AVS263: Beef Quality Exam (100 pts)

1. Quality grade is a predictor of [ ] ___________. (2 pts)

2. Quality grade is based on what 2 major factors. What are the two factors? (4 pts)
   1. Marbling
   2. Maturity

3. Define each of the two factors for question #2. (4 pts)
   1. Marbling: amount and distribution of intramuscular fat in the Ribeye
   2. Maturity: Physiological age of the animal, not chronological

4. List the ten degrees of marbling from highest to lowest. (10 pts)
   1. Abundant
   2. Moderately abundant
   3. Slight
   4. Trace
   5. Moderate
   6. Slight
   7. Trace
   8. None
   9. (Trace, None)
   10. (Trace, None)

5. Name the quality grade for the following carcass: A maturity, small marbling score, YG 4 (2 pts)
   Choice

6. Name the quality grade for the following carcass: B maturity, slight marbling score, YG 2 (2 pts)
   Choice

7. Yield grade is a predictor of [ ] ___________. (2 pts)

8. What are the four factors used for yield grading? (8 pts)
   1. Fat content
   2. Fat marbling
   3. Fat distribution
   4. Ribeye area
9. Fill in the blanks. (2 pts)
Fat thickness, in PYG
0 2.00
.1 2.25
.2 2.5
.3 2.75
.4 3.00
.5 3.25

10. Fill in the blanks (3 pts)
<table>
<thead>
<tr>
<th>Carcass Weight, lb</th>
<th>Required Ribeye Area, in²</th>
</tr>
</thead>
<tbody>
<tr>
<td>600</td>
<td>11.0</td>
</tr>
<tr>
<td>650</td>
<td>11.1e</td>
</tr>
<tr>
<td>700</td>
<td>12.2</td>
</tr>
<tr>
<td>750</td>
<td>12.8</td>
</tr>
<tr>
<td>800</td>
<td>13.4</td>
</tr>
<tr>
<td>850</td>
<td>14.0</td>
</tr>
</tbody>
</table>

11. Calculate Yield Grade to the nearest tenth. (6 pts; show work for partial credit)
Hot Carcass Weight = 750 lb
Fat thickness = .6 in
Ribeye area = 11.0 in²
KPH = 3.0 %

\[
\begin{align*}
\text{PYG} & = .6 / 1 = 6 \cdot 25 = 1.5 + 2.0 = 3.5 \\
\text{REA} & = 750 - 600 - 150 / 25 = 6 \cdot 3 = 1.8 + 11.0 = 12.8 \\
\text{KPH} & = 3.0 - 3.5 = -5 / 5 = -1.0 = -1.1
\end{align*}
\]

\[3.5 + .54 - .1 = 3.9\]

12. Calculate Yield Grade to the nearest tenth. (6 pts; show work for partial credit)
× Live weight = 1290
Hot Carcass Weight = 800 lb
Fat thickness = .40 in
Ribeye Area = 15.0 in²
KPH = 1.5%
× Marbling score = small

\[
\begin{align*}
\text{PYG} & = .40 / 1 = 4 \cdot 25 = 1 + 2.0 = 3.0 \\
\text{REA} & = 800 - 600 - 200 / 25 = 8 \cdot 3 = 2.4 + 11.0 = 13.4 \\
\text{KPH} & = 1.5 - 2.5 = .9 / 5 = -4 / 1 = -4.1
\end{align*}
\]

\[3.0 - .48 - .1 = 2.41\]

Prep: 00
RESERVED
Vanderwall
13. Calculate Yield Grade to the nearest tenth. (6 pts; show work for partial credit)
Hot Carcass Weight = 700 lb
Fat thickness = .2 in
Ribeye area = 12.7 in²
KPH = 2.0 %

\[
\text{PY6} = \frac{.2}{.1} = 2 \cdot .25 = .5 \cdot 2.0 = 2.5
\]
\[
\text{REA} = 700 \cdot \frac{100}{25} = 4 \cdot .3 = 1.2 \cdot 11 = 12.2
\]
\[
12.2 - 12.7 = -.5 \cdot .3 = -.15
\]
\[
\text{KPH} = 2.0 - .35 = -0.15 = -3 \cdot .1 = -.3
\]
\[
2.5 - .15 - .3 = 2.0
\]

14. Given the following grid pricing system, list the price per cwt and total value of the following carcasses (4 pts).

<table>
<thead>
<tr>
<th>GRID</th>
</tr>
</thead>
<tbody>
<tr>
<td>Base, Choice YG 1-3 = $113/cwt</td>
</tr>
<tr>
<td>Discounts: Select -$13/cwt</td>
</tr>
<tr>
<td>YG 4 -$25/cwt</td>
</tr>
</tbody>
</table>

A. 725 lb carcass, Select, YG 4
\[
\frac{113 - 13 - 25}{725} = \frac{75}{725} = \frac{15}{145} = .1035 \text{ cwt}
\]
\[
\text{Total Value} = 725 \cdot .1035 = 75.4375
\]

B. 750 lb carcass, Choice, YG 2
\[
\frac{113}{750} = \frac{113}{750} = .144
\]
\[
\text{Total Value} = 750 \cdot .144 = 108
\]

15. Calculate dressing percent. (2 pt.)
Liveweight = 1200
Carcass weight = 750
\[
\text{Dressing Percent} = \frac{750}{1200} \cdot 100 = 62.5\%
\]

16. Calculate carcass weight. (2 pt)
Liveweight = 1100
Dressing percent = 61.0%
\[
1100 \cdot .61 = 671\text{ lbs}
\]
17. List the four major beef primals. (8 pts)
   1. Round
   2. Rib
   3. Chuck
   4. Loin

18. Where is the carcass ribbed? (4 pt)
   Between the 12th and 13th ribs
   (and later between the 4th and 5th)

19. Fill in the blank based on information given in class regarding feedlot cattle? (4 pt)
   A. 95% of carcasses will have an overall maturity scores of ___A____ maturity.
   B. 75% of all carcasses have marbling scores of ___small___ and ___light___.
   C. Beef cattle will have an average dressing percentage of ___15.2%____.
   D. The last fat depot to be deposited and first one mobilized is ___Marbling____.

20. What does the abbreviation EPD stand for? (5 pts)
   Estimated Progeny Difference

21. Give an example of a highly heritable trait. (2 pt)
   ___Marbling Ability___

22. What factors would you evaluate to determine if a carcass was from a steer or heifer? (2 pts)
   Look for polar eye at end of each rib and look in
   ear of the end bone to see if it is a steer or heifer.
23. Rank these bulls given the following scenario. (10 pts)

<table>
<thead>
<tr>
<th>Bull ID</th>
<th>BW</th>
<th>WW</th>
<th>YW</th>
<th>Milk↑</th>
<th>FT</th>
<th>$\Delta MS$↑</th>
<th>REA↑</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>-2</td>
<td>+20</td>
<td>+35</td>
<td>+10</td>
<td>-.03</td>
<td>+.3</td>
<td>+.1</td>
</tr>
<tr>
<td>B</td>
<td>+5</td>
<td>+30</td>
<td>+30</td>
<td>-5</td>
<td>+.02</td>
<td>+.2</td>
<td>+.5</td>
</tr>
<tr>
<td>C</td>
<td>+0</td>
<td>+20</td>
<td>+35</td>
<td>+5</td>
<td>-.01</td>
<td>-.3</td>
<td>-.3</td>
</tr>
<tr>
<td>D</td>
<td>+7</td>
<td>+2</td>
<td>+5</td>
<td>-10</td>
<td>-.01</td>
<td>-.5</td>
<td>-.2</td>
</tr>
</tbody>
</table>

*Breed Avg* +0  +10  +15  +5  +.00  +0  +.1

Scenario:
The breed are to be used in a commercial operation on cows (1250 lb) and yearling heifers. The herd has low milk production and pasture is plentiful. All calves will be finished in a retained ownership program where the producer is rewarded for high quality grades and cutability.

**Ranking:**

A  B  C  D