

# Beef Cattle Nutrition

# Nutrient Requirements: 1100 lb cow with average milk production

<b>Nutrient</b>	<b>Period 1</b>	<b>Period 2</b>
<b>TDN</b>	<b>14.5 lb/d</b>	<b>11.5 lb/d</b>
<b>NE m</b>	<b>14.9 mca/d</b>	<b>12.2 mca/d</b>
<b>CP</b>	<b>2.3 lb/d</b>	<b>1.9</b>
<b>Ca</b>	<b>33 gm/d</b>	<b>27</b>
<b>P</b>	<b>25 gm/d</b>	<b>22</b>
<b>Vit A</b>	<b>39,000 IU/d</b>	<b>36000</b>

# Nutrient Requirements Con't:

## 1100 lb cow with average milk production

<b>Nutrient</b>	<b>Period 3</b>	<b>Period 4</b>
<b>TDN</b>	<b>9.5 lb/d</b>	<b>11.2 lb/d</b>
<b>NE m</b>	<b>9.2 mca/d</b>	<b>10.3 mca/d</b>
<b>CP</b>	<b>1.4</b>	<b>1.6</b>
<b>Ca</b>	<b>17</b>	<b>25</b>
<b>P</b>	<b>17</b>	<b>20</b>
<b>Vit A</b>	<b>25000</b>	<b>27000</b>

# Determining Nutritional Requirements of Cow

- Start with NRC tables
- **Adjust for the following:**
  - Stage of production
  - Age of cow
  - Cow size
  - Body condition

# Stage of production

- Lactating/dry
- **ROT: For every 5 pound increase of milk production**
  - Need to increase E requirements 10%
  - And CP requirements by 13-15%

# Age of cow

- Younger cows require more because growing, maintaining a fetus and milking at same time

# Cow size and breed

- Exotic breeds have higher WW (weaning weights) and more milk production
- **ROT: For every 100 lb increase of mature weight, need to increase Energy 10%**

# Environmental conditions

- At least 1% more energy must be supplied to each cow for each 1 °F below critical temperature
- Cow's energy requirements in wet and muddy 40 °F temperature conditions are practically the same as they are in windy 0 °F conditions

# Environmental conditions

- Maintenance requirements for thin cows are much higher than for fleshy cows in cold temperatures

# Body condition Score (BCS)

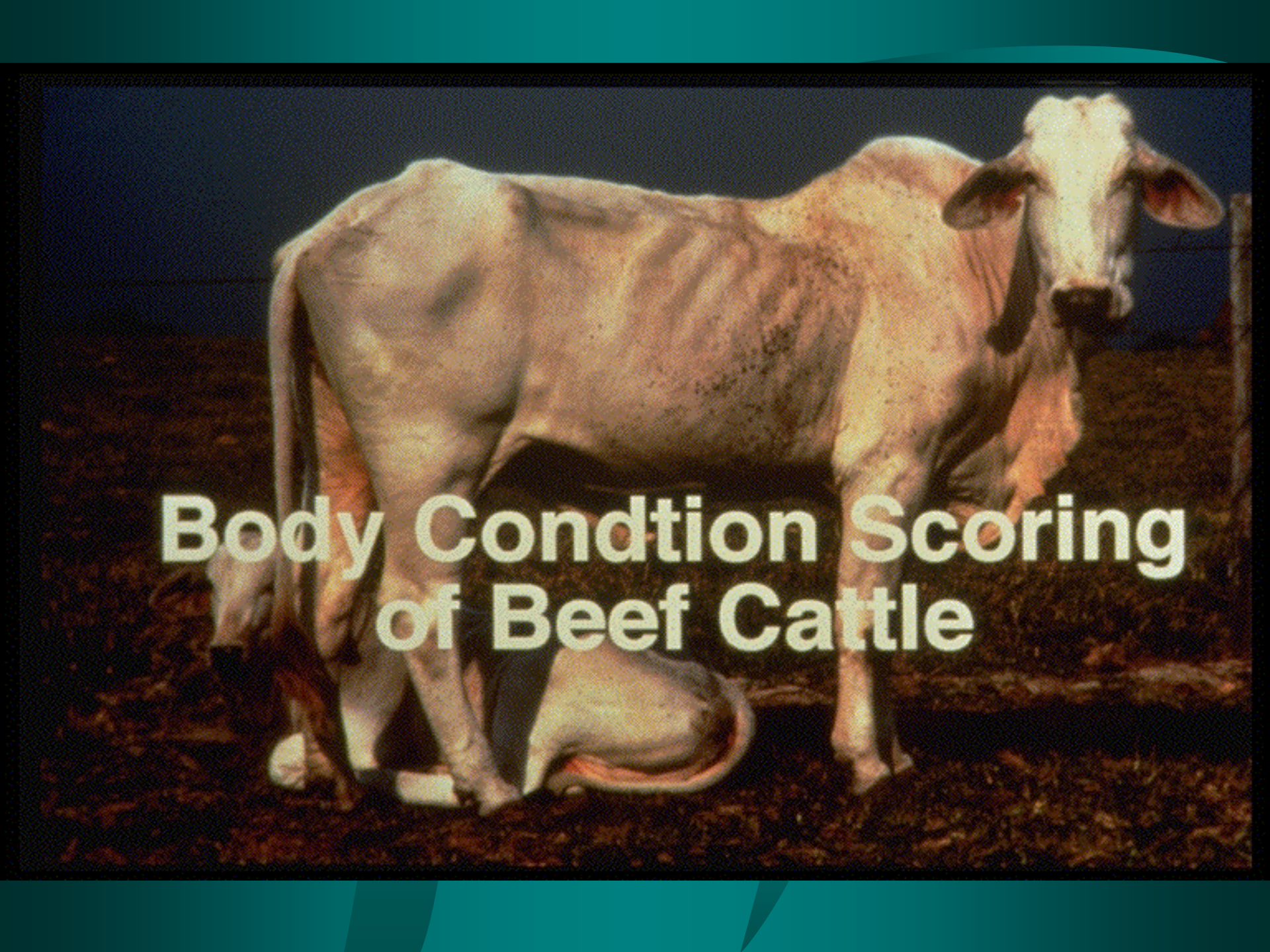
- A practical method for assessing the effectiveness of existing feeding programs
- Want replacement heifers to be 65% of mature weight at breeding

# BCS

- Scale is 1 to 9 (emaciated to obese)
- Determined by observation and touch and should be recorded twice per year
  - Calving
  - Pregnancy checking in the fall

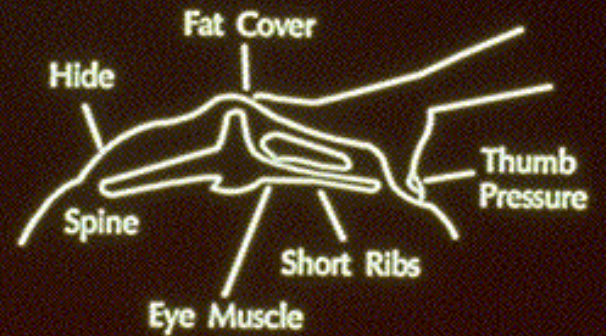
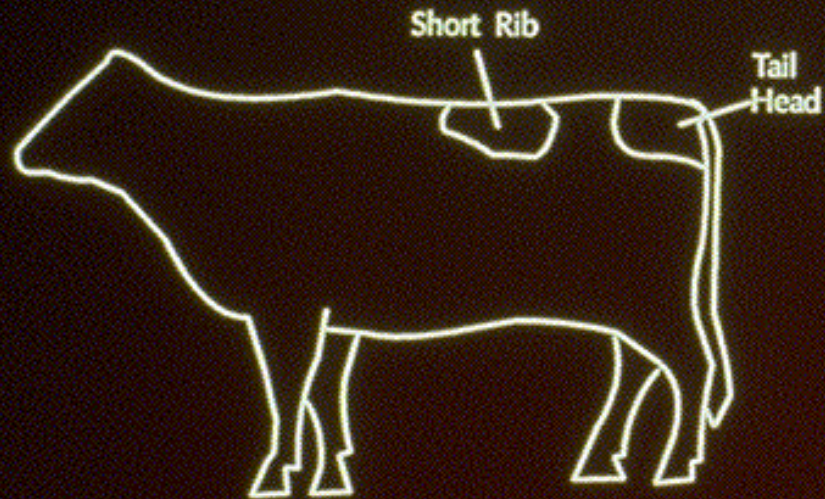
# Ideal BCS:

- 1<sup>st</sup> calf heifers 5.5 - 6 at calving
- Mature cows 5- 6 at calving



**Body Condition Scoring  
of Beef Cattle**

1.....	emaciated
2.....	very thin
3.....	thin
4.....	borderline
5.....	moderate
6.....	good
7.....	fleshy
8.....	fat
9.....	extremely fat



**HIGHER  
SCORE**



**FATTER  
COW**

**Tail Head**

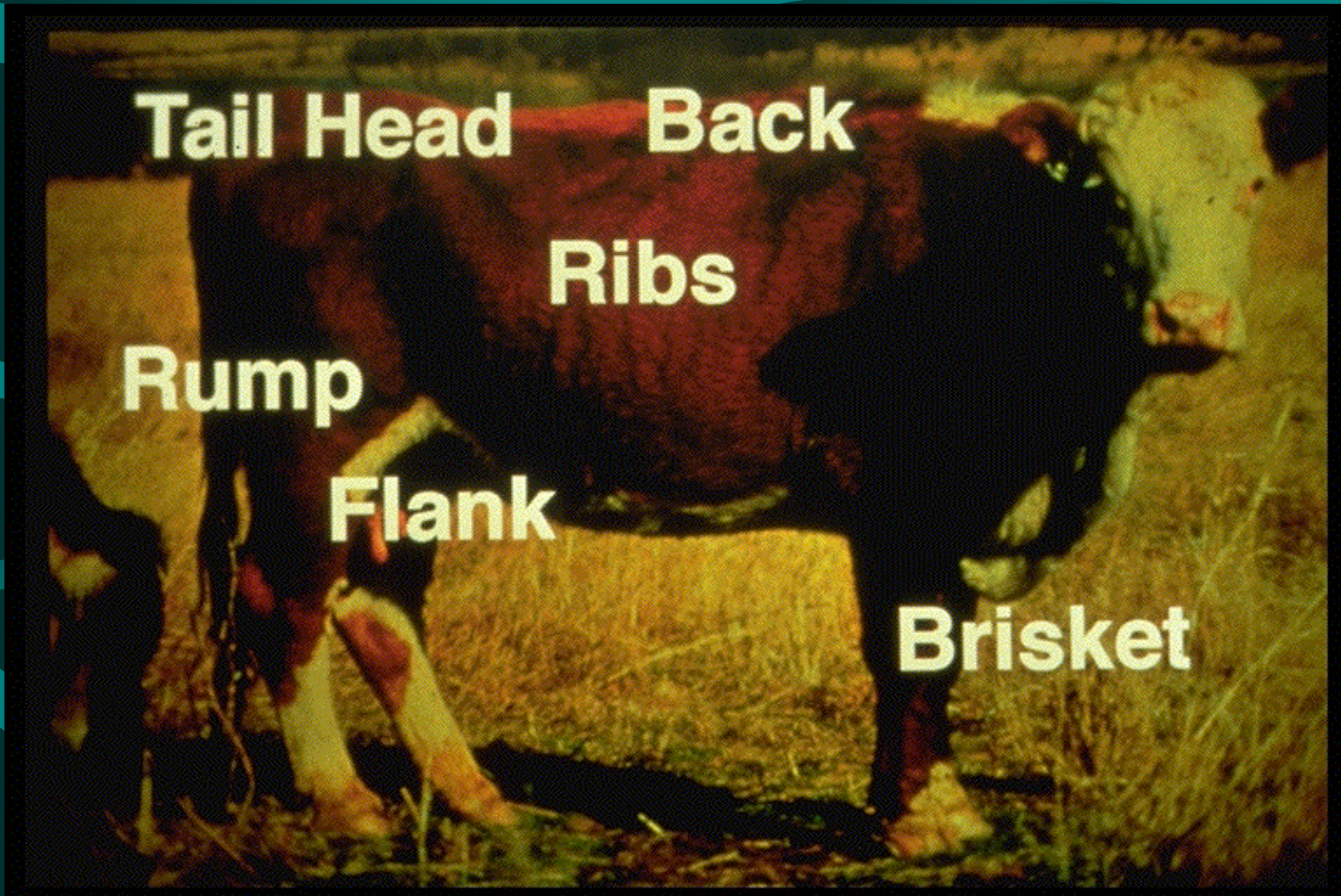
**Back**

**Ribs**

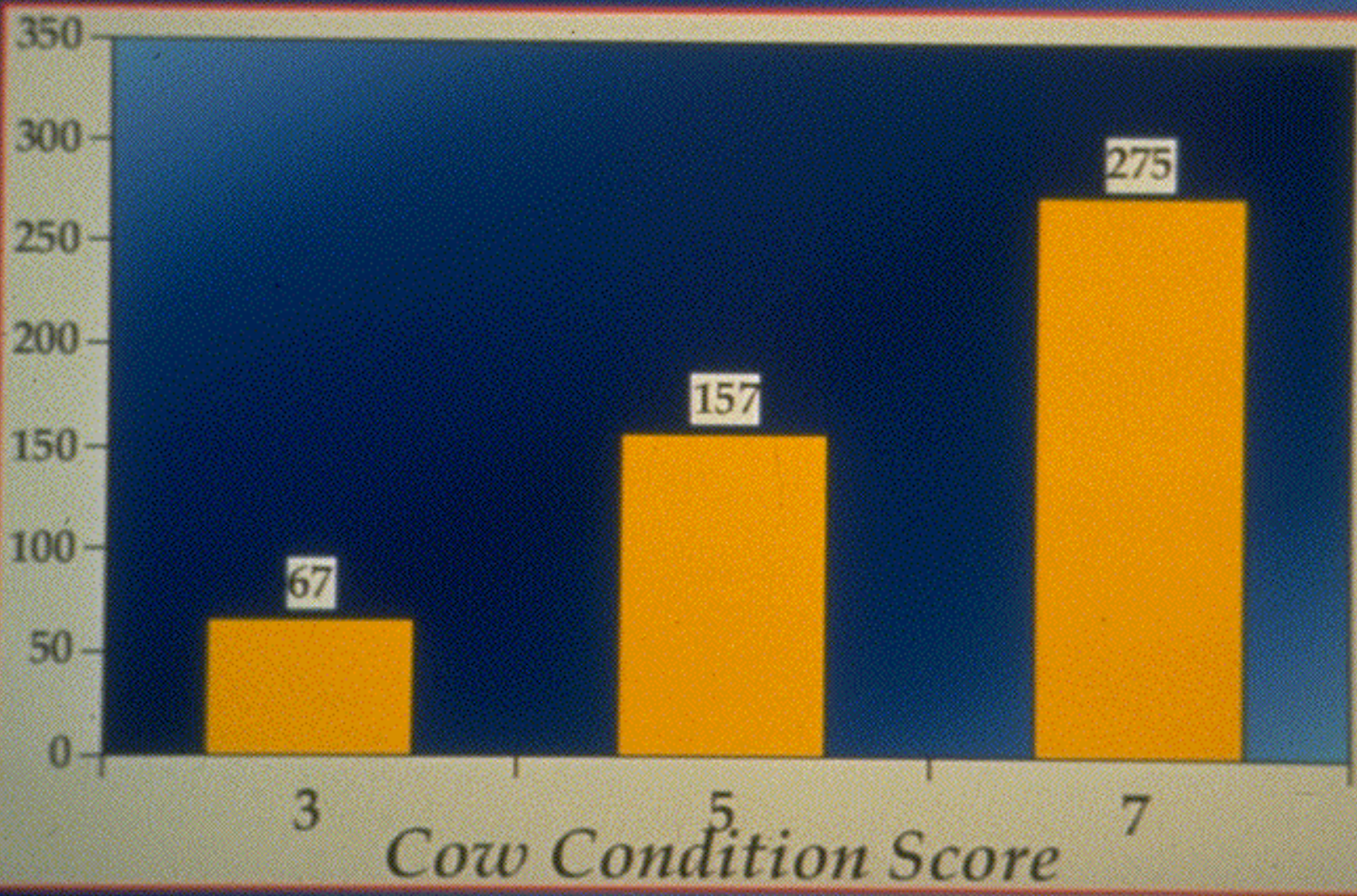
**Rump**

**Flank**

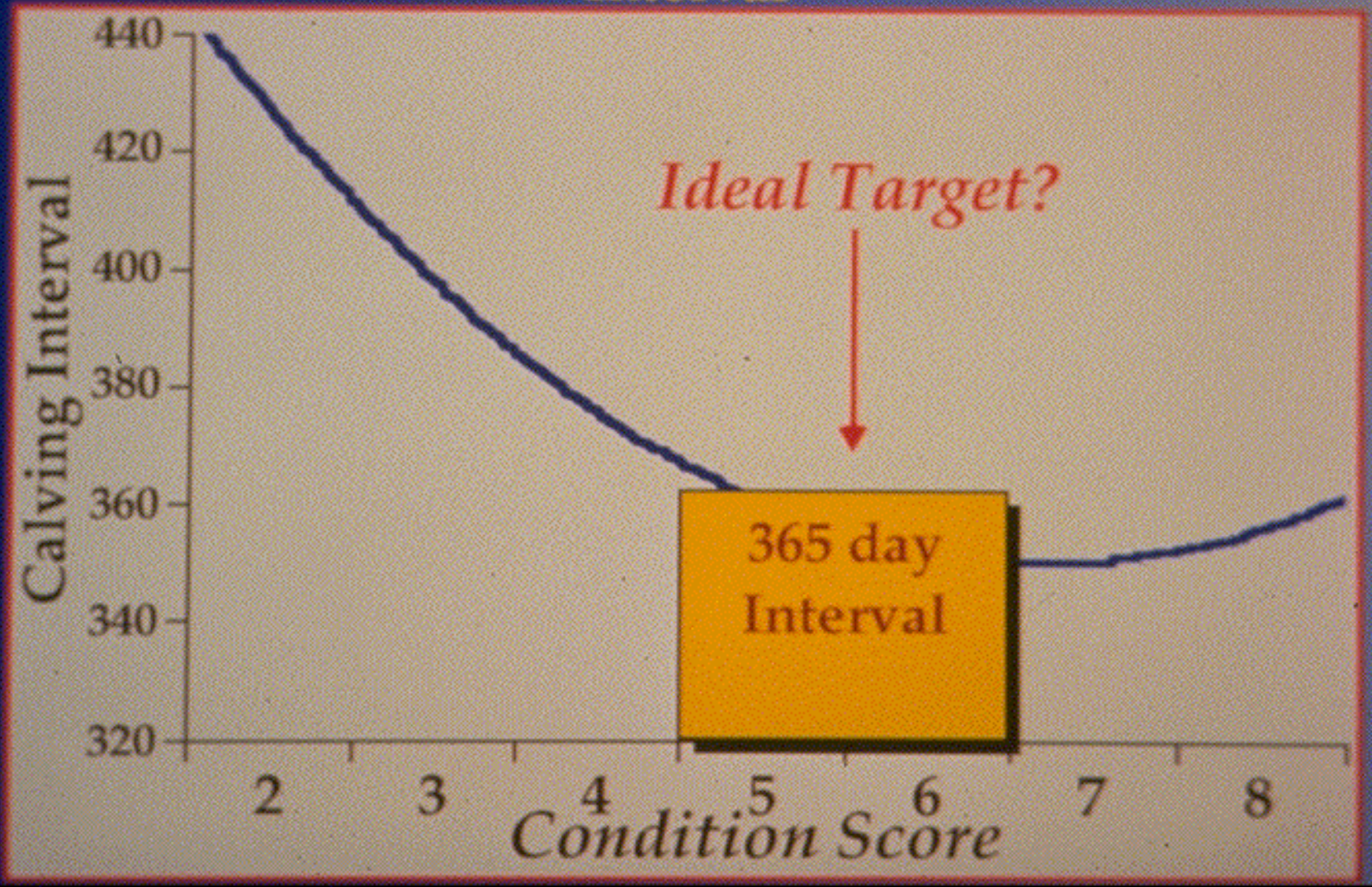
**Brisket**



# Effect of Condition Score on Body Fat, lbs



# Relationship between Condition Score and Calving Interval



# Body Condition Scoring

1= Emaciated

2= Poor

3= Thin



*Thin*

4= Borderline

5= Moderate

6= Good

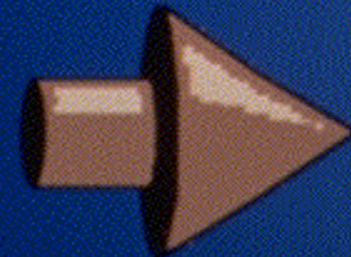
7= Very Good



*Ideal*

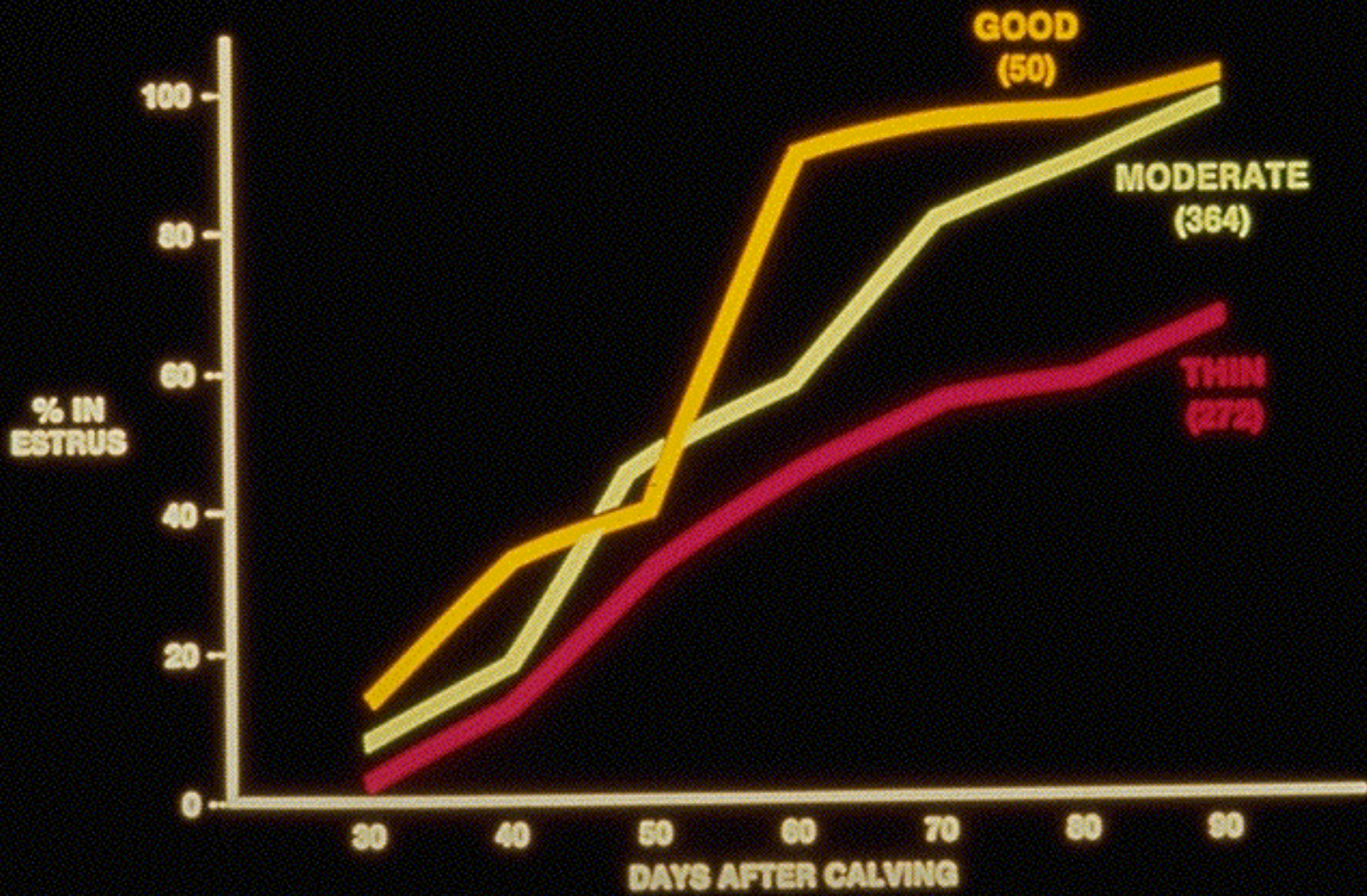
8= Fat

9= Obese



*Fat*

# COW CONDITION AT CALVING



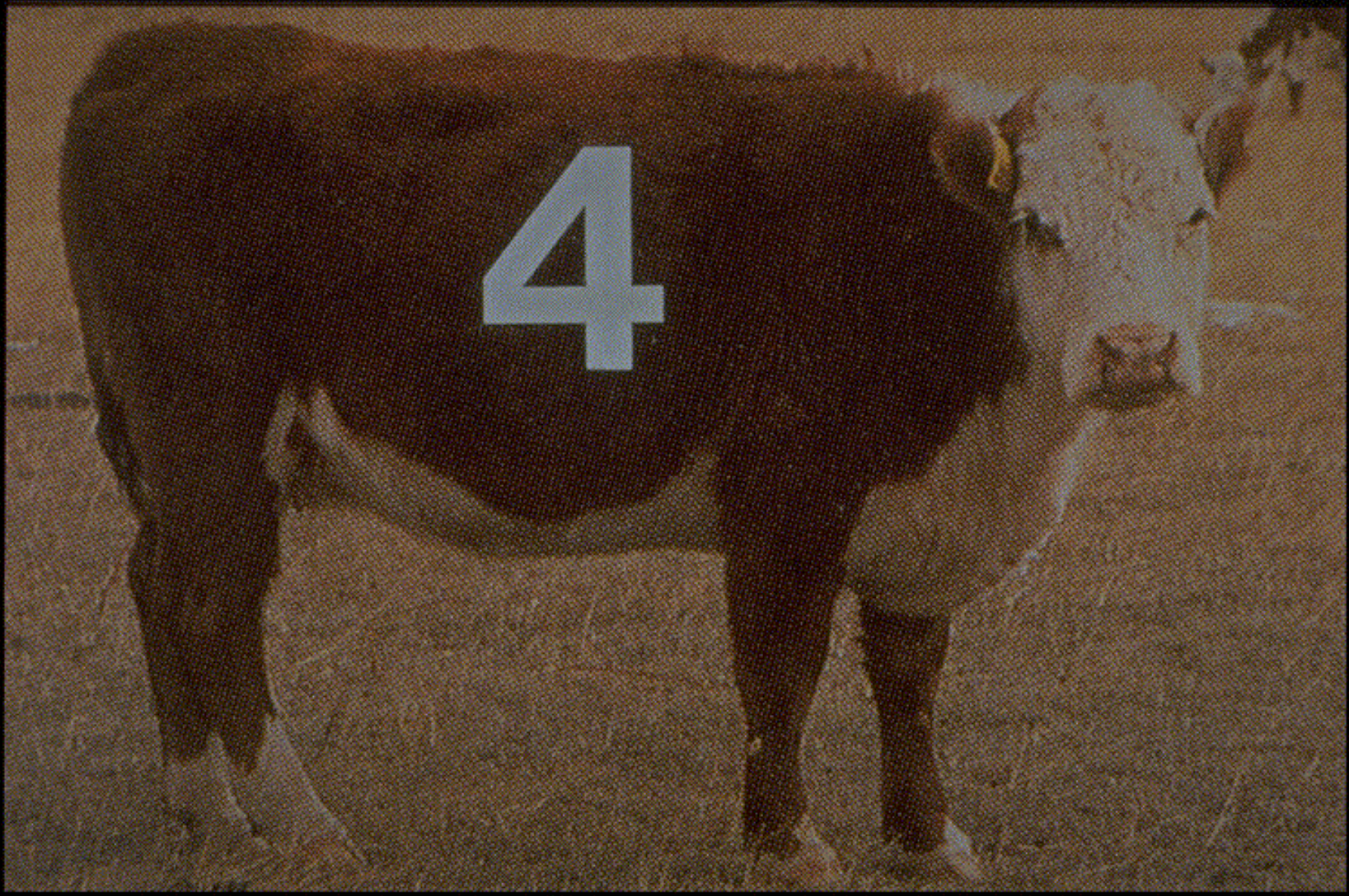


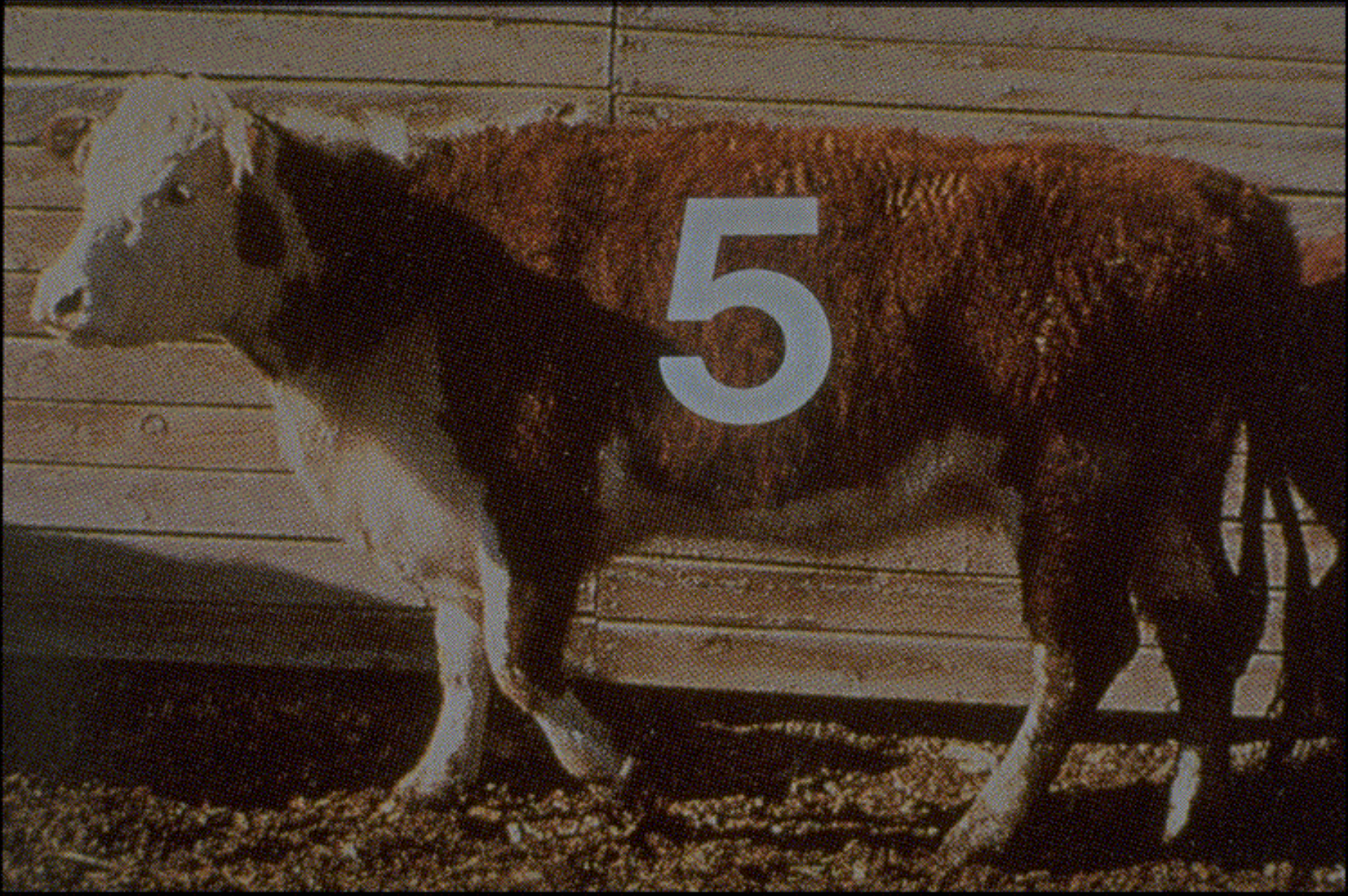
**BCS 1**





# Condition Scores

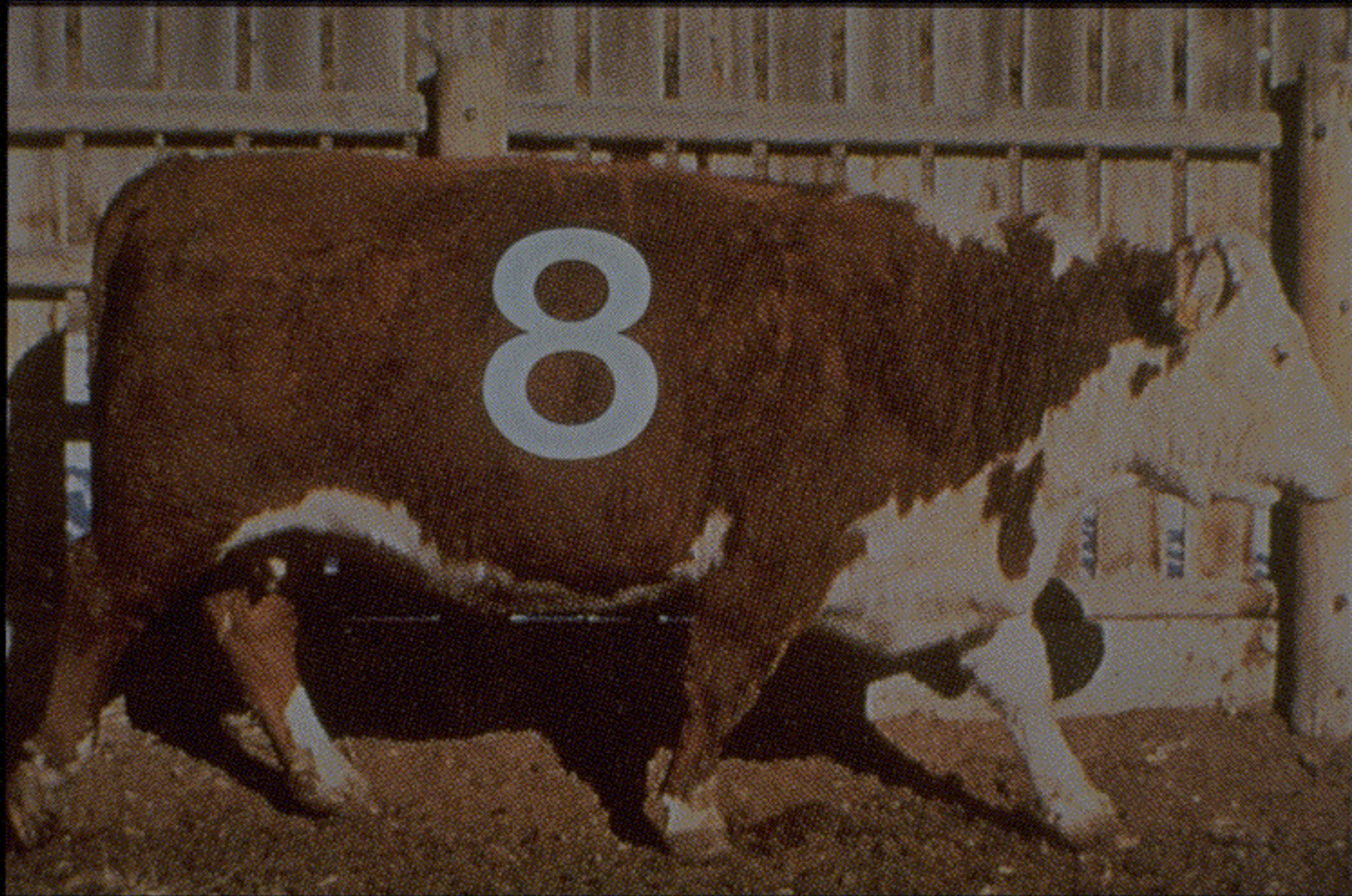








**BCS 7**





**BCS 8 to 9**