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dairy guidelines



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EVALUATING BODY CONDITION STATUS IN DAIRY COWS

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Many dairy cows appear to be over-conditioned during late lactation, especially low producers or problem breeders. A scoring system is described for determining the body condition status of dairy cows and the desired condition score is defined.

Is there an ideal body condition for dairy cows in different stages of lactation? Can over-conditioning of cows have deleterious effects on milk production or animal health? There is increasing evidence that this may be true, especially when corn silage is the primary source of forage and when one complete ration, containing corn silage, is fed to all milking cows in the herd.

The goal of any feeding program should be to profitably feed cows so that they attain their genetic potential for milk production without increasing stress on the cow and causing adverse effects on animal health. In an effort to attain higher levels of milk production, while increasing labor efficiency, dairy farmers feed higher energy rations. Consequently, cows may be overweight (over-conditioned) during the last 2-3 months of the lactation, especially if they experienced any breeding problems and, thus, were late in settling.

A Body Condition Scoring System

The degree of body fat, or body condition, can be determined by visual appraisal and palpation along the cow's topline. This scoring system uses the chine, loin, rump and tail head, hips, and pin bones, and was developed by evaluating 28 cows in each of 29 herds at four occasions. On a scale of 1 through 5, condition score 1 indicates severe undercondition, while a 5 indicates severe over-condition. Research data from Virginia Tech suggests that high-producing cows should score a high 2 or low 3 throughout the lactation.

- A. Condition Score 3 (the most frequent) - The ends of the spinous processes on the vertebrae (which form the long bone of a T-bone steak) along the loin appear smooth but can be felt by applying minimal pressure. The vertebrae of the chine and loin appear as a rounded ridge, which continues

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into the rump. Hips and pin bones are smooth and rounded. The area around the tailhead and between the pin bones is smooth with no sign of subcutaneous fat deposition (Figure 1).

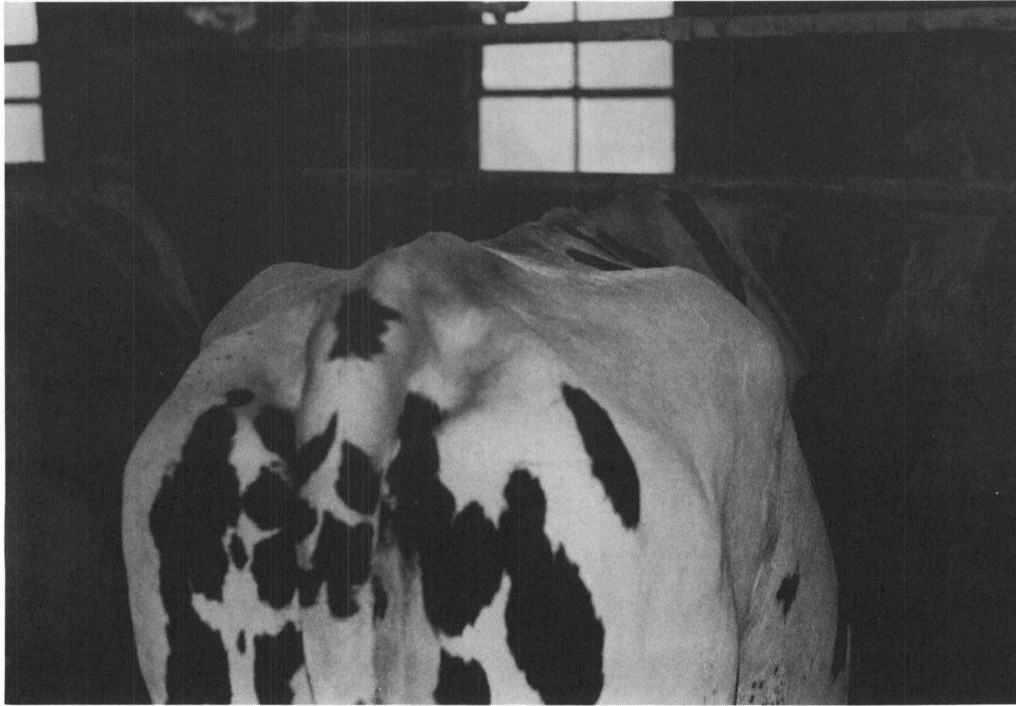


Figure 1. Cow 831 scored 3 on day 41 and was producing 87 lb. She produced 15,614 lb in 192 days and was projected to produce 21,132 lb in 305 days.

B. Thin Condition

Condition Score 1 - The ends of the spinous processes along the loin are prominent, with limited flesh cover, are sharp to the touch, and provide an overhang or shelf-like appearance. Hips and pin bones are sharp, with limited flesh covering. There are marked depressions between hips and pins. The area below the tail head and between the pin bones is severely depressed, causing the vulva to appear prominent. Examples are not shown. This condition generally isn't found unless the cow is sick or severely under-conditioned.

Condition Score 2 - The ends of the spinous processes are visually detectable but are not as prominent as occurs with condition score 1 and do not form as distinct a shelf or overhang. There is some flesh covering over the topline. The individual vertebrae of the chine, loin, and rump regions are not visually distinct but are readily distinguishable by palpation. The hips and pin bones are prominent, with some depression between them. There is limited depression around the tailhead and between the pin bones, but the vulva does not appear prominent (Figure 2).

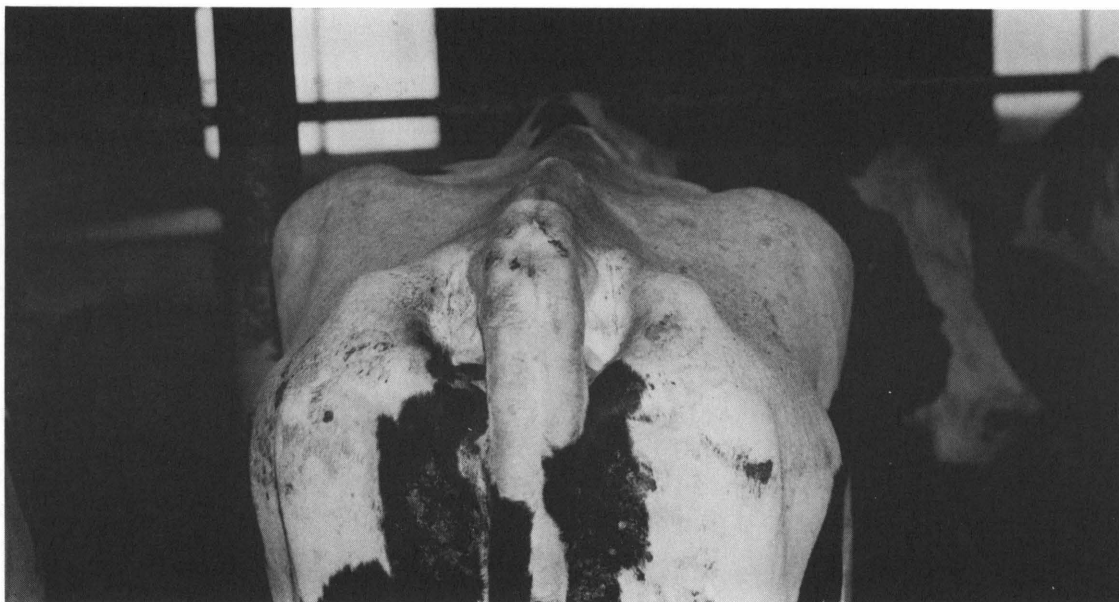
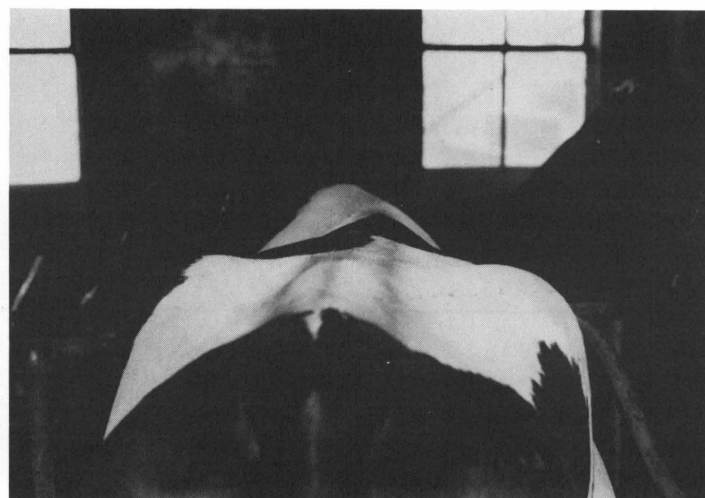
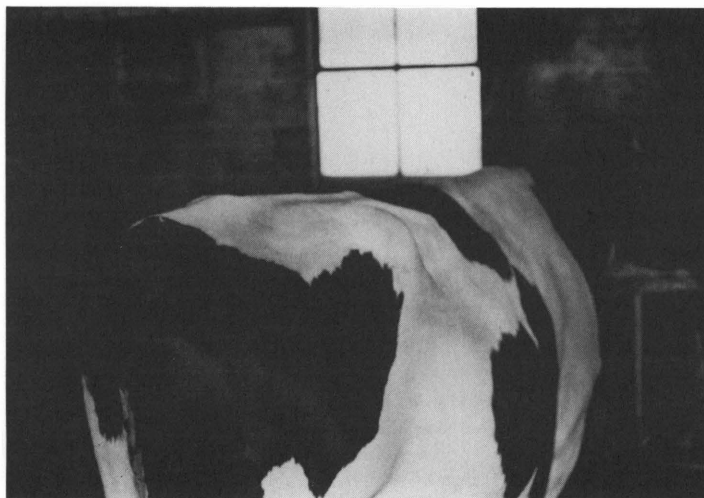


Figure 2. Cow 933 scored 2 on day 46 and was producing 96 lb. She was projected to produce 21,186 lb in 305 days.

C. Over-condition

Condition Score 4 - The backbone can be distinguished only by pressing down firmly. The back is flat across the loin and rump. The spinous processes show no overhanging shelf effect. The ridge formed by the vertebral column of the chine is smooth and rounded. The hips are decidedly rounded and the span between them is flat. There is subcutaneous fat deposition around the rounded tailhead and pin bones (Figures 3a and 3b).



Figures 3a and 3b. Cow 892, an average cow (14,407 lb milk in 301 days), scored high 3 or low 4 at the 271st day and was producing 24 lb. This is the desired condition for drying-off cows.

Condition Score 5 - The backbone is covered by a thick layer of fat. The hips and pin bones are not apparent. The tailhead is surrounded by fat.

What Body Condition is Desirable? Consider all points when evaluating a cow.

It is normal for high producing cows to score between a high 2 or low 3 condition throughout the entire lactation. An example would be a 1400 lb Holstein cow producing over 60 lb milk per day. Average cows (45-60 lb milk) should return to mid 3 scores during the last 100 days in milk. Although all cows have scores around upper 2 range during the first 80 days in milk, low producing cows (below 44 lb) become heavy, reaching scores in the 4 range or higher during late lactation.

Cows open more than 100 days are heavier than cows open for 60 to 100 days (condition scores of low 3 vs upper 3 range, respectively). Feeding programs need to be adjusted so that cows in mid to late lactation or cows with breeding problems do not become too heavy. Efforts should be made to keep cows within the conditions shown in Figures 1 and 2. Over-conditioned cows are inefficient milk producers.

During mid to late lactation, replenish the body condition of thin cows so that they attain condition scores of upper 3 to low 4 by the time that they are dried-off. Cows' condition usually remains constant during the dry period.

Acknowledgement

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