

# Treating and Preventing Thin Females

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

**Y**ou've seen it happen: a productive female, usually one which has delivered several crias, gets progressively thinner. At first, the weight loss seems minimal, but becomes obvious as successive crias come and go. If nothing is done about it, the female may become infertile.

The mammalian body inherently knows when a female (of any species) can carry a fetus to term. There is some invisible line that delineates a breeder from a non-breeder. Animals that teeter on that line may have difficulty breeding back or maintaining a pregnancy.

Females that are at greatest risk:

- Heavy milk producers
- Those with aggressive cria.
- Older females which have had several pregnancies

The key to preventing weight loss that may eventually threaten fertility includes:

- **Body score in early lactation**, within the first two months. This will alert the owner of potential problems and provide necessary time for weight gain before the next major energy drain (a developing fetus).
- Females should be grouped by body score and stage of lactation or gestation to allow for effective dietary management. **The lower the score, the more critical it becomes to**

**increase energy intake as soon as possible.** This is in addition to normal lactation feed, which should be started, or increased (in the case of pre-bagged gestation/lactation diets), as soon as possible after parturition.

Ruthanne McCaslin, D.V.M., recommends that thin females be held off from re-breeding for 6 — 12 months to allow for weight gain. An alternative would be to wean the cria early.

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#### Energy allotment

Pregnant and/or lactating females must compete with some

overwhelming forces for access to dietary energy. There is a clearly defined sort order for nutrient allocation, and the female is often the last in line.

- **The fetus takes precedence during the third trimester of gestation.** Any additional dietary energy will be re-directed to the fetus. Biologically speaking, the growth and survival of the fetus is more important than the condition of the dam.
- **Feed energy is utilized for milk production in early lactation.** If it is not provided for in the diet, this energy will be pulled from the female's body. Because of the limitations of the rumen and microbial fermentation, females fed a roughage-based diet often lose weight during lactation. The demand is greatest during the time when the cria depends entirely on the dam for all nutrients.

The most effective use of energy for female bodyweight gain occurs between early lactation and the last trimester of gestation. The "window of opportunity" is when the cria on the ground has started to ingest solid food and the fetus has not begun significant hypertrophy.

#### How to increase dietary energy and/or protein

There is some controversy in

the industry regarding how best to supplement at-risk animals. Some prefer to limit supplementation to **good quality (i. e., leafy, green) alfalfa hay**. An alternative, and one that many will automatically dismiss, is the addition of grain. After fat, grain is the best source or energy. Fat is not recommended for ruminants above the level of 1 — 2%. Many already use pre-bagged supplements that contain grain. The danger there is that those who do not need supplementation may go the wrong way on the body score scale.

A third alternative is to use probiotics. Probiotic microorganisms increase feed efficiency, that is, the animal gets more out of whatever they eat. Part of this is due to offsetting the negative effects of stress with improved micro-

bial digestion. More concentrated forms such as paste or drench are recommended for females that have slipped below a 4.

**Please note:** ANY change in diet should be done gradually. It takes about 2 weeks for the microorganisms in the rumen to adapt to a new diet. Failure to do this may result in diarrhea or constipation.

Whatever the method, don't wait until the last trimester to start the process. Body scoring within the first few months of lactation, followed by increased energy and protein when needed, can help to insure the future fertility of alpaca females.

*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.

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