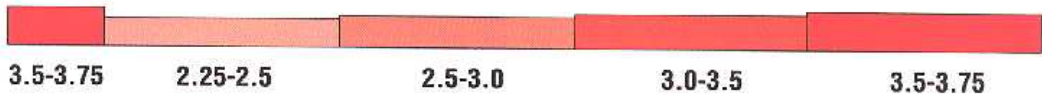
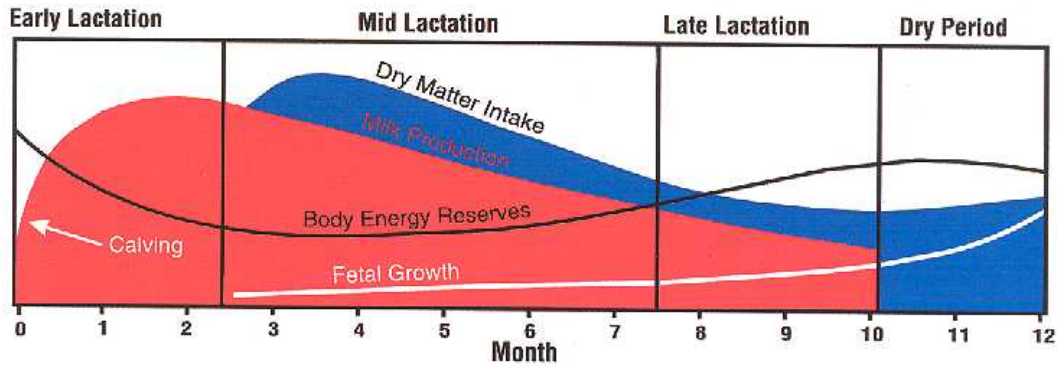


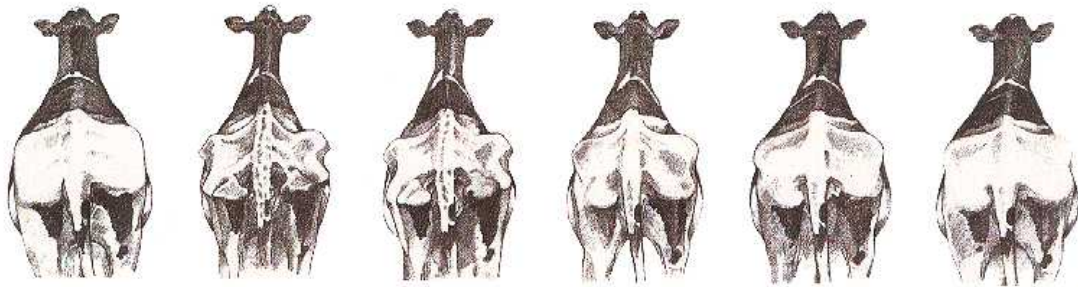
APPENDIX A

The following information in Appendix A was provided by Elanco Animal Health.

Body Condition Scoring in Dairy Cattle

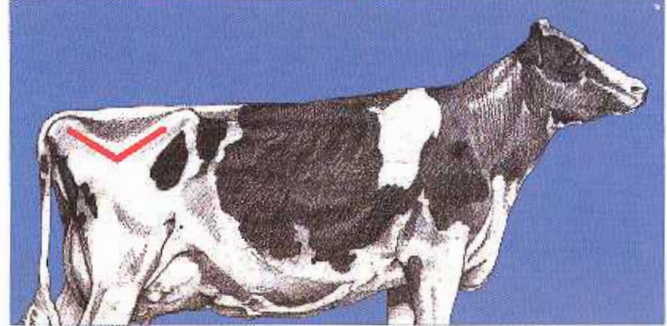


Desired Body Condition Score

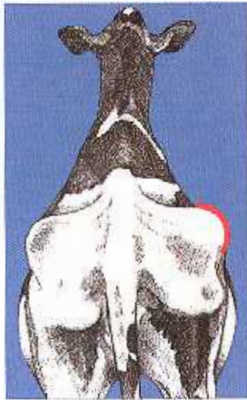


Dairy Body Condition Score (BCS) Chart

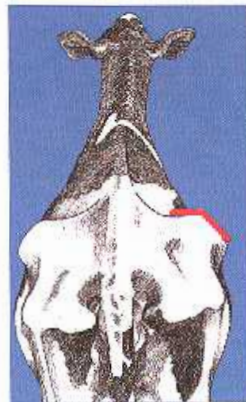
First view the pelvic area from the side.
Check line from hooks, to the thurl, to the pins.



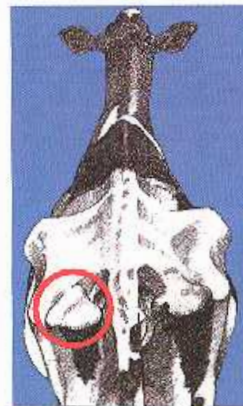
If the line forms a flattened V then
BCS \leq 3.0.



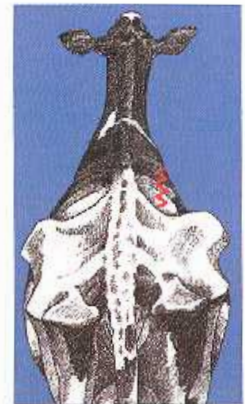
1 If hooks rounded
BCS = 3.0.



2 If hooks angular
BCS \leq 2.75.



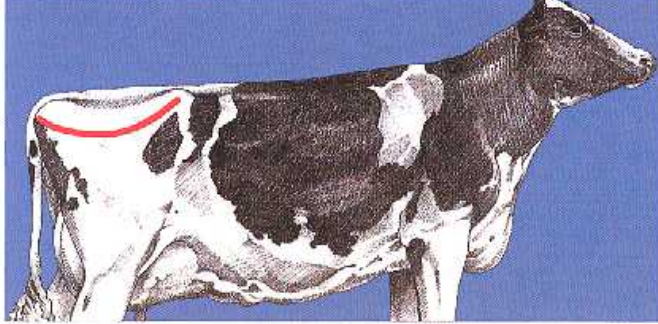
3 If pins angular
BCS < 2.75.
If palpable fat pad
on point of pins
BCS = 2.50.



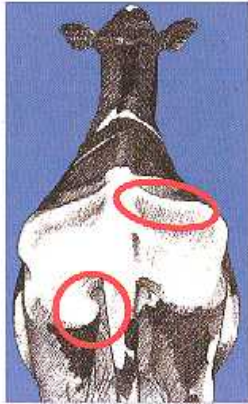
4 If no fat pad on pins BCS < 2.50. View the short ribs.
Look for corrugations along the top of short ribs as fat covering disappears. If corrugations visible 1.2 way between tip and spine of short ribs, BCS = 2.25. If corrugations visible 3/4 way from tip to spine BCS = 2.0. If thurl prominent and saw-toothed spine BCS < 2.0.



Dairy Body Condition Score (BCS) Chart



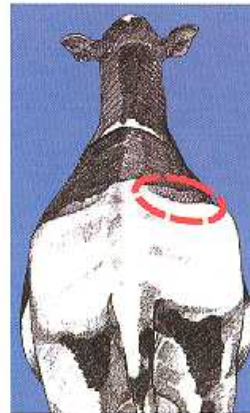
U If the line forms a crescent or flattened U consider **BCS ≥ 3.25**



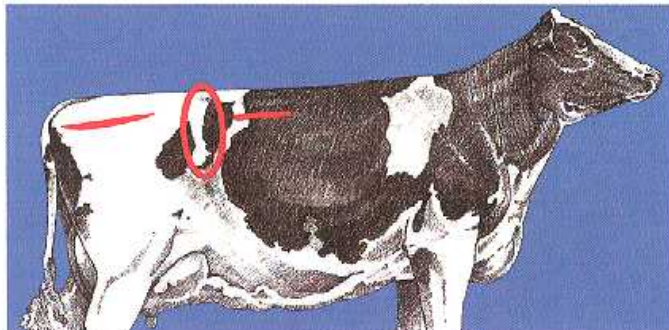
1 If sacral and tailhead ligament visible **BCS = 3.25.**



2 If sacral ligament visible and tailhead ligament barely visible **BCS = 3.50.**



3 If sacral ligament barely visible and tailhead ligament not visible **BCA = 3.75.** If sacral and tailhead ligament not visible **BCS ≥ 4.0.**



4 If thurl flat **BCS > 4.0.** If tip of short ribs barely visible **BCS = 4.25.** If thurl flat and pins buried **BCS = 4.5.** If hooks barely visible **BCS = 4.75.** If all bony prominences well rounded **BCS = 5.0.**

Body Condition Scoring in Dairy Cattle

Body condition refers to the relative amount of subcutaneous body fat or energy reserve in the cow. Wildman et al. developed a 5-point (1-5) scoring system to measure the relative amount of this subcutaneous body fat. Most body condition scoring (BCS) systems in dairy cattle use the 5-point scoring system, with quarter point increments. Body condition scoring of dairy cattle is an important management tool for maximizing milk production and reproductive efficiency while reducing the incidence of metabolic and other peripartum diseases.

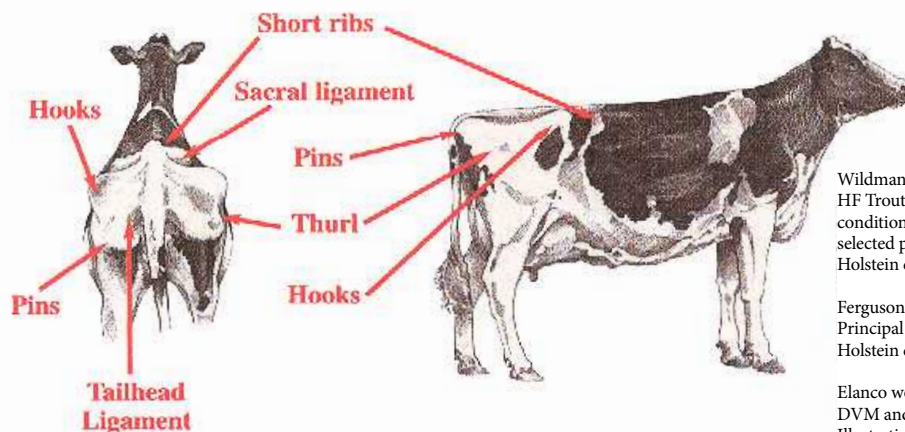
Over-conditioning at the time of calving (BCS>4.0) often results in reduced feed intake and increased incidence of peripartum problems. Under-conditioning at calving (BCS<3.0) often results in lower peak milk yield and less milk for the entire lactation. Also, cows should not lose more than 1.0 body score during early lactation. Excessive loss of body condition in early lactation has been shown to reduce reproductive efficiency.

Dr. James Ferguson and coworkers at the University of Pennsylvania have developed an organized process for BCS dairy cows. This system utilizes a flow chart which directs the scorer to view certain anatomical sites of the pelvic and loin area. Use of the flow chart helps develop consistency and repeatability in VCS. This system concentrates its accuracy toward the mid scores (2.5 to 4.0) which include most cows. The mid-range BCS are also the most critical for making management decisions. Scores above or below this range indicate significant problems. Exact scoring of extremes in BCS are less critical.

While the majority of cows conform to the described criteria, a few cows may not fit exactly. The final BCS may need to be adjusted based upon consideration of observations from all designated areas. Also realize that using the quarter point system many cows will fall between two scores (i.e., 2.75 and 3.0). Under those circumstances the scorer will need to make a judgment as to the closest score. Quarter point differences in scores are not significant under most circumstances.

The first described step in the flow chart is to determine if the line from the hook bone, to the thuri, to the pin bone is angular (V) or crescent (U). This step is often the most difficult of the scoring process, especially if the cow is near the 3.0 or 3.25 score. If uncertain of the V or U proceed to the next step. View the cow from the rear. Observe the amount of padding over the hook and pin bones and the prominence of the tailhead and sacral ligaments. From this point the scorer can usually determine the appropriate score. When a BCS has been determined, the scorer should continue the evaluation process at least an additional step to confirm the final score.

Anatomical areas used in the flow chart are identified below.



AI 8478 (Rev. 3/04)

Wildman, EE, GM Jones, PE Wagner, RI Bowman, HF Trout, and TN Lesch, 1982. A dairy cow body condition scoring system and its relationship to selected production variables in high-producing Holstein dairy cattle. *J. Dairy Sci.*, 65: 495.

Ferguson JD, Galligan DT, and Thorsen N. 1994. Principal descriptors of body condition score in Holstein cows. *J. Dairy Sci.* 77: 2695-2703.

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