/d)  | total hay | total feed fed | Expected ADG | Total period Gain | Wt            |
|---------|--------|---------------|---------------|--------------|-----------|----------------|--------------|-------------------|---------------|
| Week 1  | 7      | 0.5           | 3.5           | 1            | 7         | 1.5            | 0.35         | 2.45              | 85            |
| Week 2  | 7      | 0.75          | 5.25          | 1            | 7         | 1.75           | 0.45         | 3.15              | 87.45         |
| Week 3  | 7      | 1             | 7             | 1            | 7         | 2              | 0.55         | 3.85              | 90.6          |
| Week 4  | 7      | 1.5           | 10.5          | 1            | 7         | 2.5            | 0.75         | 5.25              | 94.45         |
| Week 5  | 7      | 2             | 14            | 1            | 7         | 3              | 0.75         | 5.25              | 99.7          |
| Week 6  | 7      | 3             | 21            | 1            | 7         | 4              | 0.75         | 5.25              | 104.95        |
| Week 7  | 7      | 3             | 21            | 1            | 7         | 4              | 0.75         | 5.25              | 110.2         |
| Week 8  | 7      | 3             | 21            | 0.75         | 5.25      | 3.75           | 0.7          | 4.9               | 115.45        |
| Week 9  | 7      | 3             | 21            | 0.75         | 5.25      | 3.75           | 0.6          | 4.2               | 120.35        |
| Week 10 | 7      | 2             | 14            | 0.25         | 1.75      | 2.25           | 0.5          | 3.5               | 124.55        |
|         |        | <b>70</b>     | <b>138.25</b> | <b>61.25</b> |           |                | <b>0.615</b> | <b>43.05</b>      | <b>128.05</b> |

#### Feedstuffs:

**Grain Mix:** 13-16% CP  
 15% Crude Fiber  
 Complete mineral and Vitaming mix

This nutrient analysis is typical of a corn, barley, and/or oat mixture with molasses. Many premixed sacked lamb feeds from feed stores contain diets with similar nutrient analysis.

**Hay:** 16-18% CP

High Quality grass/alfalfa or alfalfa--typical of hay grown in this region. Make sure the hay is free of mold and weeds.

These calculations are AVERAGES. DO NOT use these numbers as your sole feeding perscription. You must pay attention to bunk management, feed nutrient analysis, animal's genetics, level of exercise, and environmental conditions. Remember exteme hot, cold, or wet enviromental conditions will negativaly impact your animal's performance.

Figure 2. Commonly evaluated body parts of a market lamb.

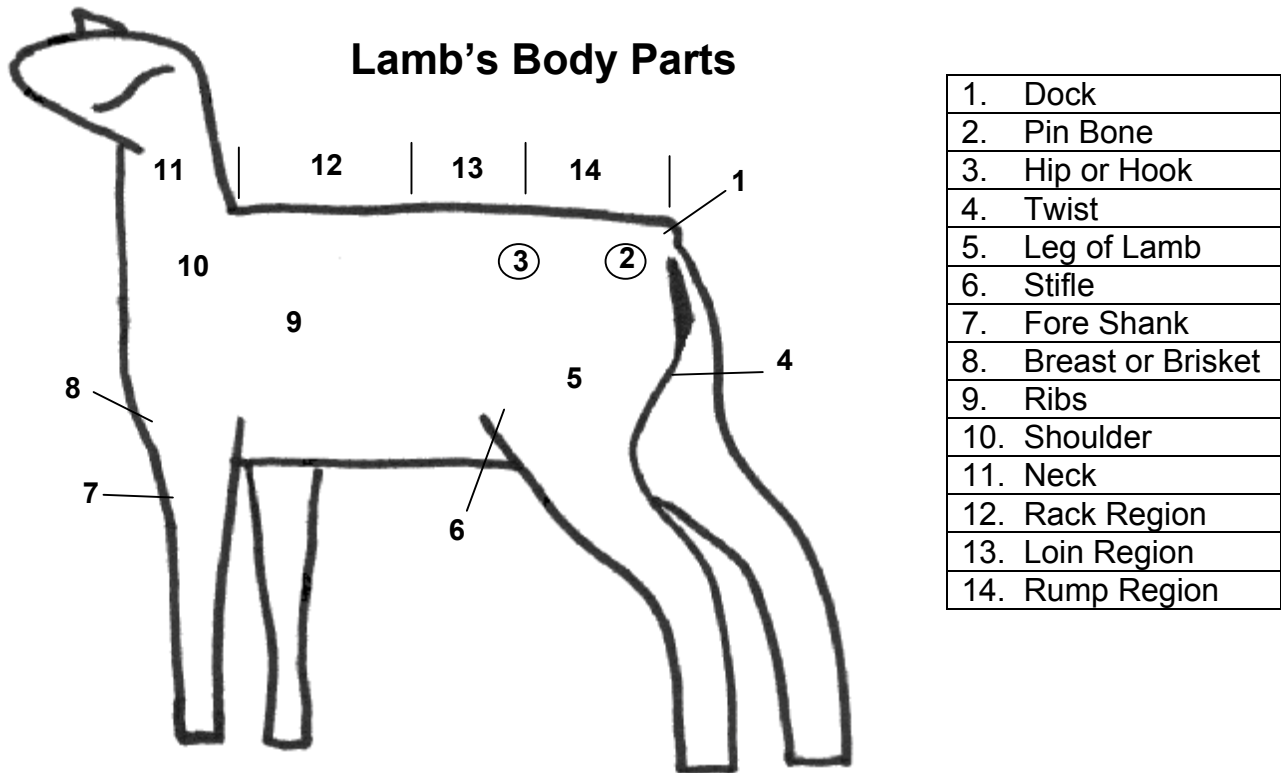
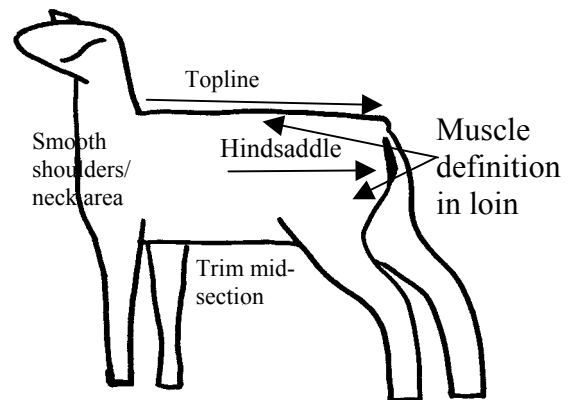


Figure 3. Some characteristics of the ideal show market lamb.

**Ideal Market Lamb:**

| Structure   | Muscle   | Balance  | Back Fat (Finish)  |
|---|--|--|--|
| <ul style="list-style-type: none"> <li>• Sound feet and legs</li> <li>• Strong pasterns</li> <li>• Level hip and dock area</li> <li>• Moderate to heavy bone</li> </ul> | <ul style="list-style-type: none"> <li>• Definition in loin and leg region</li> <li>• Width of stifle</li> <li>• Depth of twist</li> <li>• Length and thickness of loin</li> </ul> | <ul style="list-style-type: none"> <li>• Level topline</li> <li>• Smooth shoulder, neck, and brisket area</li> <li>• Square rump</li> <li>• Trim through the mid section</li> <li>• Long hindsaddle</li> </ul> | <ul style="list-style-type: none"> <li>• Determined by feeding and exercise program</li> <li>• Evaluate over topline and rib coverage</li> <li>• Target .15-.25 inches</li> <li>• Yield Grade 1.9-2.9</li> </ul> |



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