

Body condition - Sometimes It's Better to be Average

By Lark L. Burnham, Ph.D.
Ruminant Nutrition

Body condition of livestock, including alpacas and llamas, directly affects reproductive performance. Diet and level of activity determines body condition.

Ruminants and pseudo-ruminants should have a diet dominated by roughages (hay and pasture). As described in my series on comparative digestion, these animals have evolved a digestive system that is superbly designed for microbial fermentation. Roughages require fermentation because mammals lack the ability to digest fiber. It makes sense that such a specialized system works best when forages predominate.

Microbes also ferment grain and other soluble carbohydrates. However, there are potential hazards, not the least of which is obesity. There are alpaca producers that will challenge this statement, but the simple fact is that grains are like candy - almost pure energy.

Two conditions that plague many alpaca producers, over and underweight animals, will be discussed in the next two articles. Grain plays an important role in both situations. To determine whether an alpaca is in optimum condition, a hands-on approach is required.

Two systems of body scoring are promoted by the alpaca industry, one that employs a scale of one-to-five, and another that uses a scale of one-to-ten. The former system is well-illustrated at various internet sites. It involves feeling the animal's backbone, ribs, sternum, and area between the rear legs. This is necessary because alpacas are often covered with a thick fleece, which makes visual appraisal, the method used for evaluating other livestock, inaccurate.

Some alpaca producers feel the one-to-five system is too limiting. They either use the one-to-ten system or 0.5

1 – Emaciated

- Very steep angle along spine and curves inward
- Ribs are very easily felt
- Hard, bony V-shaped chest, sternum extremely bony
- Very increased space between legs
- Very little muscle and absolutely no fat

2 – Thin

- Spinal slope more than 45 degrees
- Ribs can be easily felt
- Hard chest with a slight V-shape, very little fat covering sternum
- Some increased space between rear legs
- Some loss of muscle

3 - Optimal (for adult huacaya)

- About 45 degree angle along spine
- Ribs felt with slight pressure
- Firm, muscular chest
- Chest makes straight line between front legs

4 – Overweight

- Convex shape between backbone and upper ribs (ideal for adolescent huacaya alpacas under 1 year old)
- Ribs felt with some pressure
- Somewhat rounded soft-feeling chest
- Inner thighs smooth and less defined

5 – Obese

- Backbone looks flat (normal for adult suri and cria < 6 months old)
- Firm pressure needed to feel ribs
- Rounded, soft-feeling chest
- Large area of contact between hind legs
- Little or no definition of inner thighs
- May have difficulty walking properly

gradations between the different classifications of the one-to-five system. With the latter system, an animal can only be emaciated, thin, optimum, overweight, or obese. In reality, alpacas may actually score somewhere in between these classifications.

Slightly modified scoring must be used for suri alpacas because heavy muscling along the spine can be misconstrued as over-condition. A suri that was judged a 5 (obese) based on the feel of the spine could actually be optimal. Other factors, including the sternum and space between the hind legs, must therefore be considered to accurately score these animals. As Steve Hull, Ph.D., animal physiologist and alpaca breeder says, "Pat the chest and inner thigh of the alpaca. If it "jiggles" then it isn't muscle!"

Body scoring as outlined by the Alpaca Association of New Zealand, which uses the one-to-five system, as outlined in the sidebar.

Whether one uses the one-to-five or one-to-ten system, body scoring is the first step in maintaining animals in their most productive condition. Scoring should be done a number of times each year, especially before rebreeding. Whether or not a given female breeds back in a timely fashion is often determined by her condition at that time.

About the author:

Lark Burnham received a B.S. in Animal Science (1979), from Kansas State University and a M.S. in non-ruminant nutrition (1995) from Kansas State University, Manhattan, and a Ph.D. Doctorate in ruminant nutrition (2004) from Texas Tech University, Lubbock. Her special interests are comparative nutrition, the role of the micro flora in all mammals, fiber digestion, and probiotics. Lark currently works for Natur's Way, Inc., Horton, KS, which produces MSE probiotics.



SCOUR-AID

For the safe and natural
treatment of diarrhea
in ALL animals!

Available from



The makers of MSE!

Natur's Way

Horton, KS 66439

www.natures-way.com - (800) 615-0299