Livestock Production Medicine – An Opportunity for Change

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Pfizer Animal Health
Agenda

• Canadian Livestock Production Medicine – Current Reality
• Compliance – How are we doing?
• Concepts for a new ‘service’ contract between livestock producers and veterinarians that is based upon ‘win win’ scenarios
• Discussion
Livestock Production Medicine

- Livestock production is capital intensive and has a significant economy of scale component.
- Livestock practitioners are judged as much on the economic merits of their recommendations as the scientific merits.
- Livestock producers perceive veterinarians have a conflict of interest when making recommendations.
- Results in many missed opportunities in production medicine.
Dairy Farm Debt

Average ↑ of 18% per year

(Compiled data from Stats Canada and CanWest DHI Dairy Profit Profiler)
Impact on Veterinary Services

• Many opportunities are ‘left’ on the table in livestock production:
  – Many opportunities are perceived as costly with no benefit
  – Veterinarians, producers and their consultants, are often not united in their efforts to improve herd productivity & profitability
  – Complexity of livestock production creates barrier to implementation
    • Things change over time
    • Limited labour resources
    • Often nutrition and environmental considerations are as important as medical recommendations

• Strong science and economics must support herd preventative medicine programs

• Must measure compliance and outcomes of our recommendations
Dairy Cow Profitability Curve

Profit
Income over feed ~ 3:1

Revenue

Income over feed ~ 2:1

Cost

Days in Milk
# Cow Profitability

<table>
<thead>
<tr>
<th>DIM</th>
<th>Milk Production</th>
<th>Overhead Cost per Cow per Day (Maintenance DMI, Housing, Land)</th>
<th>OFMAP per Cow Costs (Labour, Vet, Breeding, Milk House Supplies, Utilities)</th>
<th>Quota Carrying Costs</th>
<th>Milk Price</th>
<th>Incremental Feed and Quota</th>
<th>Breakeven Production</th>
<th>Profit per Cow</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>8</td>
<td>$5.50</td>
<td>$2.78</td>
<td>$1.50</td>
<td>$0.71</td>
<td>$0.29</td>
<td>20</td>
<td>-$4.92</td>
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<tr>
<td>60</td>
<td>54</td>
<td>$5.50</td>
<td>$2.78</td>
<td>$10.19</td>
<td>$0.71</td>
<td>$0.27</td>
<td>19</td>
<td>$15.71</td>
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<td>120</td>
<td>49</td>
<td>$5.50</td>
<td>$2.78</td>
<td>$9.20</td>
<td>$0.71</td>
<td>$0.27</td>
<td>19</td>
<td>$13.35</td>
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<td>180</td>
<td>42</td>
<td>$5.50</td>
<td>$2.78</td>
<td>$7.79</td>
<td>$0.71</td>
<td>$0.27</td>
<td>19</td>
<td>$9.99</td>
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<td>240</td>
<td>35</td>
<td>$5.50</td>
<td>$2.78</td>
<td>$6.59</td>
<td>$0.71</td>
<td>$0.27</td>
<td>19</td>
<td>$7.16</td>
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<td>300</td>
<td>30</td>
<td>$5.50</td>
<td>$2.78</td>
<td>$5.58</td>
<td>$0.71</td>
<td>$0.27</td>
<td>19</td>
<td>$4.75</td>
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<tr>
<td>360</td>
<td>0</td>
<td>$5.50</td>
<td>$1.95</td>
<td>$0.00</td>
<td>$0.71</td>
<td>$0.00</td>
<td>0</td>
<td>-$7.45</td>
</tr>
<tr>
<td>Kg/Lact</td>
<td>11,899</td>
<td>Sunk Costs</td>
<td>$8.28</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$2,474.91</td>
</tr>
</tbody>
</table>

*DIM: Days in Milk*
Timing of Culling of Ontario Dairy Cows

- Frequency
- DIM
- 2001 2002

Courtesy of Dr. David Kelton
Estimating Economic Impact of Culling Ontario Dairy Cows

Distribution of cull cows by relative dollar value

Value of average replacement heifer

CowVal at culling

Frequency
### Estimating Economic Impact of Culling Ontario Dairy Cows

- The quartile distribution of cows for the top four cull reasons

<table>
<thead>
<tr>
<th>Cull Reason</th>
<th>% lowest Quartile</th>
<th>% in 2nd Quartile</th>
<th>% in 3rd Quartile</th>
<th>% highest Quartile</th>
<th>Mean $ Value</th>
<th>$Value Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reproduction</td>
<td>71</td>
<td>11</td>
<td>10</td>
<td>8</td>
<td>210</td>
<td>-1089 to 2659</td>
</tr>
<tr>
<td>Domestic Sale</td>
<td>37</td>
<td>31</td>
<td>8</td>
<td>24</td>
<td>706</td>
<td>-2107 to 2245</td>
</tr>
<tr>
<td>Death</td>
<td>19</td>
<td>26</td>
<td>29</td>
<td>26</td>
<td>984</td>
<td>-1734 to 3366</td>
</tr>
<tr>
<td>Mastitis</td>
<td>50</td>
<td>18</td>
<td>24</td>
<td>8</td>
<td>528</td>
<td>-1244 to 2106</td>
</tr>
</tbody>
</table>

36% of non “repro” culls and 51% of repro culls had CowVal < 0
1% of repro culls had PregVal < 0

Coneybeare & Kelton
Insemination Risk
Ontario DHI herds, 2004

% open cows bred per 21 days
n = 2,564 herds
Mean = 33.2%

Data from David Kelton & Canwest DHI
Conception Risk
Ontario DHI herds, 2004

% bred cows diagnosed pregnant
n = 2,564 herds
Mean = 38%

Data from David Kelton & Canwest DHI
Pregnancy Risk
Ontario DHI herds, 2004

% open cows pregnant per 21 days
n = 2,564 herds
Mean = 12.7%

Data from David Kelton & Canwest DHI
Producers’ use of hormone tools*

• 68% have tried Ovsynch
• 57% consult vet before using PGF
• 27% have used extra-label programs (CIDR; estradiol)
• 13% use SBP on > 50% of milking cows for first AI
• Largely directed at “problem” cows
  – 50% report using hormonal intervention on > 50% of cows when diagnosed open
  – 58% restrict use of SBP to “repeat breeders”

*Consensus on Synchronized Breeding Programs
LeBlanc & Descouteau, 2004
Conception Risk by Breeding Method (29 herds)
Strategic Reproductive Management

• Identified ‘need’
• No perceived reluctance to adopt SRMP
• Significant economic benefit
• Why is compliance not better?
Why not adopt SBP?

• Cost – most frequently cited objection
• Benefits are not clear
• No perceived problem
  – Wrong measurement system
• Confusion – too many programs to choose from
• Perception of conflict of interest
• Logistics
  – Labour
  – Tracking which cow gets which shot
  – Difficult to implement during busy times

*Consensus on Synchronized Breeding Programs
LeBlanc & Descouteau, 2004
Cost Certainty Concept

• Develop a platform that shares ‘risk’ and ‘reward’ between producers and veterinarians

• Assurances by both parties:
  – Compliance
  – Expected Outcome i.e. ‘do this and expect this outcome’

• Switch the focus of the partnership from perceived cost to mutually beneficial opportunities
  – Ultimately productivity and profitability will improve for both parties
Dairy Cost Certainty Project

• Project was from July 2007 to July 2008
  – Three veterinary clinics with 4 dairy producers
  – All were well-managed herds with good health records
    using traditional veterinary herd health programs

• Producers paid for full veterinary health services
  including pharmaceutical supplies based upon litres
  shipped per month
  – Exception if residue violation or over-quota shipments
  – Guaranteed outcomes or reduced fees

• Veterinarian and producer focus group session at
  the end of one year
# Dairy Cost Certainty Project

## Production info:

<table>
<thead>
<tr>
<th>Description</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of cows</td>
<td>100</td>
</tr>
<tr>
<td>Avg 305d production per cow (L)</td>
<td>9,000</td>
</tr>
<tr>
<td>Avg total production per mo</td>
<td>89,754</td>
</tr>
<tr>
<td>Price of fluid milk ($/hl)</td>
<td>$71.07</td>
</tr>
<tr>
<td>Gross per L</td>
<td>$0.71</td>
</tr>
<tr>
<td>% vet fee charged (per L)</td>
<td>3.5%</td>
</tr>
<tr>
<td>Vet revenue (per L)</td>
<td>$0.025</td>
</tr>
<tr>
<td>Total revenue (per mo)</td>
<td>$2,232.59</td>
</tr>
</tbody>
</table>

**Total annual revenue** $26,791.06
# Dairy Cost Certainty Project

<table>
<thead>
<tr>
<th>Disease info</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Milk Fever</td>
<td>6%</td>
</tr>
<tr>
<td>Ketosis</td>
<td>3%</td>
</tr>
<tr>
<td>Retained placentas</td>
<td>8%</td>
</tr>
<tr>
<td>Metritis</td>
<td>10%</td>
</tr>
<tr>
<td>DA's</td>
<td>3%</td>
</tr>
<tr>
<td>Clinical mastitis</td>
<td>20%</td>
</tr>
<tr>
<td>Coliform mastitis</td>
<td>4%</td>
</tr>
<tr>
<td>Dystocia (w/ vet assistance)</td>
<td>3%</td>
</tr>
</tbody>
</table>
# Dairy Cost Certainty Project

## Reproduction info:

<table>
<thead>
<tr>
<th>Insemination Risk</th>
<th>50%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conception Risk</td>
<td>36%</td>
</tr>
<tr>
<td>Pregnancy Risk</td>
<td>18%</td>
</tr>
<tr>
<td>% on pre-synch</td>
<td>100%</td>
</tr>
<tr>
<td>% on ovsynch</td>
<td>65%</td>
</tr>
<tr>
<td>% on re-synch</td>
<td>40%</td>
</tr>
<tr>
<td>% on re-synch + CIDR</td>
<td>20%</td>
</tr>
</tbody>
</table>
Dairy Cost Certainty Project

- Focused on whole herd preventative medicine program
- Module Based:
  - Focused on individual areas of preventative medicine
    - Transition Cow Management
    - Reproductive Management
    - Udder Health
    - Replacement Management
- Following discussion with herd veterinarian and records analysis, producers could opt in or out modules
Focus Group Comments
Veterinary Comments

- Continued to record traditional veterinary invoices for comparison:
  - Varied somewhat throughout the year depending upon the herds’ calving pattern but ‘per litre’ invoices were very close to traditional billings
  - ‘Time’ on farm and compliance to recommendations improved dramatically
  - Producers utilized a wider range of veterinary services

- All herds have continued on the project
- Extended the offer to other producers
- Not for all herds
Producer Comments

• Increased record scrutiny
• Made them take a look at management opportunities in many areas of their operation
  – Increased focus on Transition Cow Management
    • Prevention versus treatment
• Ideal for ‘change’ management, such as expansion
• Increased communication between producer & vet
  – Improved CE
• Helps with labour requirements for protocol implementation
  – Many used Vet Tech services for protocol implementation
• Better on-farm product inventory management
• Requires a formal agreement
  – Details what’s ‘in’, what’s ‘out’
  – Terms and opportunity for re-negotiation
Producer Comments

• Makes vets put their money where their mouth is
• Shared risk and reward
• Increased transparency of vet services
• Realize all the services their vet can provide
• Does not allow for ‘price’ shopping
Producer Comments

- Many viewed as an ‘Insurance Program’
  - Offset risks associated with a ‘wreck’
  - Ideal for ‘change’ management such as expansion
  - Offset by ‘Do I overpay in good times?’
- Budgeting for veterinary services was much easier
- Important tool for making ‘good’ producers ‘better’
  - Focus on opportunities, not cost
Producer Comments

- Some producers were cautious
  - Not sure how it would make them more $
- Consider other options for fee structure
  - Should be based on components, not litres shipped
- Requires significant trust by both parties
  - Protocols and outcome measured are designed appropriate for the individual farm
  - Producer does not re-sell product to other producers
  - Requires an audit process
Joint Comments

• Program needs to be flexible to meet the ‘needs’ of many producers

• Program needs to be reviewed frequently:
  – Monitor outcomes and adjust protocols
  – Pricing adjustment based upon herd size and herd baseline production
  – Discounts for larger, high producing herds should be higher than the original model

• What happens when ‘things’ go ‘South’

• Too complicated for many producers

• Not for everyone
  • Won’t make poor producers excellent, just provide cheap vet services for emergency work
  • May not improve already excellent producers
Keys for Success

• Requires progressive, like-minded veterinarians and producers
• Requires excellent records
• Requires economic model development for other species
• Requires Trust
• NOT for all clientele
Questions?