

Body Condition Scoring Ewes

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Introduction

Body condition scoring is a system of classifying breeding ewes on the basis of differences in body fat. While it is subjective, with practice it can be accurate enough to indicate the nutritional status of individual ewes as well as the entire flock. Thus, it allows the shepherd to identify, record, and adjust the feed intake of ewes determined to be thin, in average flesh, or fat. In the long run, this can save money for producers and/or prevent problems attributable to ewe condition.

Scoring System

Body condition scores (BCS) change during the year as ewes progress through each stage of production: flushing/breeding, early gestation, late gestation, parturition, early lactation, and late lactation. Weight at a given stage of production is the best indicator of whether ewes are too thin, too fat, or just right to do the job to the best of their abilities. However, mature weights vary among individuals and breeds, making it difficult to use weight to determine the correct body condition for a specific stage of production. Body

condition scoring describes the condition of ewes, is convenient, and is more accurate than a simple eye appraisal.

Condition scores for ewes range from 1.0 to 5.0. A score of 1.0 represents the thinnest animals and a score of 5.0 represents the fattest. Usually, 90 percent of the ewes in a flock fall within BCS of 2, 3, and 4. Half scores are often used to improve the evaluation process. Then, the range of scores expands to 1.0, 1.5, 2.0, 2.5, 3.0, 3.5, 4.0, 4.5, and 5.0. The intermediate half scores are helpful when an animal's condition is not totally clear (3.0 vs 3.5). Determining an exact BCS is probably not as important as assigning a relative score. For example, a BCS of 3.0 compared to 3.5 is not a big difference, but the difference between a 2.5 and a 4.0 is significant.

Procedures

The BCS estimates the conditioning of muscling and fat development. Scoring is based on handling the animal to determine the extent of muscling and fat deposition over and around the vertebrae in the loin region (Figures 1, 2, and 3).

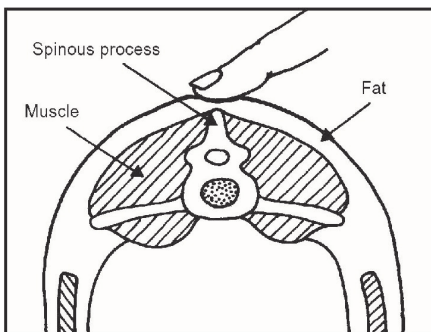


Figure 1. Feel for the spine in the center of the sheep's back, behind its last rib and in front of its hip bone.



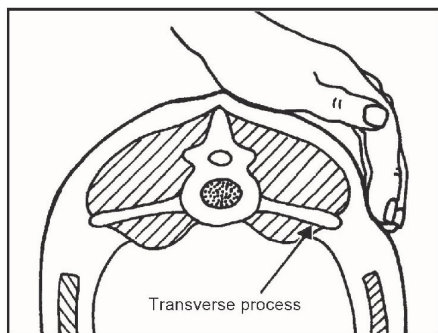


Figure 2. Feel for the tips of the transverse processes.

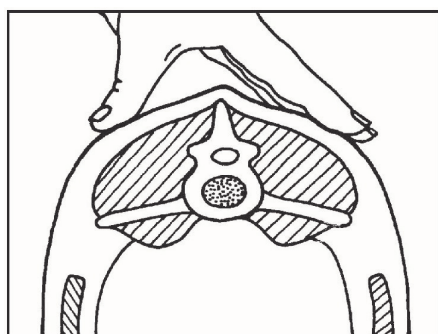


Figure 3. Feel for fullness of muscle and fat cover.



In addition to the central spinal column, loin vertebrae have a vertical bone protrusion on each side (transverse process). Both of these protrusions are palpated and used to assess an individual BCS. See Figures 1, 2, and 3 for photos showing handling of the spinal column, the loin vertebrae, and the ribs of ewes.

When handling ewes to assign a BCS, make sure each ewe is standing on a level surface and in a relaxed manner. Using your fingers (held together) and thumb, determine the sharpness of the spine behind the last rib and in front of the hip bone (Figure 1). Determine the sharpness of the transverse processes at the same time (Figure 2). In addition, it may be helpful to determine the extent of fat covering over the foreribs because, in many instances, the handler may find sharpness over the spine (condition score 2.0) but will find fat over the ribs (condition score 4.0 as illustrated in Figure 4).



Figure 4. BCS 4.0 for the ewe on left compared to 2.0 for the ewe on the right.

Then, one must arrive at an average for an overall BCS. After all points have been evaluated, assign an overall score according to Table 1. Diagrams of the five whole numbers are described in Figures 5 through 9.

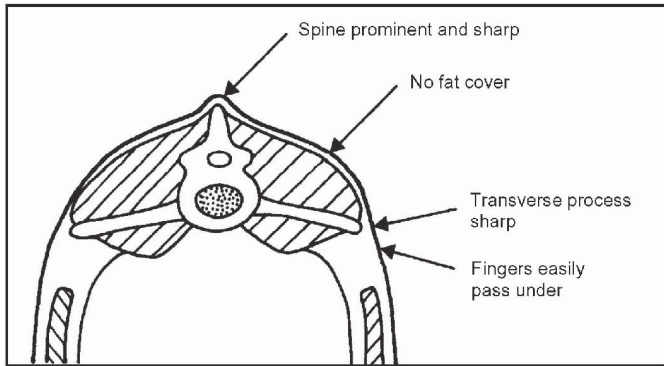


Figure 5. Condition Score 1 (Emaciated). Spinous processes are sharp and prominent. Loin eye muscle is shallow with no fat cover. Transverse processes are sharp; one can pass fingers under ends. It is possible to feel between each process.

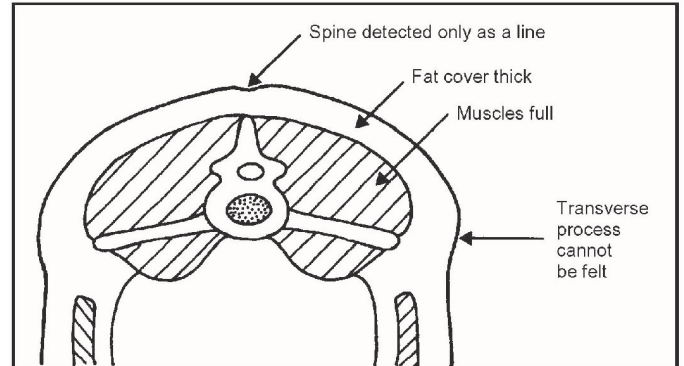


Figure 8. Condition Score 4 (Fat). Spinous processes can be detected only with pressure as a hard line. Transverse processes cannot be felt. Loin eye muscle is full with a thick fat cover.

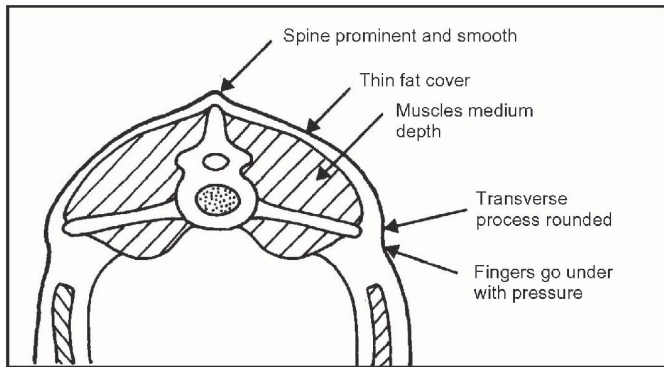


Figure 6. Condition Score 2 (Thin). Spinous processes are smooth and prominent. Loin eye muscle has little fat cover but is full. Transverse processes are smooth and slightly rounded. It is possible to pass fingers under the ends of the transverse processes with a little pressure.

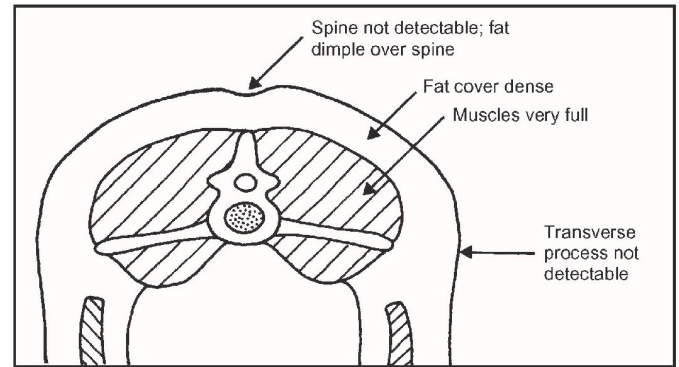


Figure 9. Condition Score 5 (Obese). Spinous processes cannot be detected. There is a depression (dimple) where spine would normally be felt. Transverse processes cannot be detected. Loin eye muscle is very full with a very thick fat cover.

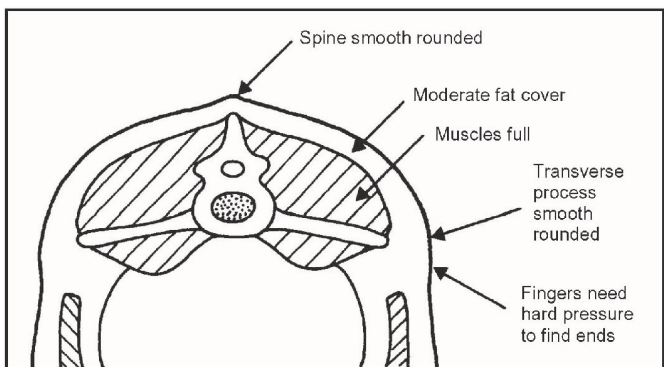


Figure 7. Condition Score 3 (Average). Spinous processes are smooth and rounded, and one can feel individual processes only with pressure. Transverse processes are smooth and well covered, and firm pressure is needed to feel over the ends. Loin eye muscle is full with some fat cover.

Table 1. Condition Scoring Ewes

Point of Evaluation	Score				
	1	2	3	4	5
Spine	Prominent, sharp	Prominent, smooth	Smooth, rounded	Detected only as a line	Not detectable
Fat cover	None	Thin	Moderate	Thick	Dense
Transverse processes	Prominent, sharp	Prominent, rounded	Smooth, rounded	Not detected	Not detected
Foreribs	Prominent	Prominent with slight covering	Smooth indentation	Slight detection	Smooth, not detected

With increased experience, the BCS might be assessed visually. Certainly this method is less time consuming and minimizes physical labor. But as wool cover, and to some extent hair cover, increases, the accuracy and precision of visual appraisal becomes more difficult. Figure 10 shows the points of visual evaluation.

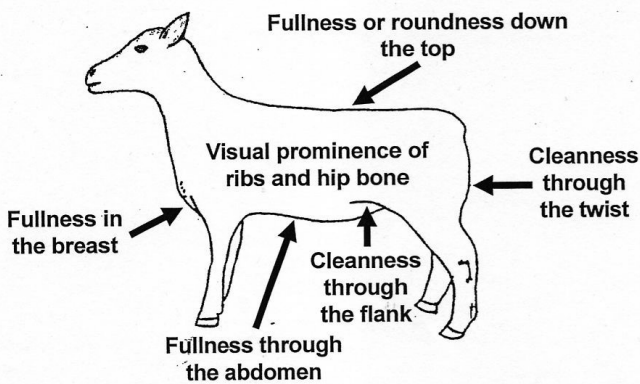


Figure 9. Points of Visual Evaluation for Ewe Body Condition.

Figure 10. Points of visual evaluation for ewe body condition.

Some of these differ from those of the “hands-on” method because they can be appraised with the naked eye. If visual appraisal is to be used, make sure the end results of both methods are the same.

Changes during the Year

Figure 11 shows how BCS fluctuates during stages of production during a 12-month period (one lamb crop per year). The periods during the year when BCS is most important are flushing/breeding, late gestation, early lactation, and

maintenance. On average, a difference of 1.0 BCS is equivalent to 13 percent of the live weight of a ewe with a 3.0 BCS. Thus, a ewe with a maintenance weight of 150 pounds needs to gain 20 pounds to increase her BCS from 2.5 to 3.5.

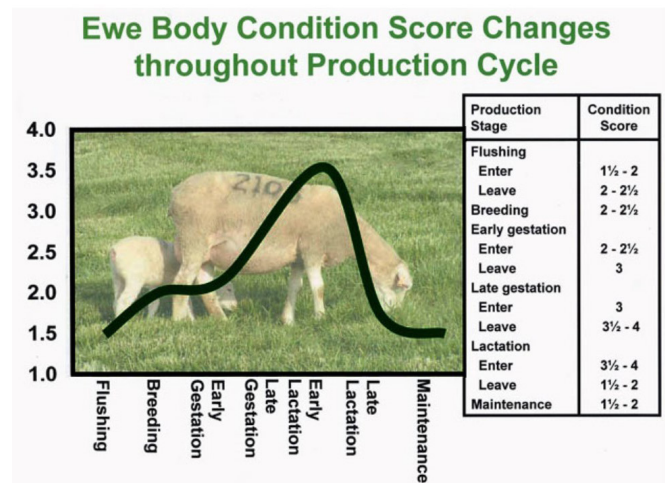


Figure 11. Ewe body condition score changes throughout production cycle

Fat ewes (BCS 4 and 5) may not cycle during breeding. If they do cycle, ovulation rates may be low. To gain a benefit from nutritional flushing, and ultimately lambing rate, ewes must have less than a 3.0 BCS at flushing. Excessively thin ewes (BCS 1.0 to 1.5) may have similar problems. If ewes have a BCS of 3, 4, or 5 as early as 6 weeks before flushing, reduce their feed intake so they will be 1.5 to 2.0 at the beginning of flushing. On the other hand, if they are 1.0 to 1.5, increase intake for 6 weeks prior to flushing, throughout the flushing period, and for 3 weeks into the breeding

season. Optimum BCS during flushing/breeding is 1.5 to 2.5. Body condition score should gradually increase from flushing/breeding, through early gestation (first 110 days) to 3.0 at the beginning of late gestation (last 4 to 6 weeks). A feeding program should be developed that will promote enough gain so ewes will have a 3.5 to 4.0 BCS at lambing. Typically, ewes lose weight during lactation even though they are fed large amounts of high-quality diets. Average BCS of ewes at the end of early lactation (60 days postpartum) can be as low as 1.5 to 2.0. After weaning, nonpregnant and nonlactating ewes can gain significant condition from pasture alone. During this period shepherds must manage pastures so ewes do not become too fat, remembering they should enter the next flushing/breeding season with BCS between 1.5 and 2.5. A proposed stocking rate to maintain a BCS of 1.5 to 2.5 for dry, open ewes at maintenance is presented in Table 2.

Summary

Condition scoring is a valuable management tool that should be performed regularly before flushing/breeding, late gestation, early lactation, and maintenance phases of the annual production year of ewes. Condition scoring allows shepherds to improve flock management, reduce feed costs, and limit health/performance problems resulting from improper nutrition. Flock management is improved because ewes can be grouped into different feeding programs based on their needs. Ultimately, the annual feeding program becomes more economically efficient.

Table 2. Proposed Stocking Rates for Dry, Open Ewes at Maintenance ^{a,b}

Month	Grass ^c	
	OG/F	BG
April	6 to 15	2 to 4
May	16 to 30	4 to 10
June	20 to 25	13 to 20
July	13 to 16	13 to 16
August	0 to 8	0 to 3
September	8 to 15	3 to 6
October	16 to 20	5 to 8
November	3 to 6	0 to 2

^a Dry, open ewes at maintenance; number of ewes per acre.

^b Assuming a mature ewe weight of 150 lb and a daily dry matter consumption of 2.0% of body weight (3.0 lb dry matter intake per head per day).

^c OG = orchardgrass; F = fescue; BG = bluegrass