Reproductive Management: How can I increase the reproductive efficiency of my cows?

Part III

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How can I increase the reproductive efficiency of my cows?

Pregnancy rate = Heat detection rate X Conception rate

Pregnancy rate can decrease due to problems with heat detection efficiency, conception, or both.
I) **Heat Detection**

II) Conception Rate

III) Herd Health and Proper nutrition management

IV) Recognize importance of early breeding (reasonable VWP) and systematic breeding program

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I) **Recognizing Factors that Affect the Expression of Heat**

- Cow’s reproductive health
  - Uterine health, ovarian cysts, etc.

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  - Concrete vs. soil surface and pasture

- Number of animals in estrus at any given time
  - Cows during the luteal phase of the estrous cycle do not exhibit estrus
I. Heat Detection: Use heat detection aids

✓ Utilize visual observation, Tail chucking, HeatWatch, pedometers, or other aids

✓ Spend some time
  - Every 21 days a cow may stand to be mounted by a herdmate for only………………………………..!

✓ S-----------------------------------------------

- Ovsynch, Modified Targeted Breeding, or CIDR-prostaglandin synchronization programs
Pregnancy rate = Heat detection rate X Conception rate

II. Factors Affecting Conception Rate

• A.I. ..........................
  ✓ Semen handling and quality
  ✓ Site of semen deposition, time of insemination

• Heat detection ..........................

• Cow’s fertility (Health, % anovular cows)

• Nutrition, Heat Stress
III. Nutrition and management

- BCS at dry off and during breeding time
- Critical during the “transition period”: three weeks before calving and three weeks after calving
- Encourage high DMI to minimize the degree and duration of negative energy balance
- Consult with a nutritionist

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**Effect of BCS on Fertility to Timed AI**
Moreira et al., 2000; Theriogenology 53:1305

<table>
<thead>
<tr>
<th>BCS Group</th>
<th>Conception rate (%)</th>
<th>Conception rate (%)</th>
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<tbody>
<tr>
<td></td>
<td>27 d (n=207)</td>
<td>45 d (n=207)</td>
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<tr>
<td>Low (&lt;2.5)</td>
<td>18.1(^a)</td>
<td>11.1(^a)</td>
</tr>
<tr>
<td>Control (≥2.5)</td>
<td>33.8(^b)</td>
<td>25.6(^b)</td>
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</tbody>
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\(^a,b\)Within a column, proportions with different superscripts differ (P<0.02)
Percent of all anovular cows plotted by BCS at 47-53 d postpartum
Gumen et al., 2003. Dairy Sci. 86:3184-3194

R² = 0.75

Body Condition Score Rules of Thumb

- **Never let a cow go below a BCS of 2.0**
  - For thin cows, reproduction and milk production may suffer from a lack of energy reserves
- **Total loss should never exceed 1 BCS point**
  - A decrease in BCS of more than 1 point resulted in a marked decrease in 1st service conception rate
- **Never let a cow go above a BCS of 4.25**
  - Obese cows are at a higher risk for metabolic problems, lameness, and will likely remain open for an extended period

PM Fricke, PhD
IV) Detecting early heats (before 50 days postpartum)

- Can tell us about cow reproductive health  
  - cyclic or anestrous

- Can tell us about the Fresh cow problems (dystocia, retained placenta, metabolic disorders)

- Help managing and organizing breeding programs

General Comments

Diagnose pregnancy prior to 40 days after AI

Completion of Breeding Protocol and AI

Day 18-23 Post-Al

Check for return to heat