

BODY CONDITION SCORING— A Management Tool

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Adequate body reserves are necessary to maintain the health, reproductive and productive capacity of all dairy cattle. In the dairy cow fat covering is an indicator of the amount of stored energy. Cows without adequate body reserves are prone to disease, metabolic disorders, impaired reproductive efficiency, and reduced milk production. In heifers, lack of body reserves will delay breeding and will lower milk production after calving.

On the other hand, excessively fat cows are predisposed to calving difficulties, fatty liver after calving and often death. This condition has been termed Fat Cow Syndrome. Even cows that recover from this condition experience lower milk and butterfat production as well as increased risk of other disease conditions. Heifers that are fat at puberty fail to develop their full mammary gland capacity resulting in lower lifetime production. Problems of repeat breeding are also reported for overly fat heifers at puberty.

The body fat covering of dairy cattle changes with different stages of lactation. Fresh cows lose body fat because they are unable to eat enough to meet the energy requirements for their high milk production. Late lactation and dry cows can add large amounts of body fat because they are able to eat more energy than they require for the amount of milk they produce.

Dairy farmers need to be aware of what body condition their cows and heifers are in so that they can adjust management practices and feed rations as needed.

The body reserves of dairy cows are evaluated by a procedure known as body condition scoring. When body condition scoring, the fat covering around the rump and loin is evaluated and the cow is given a numeric score based on this evaluation. Body condition is scored between 0 and 5 with half scores in between. This gives a total of 11 possible body scores. A condition score of 0 is found only in animals near death and so will be ignored in this bulletin. Use of the body condition score system enables a farmer to accurately evaluate the body reserves of a cow and describe it to other people in a consistent way that everyone can understand.

Body scoring of dairy cattle can be learned with a little training and careful observation. Although the evaluator uses both sight and touch to evaluate the body fat covering, accurate body condition cannot be judged without feeling the cow.

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HOW TO BODY CONDITION SCORE DAIRY COWS

Body condition score is largely determined by the amount of fat covering around the rump and tailhead area. The loin area is also evaluated. The final body condition score can be adjusted 1/2 score if the loin differs from the rump by more than 1 point.

Although most body condition scoring is done from directly behind the animal, it is a good idea to observe the cow from the side to get some idea of the depression in the loin area.

To begin scoring, stand directly behind the cow. Make sure the cow is relaxed before beginning the scoring procedure because muscle tightness will result in inaccurate scoring. Observe the degree of depression around the tail head. Then score the rump area by placing the hands on the pin bone and pelvic bone and feeling for the amount of fat covering. See Figures 1 and 2 for where to place your hands for the rump score. Always use the same hand to score cows. Score the rump to the nearest 1/2 score.



Figure 1. Correct hand placement for feeling fat covering over pin bones.

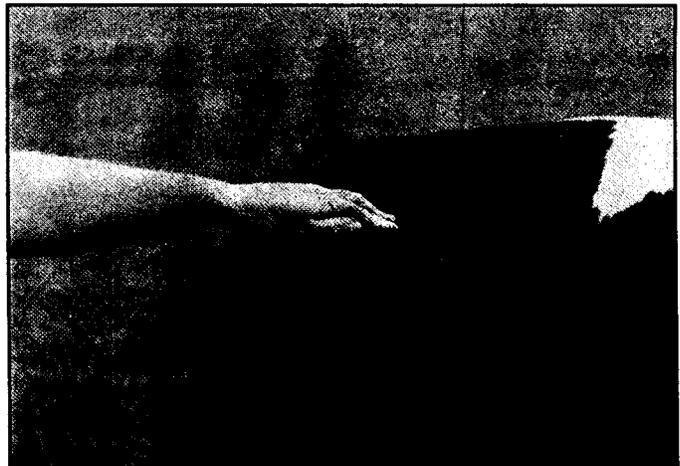


Figure 2. Correct hand placement for feeling fat covering over pelvic bone.

Then score the loin area in the same way, using the same hand. See Figure 3. Assess this score to the nearest 1/2 unit.

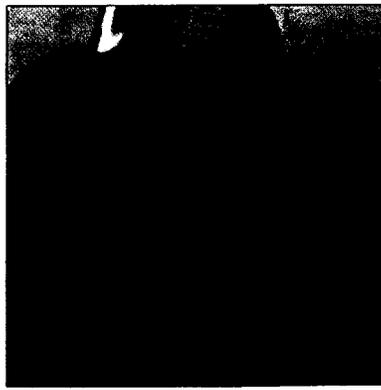


Figure 3. Correct hand placement for determining fat covering over short ribs and loin.

BODY CONDITION SCORE 1

Rump Area Deep cavity around tailhead. No fatty tissue felt between pins. Pelvic bone easily felt. Skin is supple.

Loin Area Ends of short ribs sharp to touch. Upper surfaces can easily be felt. Deep depression in loin.



BODY CONDITION SCORE 2

Rump Area Shallow cavity lined with fatty tissue at tailhead. Some fatty tissue felt under pin bone. Pelvis easily felt.

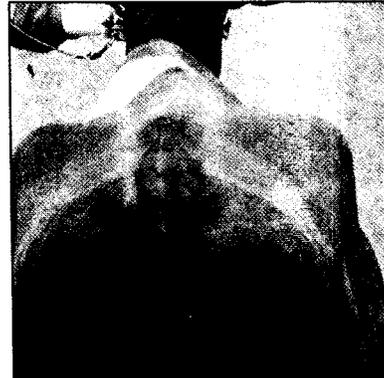
Loin Area Ends of short ribs feel rounded. Upper surface felt with slight pressure. Depression visible in loin.



BODY CONDITION SCORE 3

Rump Area No visible cavity around tailhead. Fatty tissue is easily felt over whole rump. Skin appears smooth. Pelvis is felt with slight pressure.

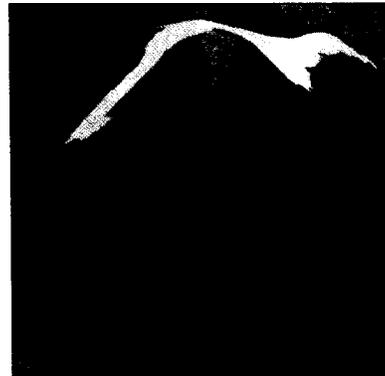
Loin Area Ends of short ribs can be felt with pressure. There is a thick layer of tissue on top. There is only a slight depression in the loin.



BODY CONDITION SCORE 4

Rump Area Folds of fatty tissue are visible around tailhead. Patches of fat are present around the pin bones. Pelvis is felt only with firm pressure.

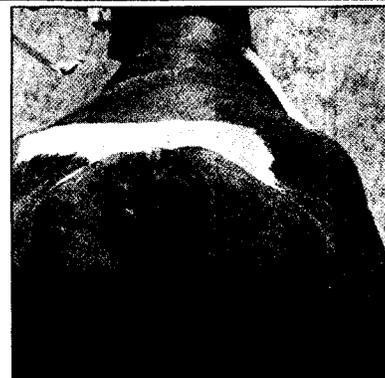
Loin Area Short ribs can't be felt even with firm pressure. No depression is visible in loin between backbone and hip bone.



BODY CONDITION SCORE 5

Rump Area Tailhead is buried in fatty tissue. Skin is distended. No part of pelvis can be felt even with firm pressure.

Loin Area Folds of fatty tissue over short ribs. Bone structures can't be felt.

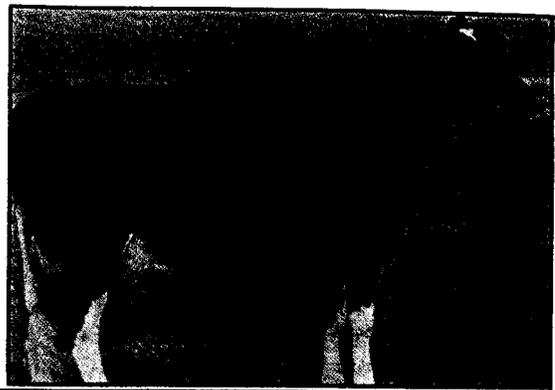




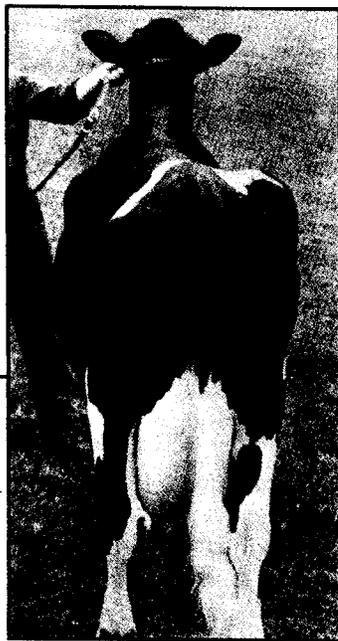
Body Score 1



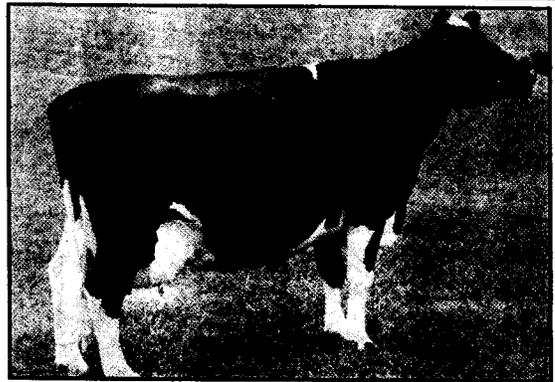
Body Score 2



Body Score 3



Body Score 4



Body Score 5



If the loin area score is different than the rump score by more than 1 unit, adjust the rump score up or down 1/2 unit. This will be the final body condition score. An example of this adjustment is presented below:

Rump Score	Loin Score	Difference	Adjustment	Final Score
4.0	2.5	1.5	-0.5	3.5
3.0	2.5	0.5	0	3.0

On pages 4 and 5 are pictured dairy cows representative of the 5 major body condition scores along with the description of how each condition should look and feel. Use these photographs as guides when body scoring cows. After several hours of practice, you will become quite proficient at body condition scoring.

WHEN COWS SHOULD BE BODY SCORED

Ideally cows would be scored monthly or bimonthly. In most herds, especially those in free stall housing, this becomes a major undertaking. However, there are times when cows should be body condition scored and the scores written down if good use is to be made of the information. These times include:

For cows-

1. At calving
2. At 5-6 weeks after calving (at approximately peak milk production)
3. At 150-200 days after calving (in mid lactation)
4. At dry off

For heifers-

1. At six months of age
2. At breeding
3. At calving

At these times cows should score in the ranges listed in Table 1 below.

If the body condition scores of the cows are outside the reasonable range, management steps should be taken to correct the problem. The most important thing to look at is the change in body condition between one stage of lactation and another. Careful ration balancing and recommended management of cows at various stages of life will ensure proper body condition. A list of possible causes of undesirable body scores and their possible causes as well as suggested remedies is presented in Table 2 on page 6.

Use of body condition scoring is one more technique that will allow fine tuning the nutrition program of the herd and improve management ability. Preventing production losses as well as preventing disease and reproductive losses by ensuring proper body condition will be more than worth the small amount of time it takes to learn the body scoring technique.

Table 1. Desired and reasonable body condition scores of dairy cattle at critical times.

Time of Scoring	Desired Score	Reasonable Range
<u>Cows</u>		
Calving	3.5	3.0 - 4.0
Peak Milk	2.0	1.5 - 2.0
Mid-Lactation	2.5	2.0 - 2.5
Dry Off	3.5	3.0 - 3.5
<u>Heifers</u>		
6 Months	2.5	2.0 - 3.0
Breeding	2.5	2.0 - 3.0
Calving	3.5	3.0 - 4.0

Table 2. Cause of Undesirable Body Condition Scores and Their Possible Causes.

<u>Time</u>	<u>Score</u>	<u>Possible Cause</u>	<u>Remedy</u>
<u>COWS</u>			
Calving	<i>High</i>	Dry cows gaining excessive weight	Reduce energy in dry cow ration
		Cows dry off in excessive condition	Reduce ration energy in last 1/3 of lactation
		Cows dry too long	Limit dry period to 60 days
	<i>Low</i>	Dry cows losing weight on dry cow ration	Increase energy and/or protein
		Cows dry off in poor condition	Increase energy in last 1/3 of lactation
Peak	<i>High</i>	Cows fail to achieve peak milk production	Increase crude protein in ration to 17%
	<i>Low</i>	Cows too thin at calving	Adjust body condition in last 1/3 of lactation
		Cows lose weight excessively	Increase/decrease grain to .76 MCal per lb. of ration dry matter; raise fiber to 20% ADF, 30% NDF
Mid	<i>High</i>	Cows fail to milk	Cull cows that fail to milk or that fatten excessively
		Cows on high energy diet for too long	Balance ration to meet energy needs in late lactation
	<i>Low</i>	Cows not recovering from loss of condition in early lactation	Maintain energy density of .76 MCal/lb.; avoid switching to rations with much lower energy densities
Dry off	<i>High</i>	Cows receive excess energy in late lactation	Balance energy to cows' productive needs
		Cows not rebred on time	Consider culling
	<i>Low</i>	Cows not gaining adequate condition in last 1/3 of lactation	Increase energy in ration last 1/3 of lactation
<u>HEIFERS</u>			
6 months	<i>High</i>	Too much energy in diet	Reduce amt. of grain fed to 5 lbs./day
	<i>Low</i>	Too little energy in diet	Increase amt. of grain in diet; consider a commercial calf starter
		Disease	Consult veterinarian
Breeding	<i>High</i>	Too much energy	Reduce amt. of grain fed; limit amount of corn silage
		Lack of adequate protein	Raise protein in diet to 13-15%
	<i>Low</i>	Lack of energy in the diet	Increase energy as grain and/or switch to higher quality forage
Calving	<i>High</i>	Too much energy in diet	Little danger to 1st calf heifer unless body score approaches 5
	<i>Low</i>	Lack energy in diet	Increase energy as grain and/or feed quality forage. Heifers should gain 1 condition score from breeding to calving.