

Body Condition Scoring Pygmy Goats

Maxine Kinne

Condition scoring systems are available for all livestock species for identifying exact degrees of condition. Curiously, these systems are all nearly identical for dairy and beef cattle, sheep, and dairy and meat goats. Most of them use a 5-point scale, but they can also be based on 4 or 9 points. I developed a 5-point system for Pygmy goats, and it was approved by the NPGA Board of Directors. The scoring system can be found at the end of this page.

Visual observation is a very unreliable indicator of fat due to variables such as age, hair cover and conformation. The scoring technique involves feeling the loin, the most reliable area to evaluate for both muscle volume and internal fat reserves. Scores can change fairly rapidly in certain situations, so condition should be monitored periodically to evaluate nutritional imbalances and correct them to achieve a healthy condition.

Ultrasound testing for fat content between the 12th and 13th ribs in live animals and carcasses is used in universities and commercial meat operations, but the equipment is expensive and these professionals often rely on manual scoring because they know it is an effective evaluation skill.

You can learn and use this new skill to help you correct dystocia and other fertility problems related to fat, fine-tune nutrition and monitor the effects of disease. While the system is very easy to learn and use, those who have trouble may want to ask veterinarians or extension personnel for help. A BCS clinic would make a great club activity.

The 5-Point Scoring System

Condition is evaluated in several key places using firm pressure with the fingers. The Body Condition Scoring system (BCS) includes a drawings and names the anatomical parts to help you identify them on the goat. The amount of muscle and fat on top of the spine and on either side of it correlates with the amount and feel of the ends of the transverse processes (see diagrams below). The degree of fat cushion over these bones determines the score. Palpating the amount of padding over the hips and pin bones can also help in the scoring process.

Score 1 is extremely thin with minimal muscle and no fat reserves.

Scores 2 and 3 represent increasing amounts of both muscle and fat.
No muscle development occurs beyond score 3.

Scores 4 and 5 denote excess fat accumulation.

Half-point scores can be significant, but differences of less than one-half point have little practical value other than showing a trend.

Scores of 3 to 3.5 are ideal. This condition has a positive relationship with health, longevity, efficient reproductive performance and milk production.

Scores 1 and 5 indicate severe problems in management, nutrition, disease or any combination of these areas.

Scores 2 and 4 denote moderate problems which should be closely monitored while bringing these animals into the normal range of 3.

Goats scoring 4 and 5 lose excess fat when they lose weight. Goats scoring under 3 lose both valuable fat reserves and muscle tissue.

A change of condition by one whole point represents an increase or decrease of about 12% in total body weight. If a goat scores 3 and rises to 4, the goat is 12% overweight. At score 5 it is 24% overweight. The same is true in reverse: from 3 to 2 is 12% underweight and to 1 is 24%. An well maintained individual's score should never change by more than one whole point and sometimes less. Noticeable change in BCS in a short period of time indicates a serious problem.

Target Scores

Changes in condition may occur suddenly, but most happen gradually at many different times in life. Age, breeding season, stage of gestation and lactation, disease, parasites, extreme weather, travel and other variables are responsible for most fluctuations. During these stressful times, ideal condition allows the goat to function at its very best. Being too fat or too thin causes problems or makes them worse. Reducing diets should be accompanied by exercise to boost the metabolic rate and burn calories. Making changes in condition takes time.

Kids and yearlings kept at a score of 3 to 3.5 until they are mature will not have problems caused by being too fat. Avoid feeding excessive amounts of energy, protein, vitamins and minerals to growing stock, and monitor their condition periodically. Young does depositing excess fat in the developing mammary system have irreversible decreased milk production for all future lactations. Excess fat is accumulated during prolonged dry periods, such as long intervals between parturitions and first breeding at over 18 months of age.

Keep adult does at a score of 3 to 3.5 at every stage of life - open, pregnant and lactating. At this score the doe has adequate fat from which to draw some energy in late gestation, early lactation and during very cold weather. Scores higher than 3.5 are very unfavorable for reproduction.

Increases in dystocia and/or metabolic disease at freshening are signals to monitor condition and evaluate herd nutrition and management. Rapid changes in condition in the last 2-3 weeks of gestation increases susceptibility to metabolic diseases. The doe's condition score naturally drops slightly as her fat reserves are mobilized for milk production in early lactation. This is called negative energy balance, as she is using more energy than she can consume. Once feed intake matches milk production needs, fat reserves are gradually restored. Use the average herd score to balance herd nutrition, but give individual attention to animals that score high or low.

Get bucks to a score of 3.5 before breeding season and maintain them at 3 to 3.5. Wethers should also be maintained at a score of 3 to 3.5.

When to Score
Kids, Bucks and Wethers: Every 3 to 4 months for all kids, bucks and wethers.
Does: 6 weeks prebreeding. Allows time to flush or diet
1-30 days gestation. Avoid weight loss
31-90 days gestation. Limit weight loss to 0.75 of breeding score
91-120 days gestation. Adjust diet/exercise to achieve a 3.5 score
6 weeks prepartum. Maintain score for delivery

Summary

Body Condition Scoring is the tool you need in order to overcome a variety of problems or to avoid them. Scoring shows you where you are and where improvements are necessary. In good condition your goats will be healthier, more functional and more productive.

Body Condition Scoring System

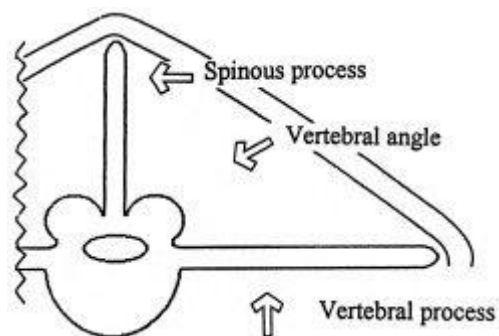
Maxine Kinne

Illustrations by Sunny Larsen

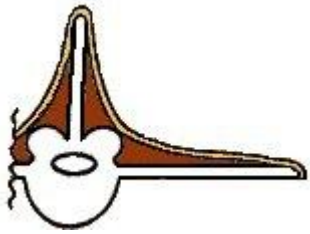
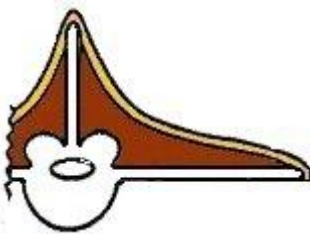
This body condition scoring was developed for the National Pygmy Goat Association in 1995 to address the unfortunate consequences of obesity and its relationship to dystocia. The Board of Directors immediately approved it for inclusion in the Judges Training Manual. To my knowledge, it has not been included, and judges are not trained to use it.

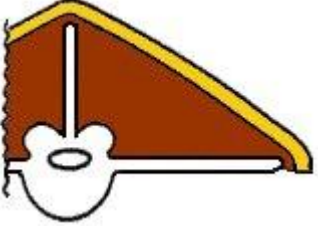
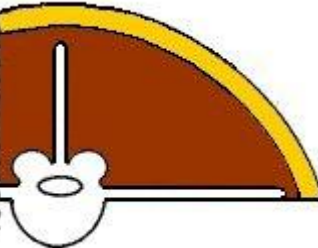
Illustrations show loin structure, the regions of the back between the ribs and hips. Descriptions are what you feel on the loin with firm fingertip pressure. Also discussed are in bones, or *tuber ischii*, part of the pelvis and located at either side of the vulva in does and the same location in bucks. Other versions of condition scoring describe fat padding on chest floor and how it correlates with features included in this system. Each of the five categories has a descriptive title and a score number. **Padding over the ribs is never used to accurately judge body condition.**

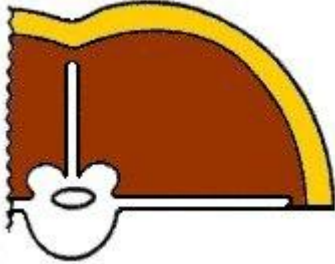
Parts of the Loin



Spinous processes are the bones felt on top of the back. **Vertebral processes** are the long bones horizontal to the spine. The **vertebral angle** is the triangle between the top of the spinous process, the edge of the vertebral process and the skin. The muscle inside this angle is the *longissimus*, or eye muscle, a roast or part of a T-bone steak.

1 POOR	
	Loin No muscle on edges of transverse process, bones very sharp, thin skin Vertebral angle has little muscle and is very concave
	Rump Pins Spinous processes very prominent with no muscle in between Sharp outline visible; no muscle between skin and bones Very sharp, no padding
Features Skeleton has little or no muscle. Hollows in the flanks below the loin are very concave. Causes Poor diet, disease, parasitism, lactation, or any combination of these. Problems Slow growth rate in kids; stunting in growing animals, conception failure, abortion, weak or dead newborns, metabolic disease during pregnancy, very susceptible to disease. Solutions Better nutrition, management and herd health program. Evaluate disease status.	
2 THIN	
	Loin Muscle extends to the edges of transverse process, spacing can be felt between the vertebral processes, thin skin
	Rump Pins Outline slightly contoured; light padding but bones still somewhat prominent and very easy to feel Sharp, little padding
Features Skeleton has some muscle. Hollows in the flanks below the loin are somewhat concave. Causes Poor diet, disease, parasitism, lactation or any combination of these. Problems Slow growth rate in kids and growing animals, metabolic disease, weak or dead newborns, susceptible to disease. Solutions Better nutrition, management and herd health program. Evaluate disease status.	
3 GOOD	

	Loin Rump Pins	Muscle and subcutaneous fat covers edges of vertebral process; individual bones are somewhat distinct Smooth, without signs of fat; pelvic bones and spine are distinct Slight pressure needed to feel the pin bones
Features Muscle over skeleton felt with gentle pressure. Firm pressure is not needed to feel bones. Hollows in the flanks are barely concave or level with the surrounding area of the sides. Problems None. Maintain condition at 3 or slightly higher, depending on age and production status.		
Scores 1-3 represent muscle growth/expansion Muscle does not grow after score 3. Scores 4 and 5 represent fat accumulation		
4 FAT		
	Loin Rump Pins	Vertebral processes indistinct and firm pressure needed to feel them Vertebral angle rounded but not yet bulging over spinous processes Spinous process spacing difficult to detect; spine felt as a hard line Heavily padded with fat; bones can only be felt with firm pressure Heavily padded with fat, and firm pressure needed to feel them
Features Very firm pressure needed to feel all bony structures. Causes Feeding in excess, limited exercise. Problems Inhibited locomotion, easily tired, orthopedic abnormalities, dystocia, metabolic disease. Solutions Reduce plane of nutrition, provide exercise.		
5 OBESE		

	Loin Rump Pins	Edge of vertebral processes and spacing between too fat to feel bones Vertebral angle bulges over the level of the spinous processes Spine lies in the center of a groove of fat Buried in fat, bones very indistinct Buried in fat, hard to locate
Features Bones covered with a thick layer of fat over the muscle are very hard to feel. Causes Feeding in excess, limited exercise. Problems Inhibited locomotion, easily tired, orthopedic abnormalities, infertility, dystocia, metabolic disease. Solutions Reduce plane of nutrition, provide exercise.		

My sincere thanks to Sunny Larsen for her artistic collaboration on the images in the scoring system.

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