Equine Body Condition Scoring

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The Body Condition Score (BCS) system was developed by Dr. Henneke et al. (1983) as a tool to estimate the nutritional status of horses. It is used universally across breeds and does not require the use of special equipment. Each evaluated individual is assigned a number from 1 to 9 based on the amount of fat cover they carry in key areas. An overall BCS of 4-6 is considered ideal; horses that score under 4 are underweight while horses scoring over 6 would be considered overweight.

Importance of Body Condition Score

BCS can be used as an aid to determine if the horse’s nutritional needs are being adequately met. BCS is a valuable tool for Law Enforcement, Animal Control, and Veterinarians who are asked to assess a situation where the animal’s health and well-being are in question. It can also be useful for the average horse owner as they make feeding and work plans for their herd. It is important to note that BCS is not the final determinant of a horse’s overall health status. Age, reproductive status, use, and the presence of disease and/or parasites also play a role in determining the overall health of a horse.

Other Important Factors

Body Condition Score is a great tool in evaluating animal health however it should not be used as the only tool. Knowing the horse’s actual weight is critical when administering medications. Ideally, weight is determined by scales but if there is not a livestock scale available a weight tape can be used to provide an estimate.

How to evaluate BCS of the Horse

There are 6 points on the horse that are useful in assessing fat cover. These 6 points are:

- The Neck
- The Withers
- Loin
- Tail Head
- Ribs
- Fore Flank/Behind Shoulder
## Body Condition Scoring System

<table>
<thead>
<tr>
<th>Condition</th>
<th>Neck</th>
<th>Withers</th>
<th>Loin</th>
<th>Tailhead</th>
<th>Ribs</th>
<th>Shoulder</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1 Poor</strong></td>
<td>Bone structure easily noticeable, animal extremely emaciated, no fatty tissue can be felt</td>
<td>Bone structure easily noticeable</td>
<td>Spinos processes project prominently</td>
<td>Tailhead (pinbone) and hook bones project prominently</td>
<td>No fat cover over ribs</td>
<td>Bone structure easily noticeable</td>
</tr>
<tr>
<td><strong>2 Very Thin</strong></td>
<td>Faintly discernable, animal emaciated</td>
<td>Faintly discernable</td>
<td>Slight fat covering over base of spinous processes. Transverse processes of lumbar vertebrae feel rounded. Spinous processes are prominent.</td>
<td>Tailhead prominent</td>
<td>Slight fat cover over ribs. Ribs easily discernable.</td>
<td>Shoulder accentuated</td>
</tr>
<tr>
<td><strong>3 Thin</strong></td>
<td>Neck accentuated</td>
<td>Withers accentuated</td>
<td>Fat buildup halfway on spinous processes but easily discernable. Transverse processes cannot be felt.</td>
<td>Tailhead prominent but individual vertebrae cannot be visually identified. Hook bones appear rounded but are still easily discernable. Pin bones not distinguishable.</td>
<td>Slight fat cover over ribs. Ribs easily discernable.</td>
<td>Shoulder accentuated</td>
</tr>
<tr>
<td><strong>4 Moderately Thin</strong></td>
<td>Neck not obviously thin</td>
<td>Withers not obviously thin</td>
<td>Negative crease along back</td>
<td>Prominence depends on conformation; fat can be felt. Hook bones not discernable.</td>
<td>Faint outline discernable</td>
<td>Shoulder not obviously thin</td>
</tr>
<tr>
<td><strong>5 Moderate</strong></td>
<td>Neck blends smoothly into body</td>
<td>Withers rounded over spinous processes</td>
<td>Back level</td>
<td>Fat around tailhead beginning to feel spongy</td>
<td>Ribs cannot be visually distinguished but can be easily felt</td>
<td>Shoulder blends smoothly into body</td>
</tr>
<tr>
<td><strong>6 Moderately Fleshy</strong></td>
<td>Fat beginning to be deposited</td>
<td>Fat beginning to be deposited</td>
<td>May have slight positive crease down back</td>
<td>Fat around tailhead feels soft</td>
<td>Fat over ribs feels spongy</td>
<td>Fat beginning to be deposited</td>
</tr>
<tr>
<td><strong>7 Fleshy</strong></td>
<td>Fat deposited along neck</td>
<td>Fat deposited along withers</td>
<td>May have positive crease down back</td>
<td>Fat around tailhead is soft</td>
<td>Individual ribs can be felt, but noticeable filling between ribs with fat</td>
<td>Fat deposited behind shoulder</td>
</tr>
<tr>
<td><strong>8 Fat</strong></td>
<td>Noticeable thickening of neck</td>
<td>Area along withers filled with fat</td>
<td>Positive crease down back</td>
<td>Tailhead fat very soft. Fat deposited along inner buttocks</td>
<td>Difficult to feel ribs</td>
<td>Area behind shoulder filled in flush with body</td>
</tr>
<tr>
<td><strong>9 Extremely Fat</strong></td>
<td>Bulging fat.</td>
<td>Bulging fat</td>
<td>Obvious positive crease down back</td>
<td>Building fat around tailhead. Fat along inner buttocks may rub together. Flank filled in flush</td>
<td>Patchy fat appearing over ribs</td>
<td>Bulging fat</td>
</tr>
</tbody>
</table>

Body Condition Scoring

- What is body condition?
- Why do we care about body condition?

Energy Expenditures

- We know horses get energy from feed...so where does that energy go?

Energy Requirements

- Maintenance Requirement
  - Breathe
  - Metabolize
  - Regulate Temperature
  - Normal Daily Activity
  - Reproduction
  - Growth/Development
- Additional Energy Requirements
  = Total Daily Requirement

The Skinny on Fat

- Fat is an energy bank
- Deposit nutrition
- Withdrawal energy
  - When Nutrition = Requirement
    - Flat balance
  - When Nutrition > Requirement
    - Profit
  - When Nutrition < Requirement
    - Debt
The Skinny on Fat
- The amount of fat on a horse tells us about the state of his energy balance

- How can we compare one horse to another given differences in height, muscle and breed type?

Henneke Score
- Developed by Dr. Henneke in 1983
  - Repeatable, Consistent
  - Allows easy comparison between animals
- Previously a complex mathematical formula had been used, not helpful on the farm

Henneke Body Condition Score
- Fat laid down in predictable patterns
  - Organs
  - Loin
  - Ribs
  - Tailhead
  - Withers
  - Neck
  - Shoulder

Henneke Body Condition Score
- Scale of 1-9
  - Allows for improved nutritional management
  - Useful when conditioning athletes
  - Abuse cases
  - Reproduction
Loin
- One of the first places external fat is laid down
- An extremely thin horse will have a ridge down the back
- As a horse gains weight this ridge will flatten out then become a crease

Ribs
- An extremely thin horse will have prominent ribs, easily seen and felt
- Ideally ribs are not visible but easily felt

Tailhead
- Prominent in thin horses
- Will begin to bulge as horse moves from fit to obese

Withers
- Do not be fooled by naturally prominent withers
Neck

- Fat deposited along top

Shoulder

- Fat deposited behind the shoulder

Evaluating BCS

- Look and Touch
  - Don’t get fooled by coat thickness, conformational differences, height etc.

Score 1 – Poor

- Extreme emaciation
- No fatty tissue can be felt
- Ribs projecting prominently
- Bone structure easily noticeable
Score 2 - Very Thin

- Emaciated
- Ribs prominent
- Vertebrae prominent
- Bone structure noticeable

Score 3 - Thin

- Thin layer of fat over ribs
- Ribs still easily discernible
- Tailhead prominent

Score 4 - Moderately Thin

- Faint outline of ribs discernable
- Ridge along back (negative crease)
- Fat can be felt around tailhead
- Withers, shoulders, neck not obviously thin

Score 5 - Moderate

- Back is level
- Ribs cannot be visually distinguished, but can be easily felt
- Fat around tailhead beginning to feel spongy
- Withers appear rounded
- Shoulders & 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 withers, behind shoulders and along sides of neck

Score 7 - Fleshy
- Crease down back
- Ribs can be felt with noticeable filling of fat between ribs
- Fat around tailhead is soft
- Fat deposited along withers, behind shoulders and along neck

Score 8 - Fat
- Crease down back
- Difficult to feel ribs
- Fat around tailhead is soft
- Fat around withers and behind shoulder
- Noticeable thickening of neck
- Fat deposited along inner buttocks

Score 9 – Extremely Fat
- Obvious crease down back
- Patchy fat appearing over ribs
- Bulging fat around tailhead, around withers, behind shoulders, and along neck
- Fat along inner buttocks
- Flank filled and flush
What is Ideal?

- "Each horse has his own ideal condition for his breed and occupation" – Dr. Henneke
- Broodmare: 5-7
- Breeding Stallion: 5-6
- Performance Horse: 4-6

The Danger Zone

- Which horse is more at risk?

What Impacts BCS?

- Too thin
  - Abuse or neglect
  - Poor quality feed
  - Not enough feed
  - Consumption of toxic plants
  - Tooth and jaw problems
  - Advanced age
  - Excessive energy expenditure
  - Parasites
  - Gastric ulcers

If Your Horse is Too Thin

- Rule out other health problems
- Evaluate your feeding program with the help of your livestock agent and/or vet

<table>
<thead>
<tr>
<th>Improving 1 Condition Score</th>
<th>Days Needed</th>
<th>Daily Gain</th>
<th>Additional Grain Needed</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>60</td>
<td>0.75 lbs/day</td>
<td>4.5 lbs/day</td>
</tr>
<tr>
<td></td>
<td>90</td>
<td>0.50 lbs/day</td>
<td>3.0 lbs/day</td>
</tr>
<tr>
<td></td>
<td>120</td>
<td>0.40 lbs/day</td>
<td>2.3 lbs/day</td>
</tr>
</tbody>
</table>
What Impacts BCS?

- Too fat
  - Too much concentrate
  - Not enough exercise
  - Mismanagement
  - Metabolic disorders

If Your Horse is Too Fat

- Screen for metabolic disorders
- Consider minimizing or eliminating concentrates from diet
- Switch to a lower energy hay
- Increase exercise/turnout