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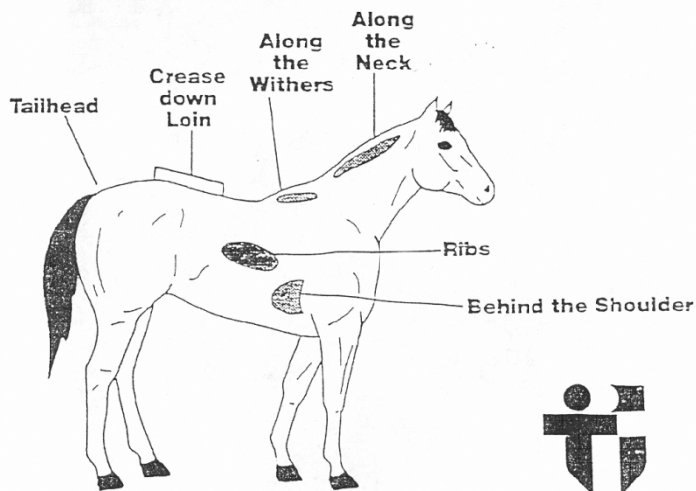
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Body Condition Scoring: A Management Tool for Evaluating All Horses

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Body condition is very important in managing horses, from broodmares to geldings to stallions. Body condition scoring is based on body fat indicators that help to estimate stored body energy. The body condition scoring system evaluates horses on the amount of fat deposited in specific areas of the body. Body fat is determined by visual appraisal and palpation of the six areas shown below.



Under normal circumstances, all six evaluation areas are given equal emphasis. This system evaluates body condition, not quality or conformation. However, because of unique conformation problems including prominent withers, flat loins, weak top lines, or injuries, one or more criteria may be eliminated from visual appraisal. In such instances, additional emphasis should be placed on palpation and visual evaluation of the remaining sites. For example, with a broodmare that is heavy in foal, the weight of the foal will pull the skin tighter over the top line and ribcage, so consequently these two areas

may be eliminated in the evaluation if they conflict with the remaining areas.

Texas A&M's Henneke nine-point scoring system ranges from 1 (poor) to 9 (extremely fat) (Table 1, last page). All conditions must be met for a horse to fit a particular score but half scores can be used if one or more of the sites do not meet the criteria for that score.

Increased Body Conditioning Aids Fertility and Profits

Several experiments at Texas A&M University studied the influence of body condition at foaling on rebreeding efficiency and foal growth using 927 mares. Mares were classified as thin (condition score 4.5 or less), moderate (condition score 5 to 6.5), or fat (condition score 7 and above) at foaling. The results are:

- Mares at foaling in thin condition had impaired reproductive performance during rebreeding, even when fed to meet energy requirements for lactation.
- Increasing the energy fed to thin mares during lactation improved rebreeding efficiency. However, the large amount of feed required to produce weight gains increased the risk of colic and founder and was very expensive.

- Mares foaling in fat condition used stored body energy for efficient reproduction and lactation (even when losing weight), exhibited no foaling problems, and achieved high rebreeding efficiency.
- Open mares, maiden mares, and foaling mares entering the breeding season in moderate or higher condition achieved or maintained higher reproductive efficiency than their counterparts in thin condition.
- Increasing body condition above the moderate levels before the breeding season did not impair rebreeding performance in mares, unless mares were losing weight during the breeding season.

Generally mares with moderate to high body condition scores cycled earlier, had higher pregnancy rates (Figure 1), had lower number of cycles per conception (Figure 2) and sustained more pregnancies than thin mares.

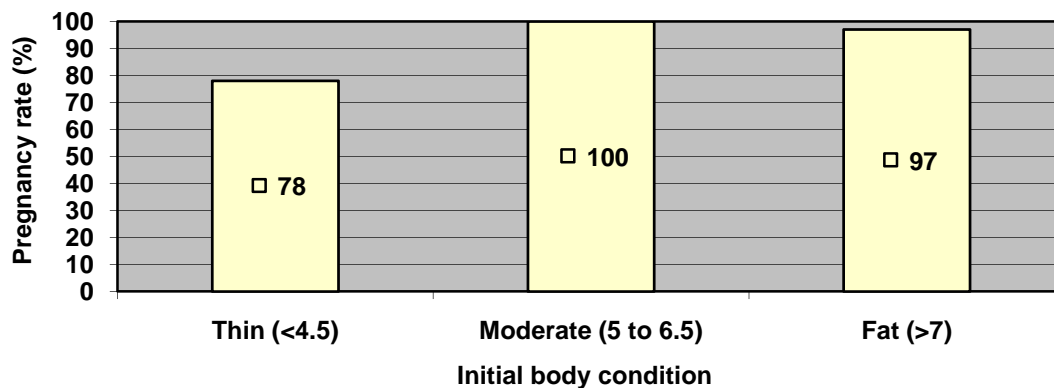


Figure 1. Pregnancy rate for mares entering the breeding season or foaling in thin, moderate, or fat condition.

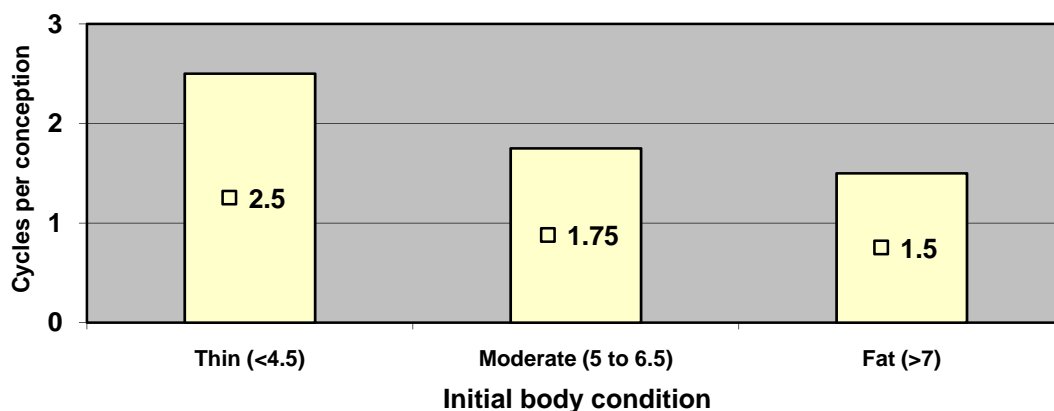


Figure 2. Average number of cycles per conception for mares entering the breeding season or foaling in thin, moderate, or fat condition.

Under ideal conditions, mares should enter the breeding season in a moderate condition (condition score of 5), be maintained in moderate fleshy to fleshy condition (condition score of 6 to 7) throughout early gestation, gain weight during late gestation, and foal in a fleshy to fat condition (condition score 7 to 8). Under no circumstances should a mare be allowed to become obese (condition score 8.5 to 9). Obese mares typically display physiological disorders that affect reproductive function as a result of hormonal imbalances and abnormal endocrine function.

Body Condition Aids Performance Horses

Performance horses also benefit from maintenance of proper body condition. Typically, a performance horse should maintain a body condition score of 5 to 6, depending on type of work performed. At this level the horse has just slight fat covering over its entire body. With excess weight, a body condition score of 6-7, during hard work the horse will have a more difficult time cooling off during and after a performance event. The excess weight will also cause stress on joints and make a horse work harder during the event. A performance horse that is too thin does not have stored energy reserves to call upon during extended work periods. A 1998 study (Susan Garlinghouse et al., 1999) evaluated body condition of endurance horses and the horses' ability to complete a competitive ride. Prior to the 100 mile endurance ride, the horses' condition scores ranged from 2.5 to 5.5. All horses in the 2.5-3.0 condition range were unable to complete the race, averaging less than 50 miles. Horses with a condition score of 4 or higher averaged an 87 percent or better completion rate. The only condition score that had a 100 percent completion rate was from horses that were evaluated with a 5.5 condition score prior to the race.



Body Condition Score 1



Body Condition Score 5



Body Condition Score 8 to 8.5

Feeding Hints to Help Adjust Body Condition

To safely adjust body condition scores either upward or downward, the regulation of energy intake is extremely important. Sudden, large changes in diet can create digestive upset, so smaller, more gradual changes are more appropriate. Research has shown that increasing or decreasing energy intake by 10 to 15 percent above or below the animal's requirement will result in weight gain or loss and an appropriate adjustment in the condition score. This can be accomplished by increasing or decreasing the grain (concentrate) portion of the diet by 20 percent to move either up or down one condition score within a 14 day period (Ott and Asquith, 1981). For the obese horse that is maintained on pasture only, the horse may need to be put on a dry lot part of the day to decrease its intake. An easy keeper on solely a hay diet and still carrying too much weight may benefit from more mature hay. This will provide the fill needed by the digestive tract while reducing caloric intake. Other than addressing intake, increasing the horse's exercise regiment can also help with shedding added pounds.

References

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Table 1 Henneke Body Condition Scoring System

Condition	Neck	Withers	Loin	Tailhead	Ribs	Shoulder
1 POOR	Bone structure noticeable	Bone structure easily noticeable	Spinous processes project prominently	Tail head, pinbones, and hook bones project prominently	Ribs project prominently	Bone structure easily noticeable
	Animal extremely emaciated; no fatty tissue can be felt					
2 VERY THIN	Faintly discernable animal emaciated	Faintly discernable	Slight fat covering over base of spinous processes; transverse processes of lumbar vertebrae feel rounded; spinous processes are prominent	Tail head prominent	Ribs prominent	Faintly discernable
3 THIN	Neck accentuated	Withers accentuated	Fat buildup halfway on spinous processes but easily discernable; transverse processes cannot be felt	Tail head prominent but individual vertebrae cannot be visually identified; hook bones appear rounded, but are still easily discernable; pin bones not distinguishable	Slight fat cover over ribs; ribs easily discernable	Shoulder accentuated
4 MODERATELY THIN	Neck not obviously thin	Withers not obviously thin	Negative crease along back	Prominence depends on conformation; fat can be felt; hook bones not discernable	Faint outline discernable	Shoulder not obviously thin
5 MODERATE	Neck blends smoothly into body	Withers rounded over spinous processes	Back level	Fat around tailhead beginning to feel spongy	Ribs cannot be visually distinguished, but can be easily felt	Shoulder blends smoothly into body
6 MODERATELY FLESHY	Fat beginning to be deposited	Fat beginning to be deposited	May have slight positive crease down back	Fat around tailhead feels soft	Fat over ribs feels spongy	Fat beginning to be deposited; point of shoulder not discernable
7 FLESHY	Fat deposited along neck	Fat deposited along withers	May have positive crease down back	Fat around tailhead is soft	Individual ribs can be felt, but noticeable filling between ribs with fat	Fat deposited behind shoulder
8 FAT	Noticeable thickening of neck	Area along wither filled with fat	Positive crease down back	Tailhead fat very soft	Difficult to feel ribs	Area behind shoulder filled in flush with body
	Fat deposited along inner buttocks					
9 EXTREMELY FAT	Bulging fat	Bulging fat	Obvious positive crease down back	Bulging fat around tailhead	Patchy fat appearing over ribs	Bulging fat
	Fat along inner buttocks may rub together, flank filled in flush					