

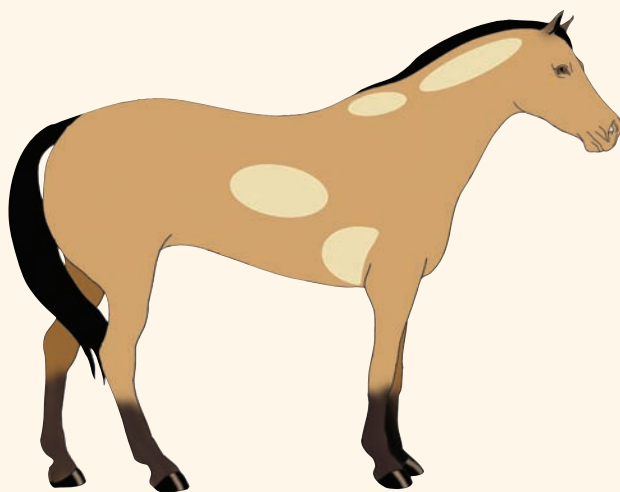
BCS: WHAT BODY CONDITION SCORES MEAN



ALL SIZES: With an understanding of the body condition score (BCS) system, you can—with only your eyes and hands—accurately assess the amount of body fat on a horse of any size, age, breed or type.

With this **9-point scale** developed by Don Henneke, PhD, there's no need to guess about a horse's weight losses and gains.

By Christine Barakat



The body condition score (BCS) system has been a standard tool in equine medicine and management for nearly two decades.

A nine-point scale based on visual and hands-on appraisals, the BCS system was developed by Don Henneke, PhD, in 1983 as part of his doctoral research. "There had been quite a bit of speculation about the effects of fat on a mare's ability to conceive, and we wanted to see if there actually were any," he explains. This involved determining the amount of fat each mare was carrying. "There was, and still is, a complex formula for calculating body fat, but we wanted a simpler, repeatable and consistent method that could be done on the ranch."

Henneke's search for an alternative led him to carefully chart how and where horses store fat. "They have what is referred to as 'rind' fat, which is deposited directly under the skin where it can be easily seen and/or felt," he says. "Cattle have more kidney, heart and pelvic fat, which is much deeper and can't be seen or felt."

As a horse gains weight, Henneke observed, this fat is laid down in predictable patterns: "Fat is primarily insulation and horses will protect their organs first, putting down a layer over the heart, then back over ribs. Once he's got all the major organs

protected, he'll start storing fat over his rump and back, forward up to his withers. The last thing to get fat is the neck and head." As a result, the specific location of stored fat is an important clue to how much excess fat there is on the entire horse.

The system Henneke devised based on these principles has proven to be

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accurate in estimating how much fat a horse has accumulated (see "On the Money," page 38). The BCS is so accurate, in fact, that researchers often use it to describe the physical attributes of study horses, and humane organizations rely on it to describe cases of neglect in legal proceedings.

Now an associate professor at Tarleton State University in Stephenville, Texas, Henneke says it's gratifying to see the BCS in widespread use. "It's obvious from the way this has spread that the industry needed some type of standardized tool," he says. "I'm glad we were able to fill that need."

DUSTY PERIN (LEFT); MANE PHOTO

Beyond the numbers

A body score is useful, but Henneke stresses that it is just one clue to overall health status. "You cannot make an immediate judgment on a horse's well-being or care based on BCS alone," he says. Older horses, for instance, generally tend to have lower scores, even with the best of care, as do horses of certain breeds or occupations.

"You have to consider the whole horse and his circumstances. The BCS is only a guideline, and I get frustrated when I see it being relied on as more than that," he adds.

Henneke also stresses the importance of feel in determining a horse's BCS: "You might be able to get within a point or two by looks alone, but you've got to put your hands on a horse if you want a specific score." This is particularly true when the horse in question has a score above 5 [see page 41] and "all the visual landmarks disappear under fat."

Finally, says Henneke, it's important to understand that there is no "right" score. "Each horse has his own ideal condition for his breed and occupation. For one horse, that might include a body condition score of 4; for another 7 is the right score. You must consider all the variables and not get fixated on a number. This system is not going to replace common sense."



Alysheba

TONY LEONARD

Pound for pound

You might think that all equine athletes would have fairly consistent body condition scores. Not so, says Don Henneke, PhD. For instance, he says, even among Thoroughbred racehorses there are variations in the amount of weight individuals carry when in peak condition. A prime example was 1987 Kentucky Derby winner Alysheba (shown above after retirement). "For whatever reason, Alysheba needed to be a bit heavier than most other Thoroughbreds to do his best," Henneke says. "When his trainer finally figured that out, he started winning."

On the money

A 2004 Louisiana State University study confirmed what researchers and veterinarians in the field have long believed: An evaluation of equine body fat with the BCS system is as effective as one using sophisticated imaging technology. A comparison of the BCS of 24 mares with an ultrasound analysis of their actual body fat showed a direct correlation between the two. The researchers concluded that "by using your eyes and hands you can get a remarkably accurate assessment of a horse's body condition."

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Each horse has his own ideal condition for his breed and occupation.

A visual guide to Body Condition Scoring

WHERE THE FAT IS AT: The BCS system works because horses develop body fat in a predictable pattern starting behind the shoulder, moving back over the ribs, up over the rump and finally along the back forward to the neck and head.

On the pages that follow we provide an illustrated guide to the **body condition score (BCS)** system. With each score, we provide a list of notable physical attributes taken from the original BCS research (see “Technically Speaking,” below, for definitions), along with a comment from Henneke. Unless otherwise indicated, the horses shown were examined firsthand and scored by Henneke. Ratings based on photos alone have a margin of error of one point due to the lack of a hands-on evaluation.



MANE PHOTO

The wrong background?

Assigning a BCS based on a photograph alone is always difficult because it doesn't allow a hands-on evaluation. But there's another, less obvious factor that can interfere with accurate analysis, says Don Henneke, PhD, who created the BCS system. “People will see a picture of a horse in a parched field with barbed wire fences and score it as a thin, underfed 3. If you put that very same horse in a tidy racetrack setting, however, he suddenly becomes a fit, moderately thin 4.”

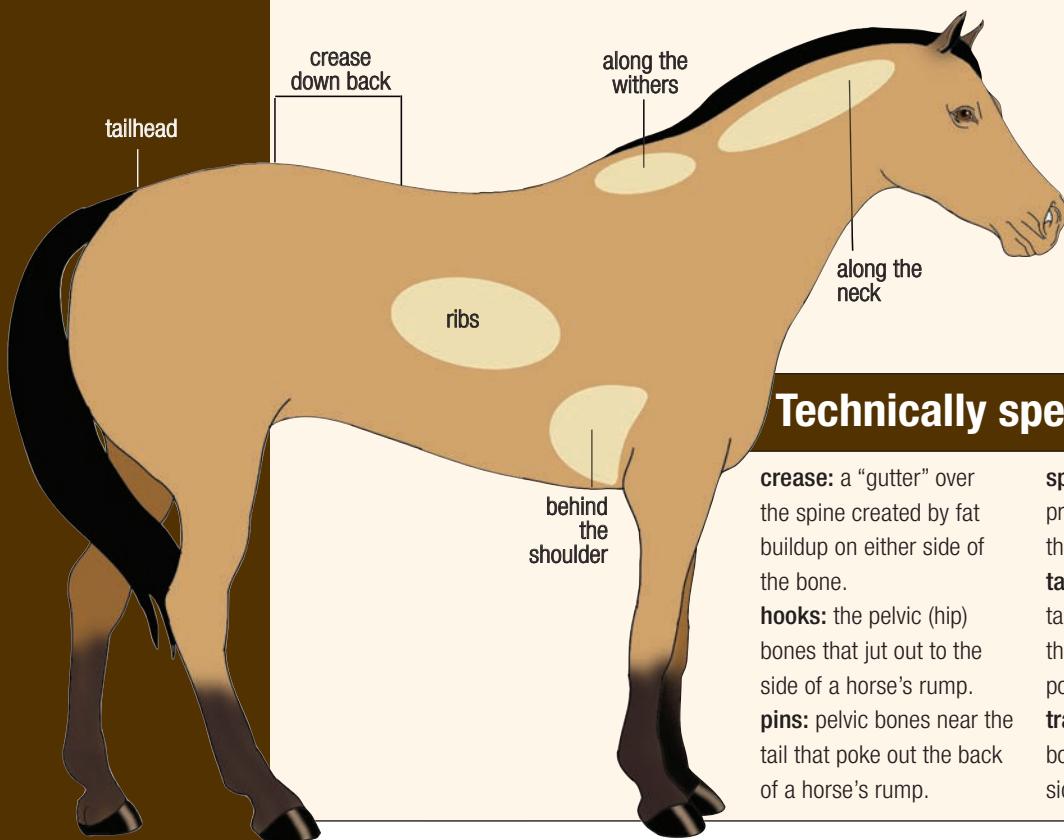


ILLUSTRATION BY CELIA STRAIN

Technically speaking

crease: a “gutter” over the spine created by fat buildup on either side of the bone.

hooks: the pelvic (hip) bones that jut out to the side of a horse's rump.

pins: pelvic bones near the tail that poke out the back of a horse's rump.

spinous processes: bony protrusions at the top of the vertebrae of the torso.

tailhead: the root of the tail where it blends in with the body; highest movable point on the tail.

transverse processes: bony protrusions on each side of the vertebrae.

Score: 1 (Poor)

- Extreme emaciation.
- Spinous processes, ribs, tailhead, and hooks and pins are prominent.
- Bone structure of withers, shoulder and neck is easily noticeable.
- No fatty tissue can be felt.



SPECIAL CASES: “You can certainly starve a horse down to a 1, but that’s not the only way it happens,” Henneke says. “Horses recovering from serious illnesses can also wind up in this condition. This particular horse came to the university clinic with equine infectious anemia.”

Score: 2 (Very thin)

- Emaciated.
- Thin layer of fat over base of spinous processes.
- Transverse processes of lumbar vertebrae feel rounded.
- Spinous processes, ribs, tailhead, and hooks and pins are prominent.
- Withers, shoulders and neck structures are faintly discernable.



DEMOGRAPHICS: “You need to be careful in passing judgment on horses in this range,” cautions Henneke. “I have a good friend—an excellent horseman—who had two extremely old but well-cared for animals that were thin despite his every effort. He was actually taken to court because someone decided they were a 2 and, therefore, must be neglected.”

Score: 3 (Thin)

- Fat about halfway up spinous processes; transverse processes cannot be felt.
- Thin fat layer over ribs.
- Spinous processes and ribs are easily discernable.
- Tailhead prominent, but individual vertebrae cannot be visually identified.
- Hook bones appear rounded but not easily discernable.
- Pin bones not distinguishable.
- Withers, shoulders and neck are accentuated.



OLD-TIMER: This healthy 23-year-old horse was assigned a BCS of 3 based on photos.

LOW FUEL: “Body fat is a source of energy,” Henneke explains. “As you go to the lower end of the scale, a horse won’t have enough energy to sustain any sort of athletic effort. You may also begin to see an adverse effect on reproductive function.”

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Score: 4 (Moderately thin)

- Ridge along back.
- Faint outline of ribs discernable.
- Tailhead prominence depends on conformation; fat can be felt around it.
- Hook bones not discernable.
- Withers, shoulders and neck are not obviously thin.



Score: 5 (Moderate)

- Back level.
- Ribs cannot be visually distinguished but can be easily felt.
- Fat around tailhead beginning to feel spongy.
- Withers appear rounded over spinous processes.
- Shoulders and neck blend smoothly into body.



Score: 6 (Moderate to fleshy)

- May have slight crease down back.
- Fat over ribs feels soft and spongy.
- Fat around tailhead feels soft.
- Fat beginning to be deposited along sides of the withers, behind the shoulders and along the sides of the neck.



LOWER FERTILITY: “Studies show that mares with a body condition score of less than 4.5 had significantly lower pregnancy rates and required more estrous cycles to achieve conception than mares with higher body condition scores,” Henneke says.



EATING FOR TWO: The pendulous belly on this pregnant mare does not influence her BCS. From photos she was scored as a 6.

FAULTY MATH: “Moderate doesn’t mean ‘average’ or ‘perfect,’” says Henneke. “You’ll get yourself into a lot of trouble if you think every horse should be one particular number.”

KEEP IT SIMPLE: “People have tried to make the body condition score too specific. I’ve even seen it expressed to one-tenth of a point,” Henneke says. “That’s unnecessary and misleading. As long as you are consistent—your 7s are always fatter than your 6s—the precise number isn’t as important.”

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Score: 7 (Fleshy)

- May have crease down back.
- Individual ribs can be felt, with noticeable filling between ribs with fat.
- Fat around tailhead is soft.
- Fat deposited along withers, behind shoulders and along neck.



HEALTH FACTORS: “The body condition score only works for horses who are fat from nutrition,” Henneke warns. “Fat that results from endocrine problems, like on a horse with Cushing’s^o disease, may be laid down in an unusual pattern that can be misleading. A cresty neck on such a horse might make him look like a 9, when in reality, he’s only a 7.”

Score: 8 (Fat)

- Crease down back.
- Difficult to feel ribs.
- Fat around tailhead very soft.
- Area along withers filled with fat.
- Area behind shoulder filled in flush.
- Noticeable thickening of neck.
- Fat deposited along inner buttocks.



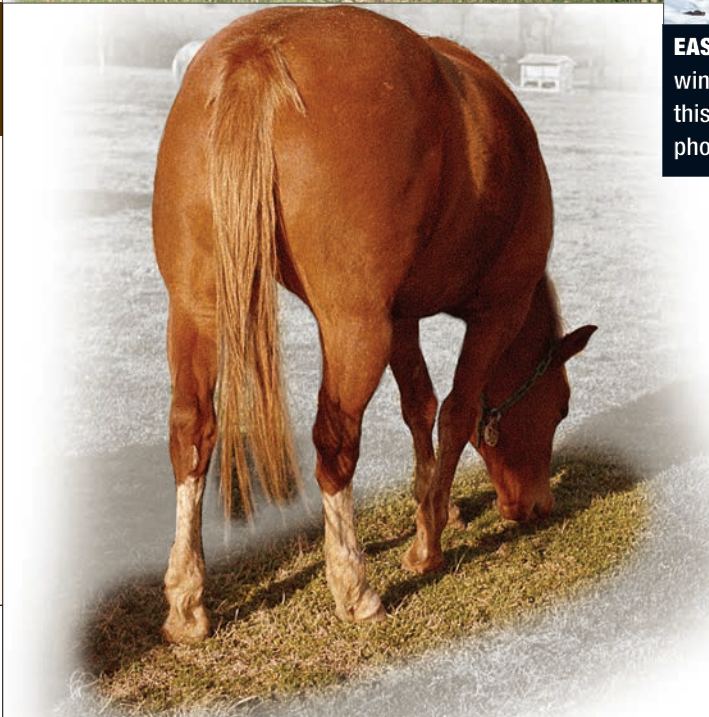
NATURE’S WAY: “If you keep a horse with regular turnout and interaction with other horses, it’s very difficult to get him beyond an 8,” Henneke says. “He’ll walk and play off enough energy to stay below that given the chance.”



EASY KEEPER: Even in the dead of winter with no available grazing, this horse was still scored (from photographs) as a hefty 8.

Score: 9 (Extremely fat)

- Obvious crease down back.
- Patchy fat appearing over ribs.
- Bulging fat around tailhead, along withers, behind shoulders and along neck.
- Fat along inner buttocks may rub together.
- Flank filled in flush.



IT’S ALL RELATIVE: “Whenever I go to a ranch someone says ‘Oh, we’ve got a 9.’ In every case so far, that horse isn’t a 9, it’s just the fattest horse on the property, so they assume it is a 9,” comments Henneke. “This mare (left) is a true 9. She was used in our original reproduction study (the photograph is dated 1979) and I’ve only seen maybe another two since then.” 🐾

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