

# COMPLEXITY OF DAILY YIELD CALCULATIONS

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***TIMES THEY ARE A  
CHANGING***





## Milking Cows Circa 1980

- Median herd size 40 cows
- 12 min per cow
- 3 milking units
- 3 hours per milking



## Today's Environment

- Groups of 225-250 cows
- 4-5 turns per hour
- Limit of 24 hours a day

# “A PINT’S A POUND THE WORLD AROUND”

## Elements Affecting Yield Calculations

- Equipment
- Software
- People
- Equations



# MASTER OF MANY...

pail&scale  
basement  
in-place rotary  
hoses Afimilk Inline  
certified calibrations  
EMM  
Vented Inflations  
Sensors ROBOTS  
analog vacuum parallel  
wide-bore  
Meters portable

# “IT’S ONLY MATH...”

$$\begin{array}{r} x^2 + 6x + 5 \\ \hline \text{X} \quad \text{X} \\ \text{X} \quad \text{X} \\ \hline (x+5)(x+1) \end{array}$$

Handwritten algebra showing the factoring of  $x^2 + 6x + 5$  into  $(x+5)(x+1)$ . The original equation is crossed out with red X's. A circled note says "1x + 5x". The factors are written in green below a blue line.

## Start with Correct Parameters

- Times milked per day
- Milking times by pen
- Pen structures
- Tank totals and transport frequency

## Unknown Influences

- Feeding times
- Ration changes
- Weather influences
- Random “whatevers”



FREEDOM DAIRY

PARLORCOMP

OVERVIEW

# ParlorComp Overview

CUSTOMIZE THIS PAGE

## Parlor Status

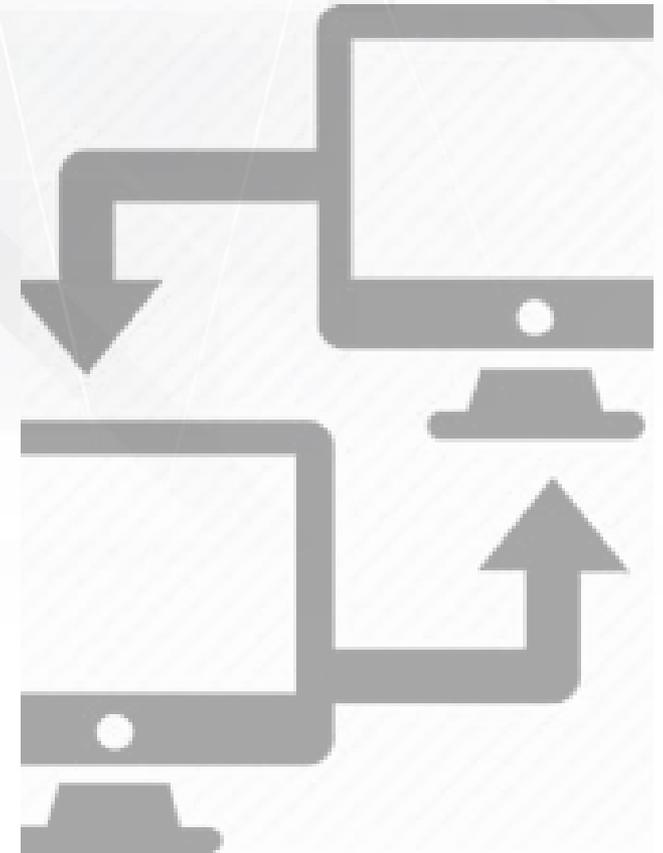
PARLOR STATUS Milk	CURRENT SHIFT 1	CURRENT PEN 4	CURRENT FLOW 65.00 GPM
COWS IN PEN			289
CURRENT PEN TOTAL MILK			2850.00 GAL
CURRENT SHIFT TOTAL MILK			28500.00 GAL
CURRENT TEMP	✓ 145.90 °F	TEMP ALARM	✓ NONE
TOTAL TIME	0 MIN	SEC/STALL	97

## Last Rotary Data

ROTARY	MINS/TURN	SEC/STALL	COWS/HOUR	URNS/HOUR
FASTEST	9	8.2	441.0	6.1
AVERAGE	9	7.8	460.0	6.4
EFFECTIVE	11	6.7	372.0	5.2

# UNDERSTANDING SOFTWARE INTEGRATIONS

- EID system is functioning
- Consistency of data
  - Measurements
  - Calculations
- Archived data patterns



# People Make the Difference!

- Professional Expertise
- Proper Training
- SOPs
- Adaptation
- Interpretation
- Continuous Education



# WE MUST ADAPT

- Take better advantage of technologies
- Prioritize development of new methods and different QC

Herd level, pen level, cow level

- Faster implementation
- Improved educational resources



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# Thank You!

**ICAR & IDF/ISO**  
CONFERENCE ANALYTICAL WEEK  
**2019 PRAGUE**  
CZECH REPUBLIC

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