Antibiotic Residues:
Leaving Nothing Behind

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Cornell University
Outline

• Reasons to be concerned
• Causes of contaminated milk
• Reducing your risk
• Monitoring meat
• Investigator Chilton
Why the concern about antibiotic residues?

• Allergic reactions

• Emergence of resistant bacteria
We’re talking about milk!
Why the concern about antibiotic residues? Money!

Economic effects of having an Ab positive load of milk

<table>
<thead>
<tr>
<th>Farm size/prod</th>
<th>70 cows</th>
<th>500 cows</th>
</tr>
</thead>
<tbody>
<tr>
<td>70 lbs/cow</td>
<td>70 lbs/cow</td>
<td></td>
</tr>
</tbody>
</table>

Days required to pay for

<table>
<thead>
<tr>
<th>Profit/cwt</th>
<th>1/2 tanker (15 t)</th>
<th>1 tanker (30 t)</th>
</tr>
</thead>
<tbody>
<tr>
<td>$1</td>
<td>76</td>
<td>21</td>
</tr>
<tr>
<td>$2</td>
<td>38</td>
<td>11</td>
</tr>
<tr>
<td>$3</td>
<td>25</td>
<td>7</td>
</tr>
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</table>
Most Common Causes of Ab Residues - NW Dairy Assoc.
Closer to home…

Paul Dersam, Upstate Farms
• Improper identification
• Poor communication b/t dairy personnel

Tom Angstadt, Dairylea
• Producers often don’t follow labeled withholding times
• Save milk from non-treated quarters
• Veterinary “bathtub mixtures” with improper withhold time
• 10 critical control points
• FDA approved drugs
• Available screening tests
• Record keeping systems
10 Critical Control Points
1. Practice healthy herd management
2. Establish a valid VCPR
3. Use only FDA approved drugs with a veterinarian’s guidance
4. Label drugs properly
5. Store all drugs correctly
6. Administer properly and identify
7. Use proper treatment records
8. Use drug residue screening tests
9. Implement employee awareness of proper drug use
10. Complete the protocol annually
Implementing the control points

1. Practice healthy herd management

   Yep, we do that,

   next...
Implementing the control points

1. Practice healthy herd management

How can we minimize mastitis?

Systems approach to:

Handling of fresh cows.

Milking routines

Stall maintenance
Implementing the control points

8. Use drug residue screening tests
Market dairy cattle are randomly tested for Ab

Taylor Packing Co., Wyalusing, PA
Dr. Craig Schultz, USDA-FSIS

<table>
<thead>
<tr>
<th>Previously</th>
<th>Currently</th>
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</thead>
<tbody>
<tr>
<td>Ante-mortem signs</td>
<td>Post-mortem signs</td>
</tr>
<tr>
<td>Down and disabled</td>
<td>Metritis</td>
</tr>
<tr>
<td>Surgery</td>
<td>Mastitis</td>
</tr>
<tr>
<td>Slow, dull, depressed</td>
<td>Peritonitis</td>
</tr>
<tr>
<td>Ocular abnormalities</td>
<td>Abomasal disorders</td>
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</table>
The Results…

<table>
<thead>
<tr>
<th></th>
<th>1995</th>
<th>1999</th>
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</thead>
<tbody>
<tr>
<td>% of market cattle tested</td>
<td>2.1</td>
<td>11.6</td>
</tr>
<tr>
<td>Positives, % of cattle tested</td>
<td>2.2</td>
<td>4.4</td>
</tr>
<tr>
<td>Violations, % of cattle tested</td>
<td>.7</td>
<td>1.1</td>
</tr>
<tr>
<td>Condemns, % of cattle tested</td>
<td>.07</td>
<td>.17</td>
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</table>
Use the Residue Prevention Protocol in helping you think through the systems that must be addressed to minimize antibiotic contamination of milk and meat.