DeLaval online cell counter OCC
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Slide 1

DeLaval
We produce and sell:
- milking equipment and
- related products (detergents, feed additives, liners etc)
  - Approx 4200 people (+ dealers)
  - Head quarters in Tumba, Sweden (close to Stockholm)
  - Offering solutions world wide

Slide 2

VMS 2007
New model launched in November 2006
For example:
  - Faster cleaning
    - due to built in cleaning unit
    - improved working area
  - Easier installation
    - due to built in floor and hydraulic unit

But also launched with the OCC - as an option

Slide 3

Cell counting yesterday
- After monthly milk sampling one can get individual cow SCC
- Take CMT measurement on suspected cows
- You can use the DCC to analyze the milk of fresh cows and suspected cows
- Or rely on a bulk tank SCC info from your dairy

Tradeoff between workload, accuracy and timing

Slide 4

We believe in accurate and up to date data…
- The more accurate and precise data input, the better decisions are taken, the better the end results.
- Decisions need to be taken daily. Data need to be up to date.
- OCC data are as accurate as DCC data

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Slide 6
Today

We can offer full automatic cell counting for VMS:
- from every cow
- at every milking
- without the manual cumbersome work around

This gives the farmer:
- a cost effective way of udder health monitoring
- a way of finding problems before they spread

DeLaval Online cell counter OCC

- What is an OCC?
- How does it work?
- How to use the data?
- What does it cost?

What is an OCC?

A stainless steel cabinet holding an automatic mini-lab, capable of measuring accurately the SCC of cow composite milk at every milking in VMS

OCC animation

Cell counting

1. Triton-X opens the cell wall
2. Propidium Iodine colors the cell nucleus, DNA marker
3. The camera counts the number of cells

’Fluorescent microscope’, OCC image
OCC features

- Cell values presented on touch screen, 1 min after milk pumping
- In the PC report and Cow Monitoring
- Farmer can receive an alarm when SCC above certain level.
- Manual measurement on any milk sample possible (quarter, bulk tank, milk sample from your neighbor)

Practical use

- Can turn SCC sampling on/off at cow level (one at a time or by batch edit)
- No sampling for 72h after calving

OCC data in Cow monitoring

- Increase counter in Cow monitoring if SCC is above 200,000 cells/ml
- CowMon sends notification if the SCC is above 500,000 cells/ml
- The range for the values above are 50,000 to 3,000,000 (both values)
- SCC shown in the total graph

Default touch screen window

- Upper left corner: Vacuum level alternating with...
- Cow numbers of 4 last milked cows + Their SCC

Reports for convenient follow up

- Daily reports
- Weekly summary reports
- Group reports

OCC measuring “accuracy” equal to DCC and Fossomatic method from regular labs

- DCC vs Fossomatic, single count
  \[ y = 0.9553x + 13.787 \]
  \[ s_{y,x} = 149 \]
  76 datapairs

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Daily data is important for fast action
This case: Infected with *Streptococci* spp.

- **Age**: 2.4
- **Lact. no**: 1
- **DIM**: 151
- **Avg. SCC**: 885

Infected with *Staphylococcus aureus*

- **Age**: 3.9
- **Lact. no**: 2
- **DIM**: 221
- **Avg. SCC**: 660

**What does it cost?**

To buy: Approx €7400

To sample: Approx 3,4 € cents per sample (excluding depreciation)

**DeLaval OCC**

- VMS 2007 provides the possibility to get SCC from every cow at every milking
- OCCs are being produced and delivered today
- A tool to improve the udder health of your herd = higher production and premium payment

Note: The OCC makes the VMS 2007 an excellent research platform

**The challenge**

- The challenge is to handle the information flow
  - Easier if showing data the farmer knows about.
- By creating strategies that can be adapted to local demand and definitions of deviations
  - Farmers will act upon deviations
  - High cell count is one such deviation.

**Cost and benefits for the farmer / year**

<table>
<thead>
<tr>
<th>Item</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>OCC depreciation &amp; interest (10Y / 5%)</td>
<td>975 €</td>
</tr>
<tr>
<td>Running cost OCC / 150 milkings - tests p.d.</td>
<td>1 884 €</td>
</tr>
<tr>
<td>Total costs</td>
<td>2 809 €</td>
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</tbody>
</table>

Possible savings:

- SCC from 300K to 150K brings more milk from 70 cows: 1 602 €
- Premium (2%) for 150K milk when delivering to Arla: 3 600 €
- Less discarded milk: 585 €
- Lower replacement costs: 2 337 €
- Less cost for the monthly milk sampling (+SCC): 185 €
- 5 less mild mastitis cases: 68 €
- 3 less severe mastitis cases: 403 €
- 1 less fatal mastitis case: 501 €

Total possible savings: 3 231 €