



DelPro™ Herd Management and Automation for stanchion barns

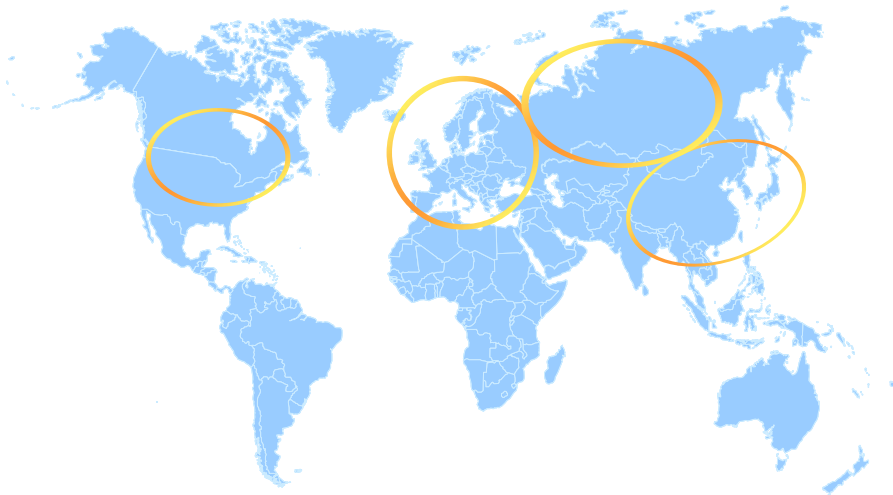
ICAR Meeting Niagara falls – June 2008

Fernando Mazeris

Handing you
better control



Tied Up Dairy Farmers



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Tied Up Dairy Farmers

Snap Shot India

- Production 2005: 92 billion Kgs
Expected growth rate: 4% / year
- Milk provenience
 - Buffalo Milk 57%
 - Cow Milk 43%
- Bovine composition
 - Buffalos: 95 Million
 - Cattle: 190 Million
- Farm structure
 - 50% of the farms 1 – 2 animals
- Processed milk 15%



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Tied Up Dairy Farmers

Snap Shot China

- Production 2006: 22 - 30 million
Expected growth rate 9.5% / year
- Cattle: 7 - 10 Million
- Milk yield/cow ~ 2'800 kg
Expected growth rate 3.8% / year
- Farm structure
 - 82% of the farms (House holds) < 100 animals
 - 14% of the farms 100 - 1000 animals (Large scale private farms)
 - 4 % of the farms > 1000 animals (state owned or large farms)

Note: figures depend very much on the sources



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Tied Up Dairy Farmers

Snap Shot Canada / USA

Canada

- Milk production ~ 7'5 billion kgs
- Dairy Cows 1'060'000
- Average Milk yield/cow ~ 9'422 kgs

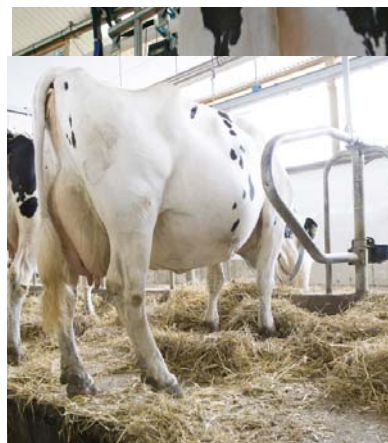
• Farm structure

- Stanchion Barns (~ 100 cows / farm) 9400 farms

USA

• Farm structure

- USA (Wisconsin) 11'000 farms

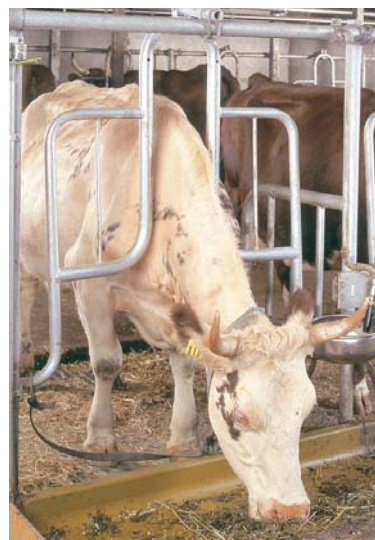




The Tied Up Customer Segment

Snap Shot Western Europe

- Stanchion Barns Customer base
 - Sweden ~ 5'000 farms
(~ 45 cows / farm)
 - Norway ~ 12'700 farms
(~ 12 cows / farm)
 - Finland ~ 12'900 farms
(~ 18 cows / farm)
 - Switzerland ~ 24'400 farms
(~ 20 cows / farm)
 - Other countries ~ 60'000 farms
France, Germany, Italy, Spain



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The Tied Up Customer Segment

Russia

- Dairy Cows 10'000'000
- Average milk yield per cow 3'200 kgs
- Farm structure
 - Plot Farms ~ 2'500'000 farms
(< 30 cows / farms)
 - Family farms ~ 9000 farms
(31 – 100 cows / farm)
 - Small – medium size Industrial farms ~12'000 farms
(101 – 1000 cows / farm)
 - Stanchion Barns ~13'000 Barns
(200 cows / farm)
 - Big Industrial farms ~ 2600 farms



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Tied Up Dairy Farmers

The market trend and farmer needs

- Decreasing / increasing milk prices
- Increasing costs of production (Energy, feed, water, labor etc.)
- Improve herd productivity and efficiency
- Milk quality
- Traceability
- Animal welfare (local legislations)
- Lack of qualified labor Forces
- Life Style

Profitability / Cost Control

Economies of scale

Milk Recording

Quality assurance

Herd Management

Cow Care concepts

Transition to LH, HD

Automation / ergonomics



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Milking automation Tied Up 2007

2008



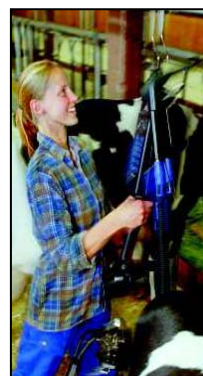
MU100

- Pulsation



MU210

- Duovac milking
- Low flow indication



MU350

- Duovac milking
- Milk yield indication
- Automatic take-off



MU450- 486

- New concept!



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DelPro™ for Tied Up dairy farmers

Build in competences for better control & profitability



Handing you
better control



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DelPro™, an integrated system solution for Tied Up barns

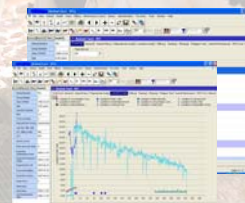


- New Milking Unit
- ICAR approved Milk Meter
- Low line milking characteristics
- Wireless system connection - Blue tooth

- Feed Wagon, system integrated



- System Controller
"the Communication centre"



- DelPro PC based Herd Management software



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DeLaval DelPro™ Milking unit

New compact design



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DeLaval DelPro™ Milking unit

Unique Fat Sampler

Save time and improve hygiene

- Continuous sampling during milking
- Accurate and relative sampling
- Bottle volume samples
- Cleaning of milk channels & tubes during circulation process
- Quick attachment
- New bayonet connection



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DeLaval DelPro™ Milking unit

Automatic cluster removal

Improved milking performance

- Easier work
- Shorter milking and working routines
- Greater cow throughput

Management control (added value in DelPro)

- Password assessable
- Flexible settings
- Monitoring and manage performance
- Managing costs

Improved udder health

- Pre take-off indicator
- Optimum take-off

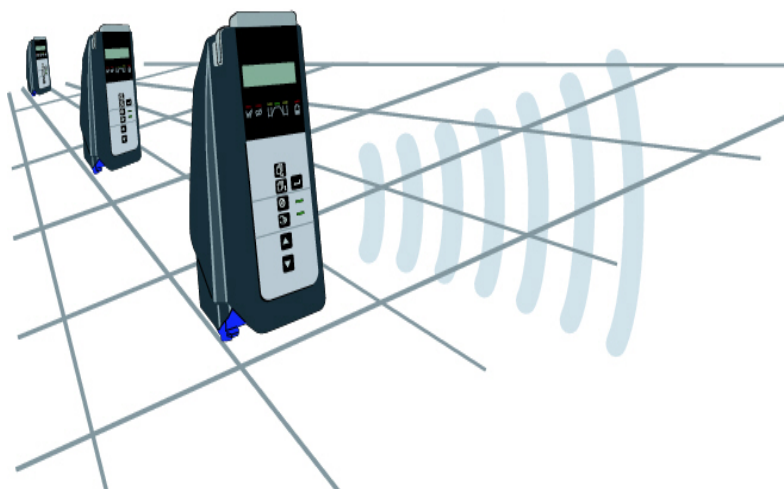


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DeLaval DelPro™ Milking unit

Wireless Data Communication



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DeLaval DelPro™ Milking unit

Wireless Data Communication



DeLaval DelPro™ Milking unit

Wireless Data Communication



Improving milking performance:

- Assisted cow identification
- Cow alarms, don't milk, dump milk
- Assists implementation of safe working routines
- Automatic milk yield data transfer



Improving feeding performance:

- Automated feeding processes
- Improved feeding accuracy
- Optimizing feeding costs

DeLaval DelPro™ Milking unit

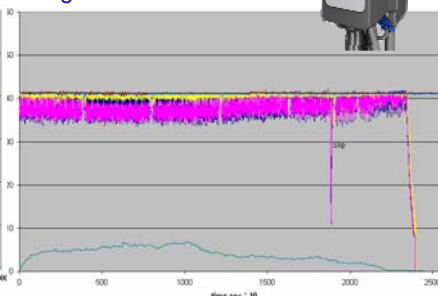
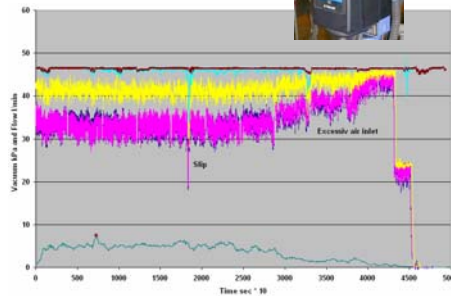
Milk flow controlled milking vacuum stability

MU350



MU480 / 486

Stable milking vacuums
in the cluster even at
high milk flows

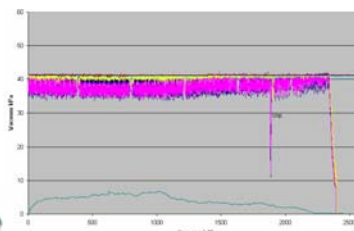


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Low level vacuum stability



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- Improves milking performance
 - Faster / shorter milking
 - Reducing slippage
 - Improved cleaning performance
- Improves teat health and milk quality
 - Optimum milking vacuum
 - Optimum liner movement
 - Quality milk production



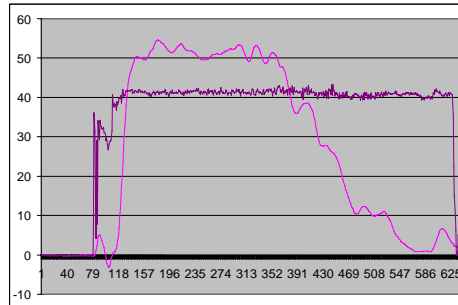
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Milking vacuum stability control



Milking plant regulated vacuum 55 kPa

The milking and pulsations vacuums are further regulated in the MU by using a modified regulator block and the shut off valve



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DeLaval DelPro™ Milking unit

ICAR approved milk meter

Accurate milk yield data

- Feed ration calculation
- Health status monitoring

ICAR approved test milking

Milk flow control data

- Duovac control
- Automatic cluster removal
- Milking vacuum stability



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DeLaval Feed Wagons, system integrated

Proper feeding – correct ratio



- System connection of concentrate and roughage/ TMR feed wagons
- Feed wagons communicate wireless like the milking units
- Automatic ration adjustment in relation to milk data
- Changes of ration. New cows or deleted cows info. are sent to the wagon when its changed in DelPro Herd Management software
- All data is stored locally in the wagon
- “Unlimited” number of wagons in the system
- After feeding the dispensed amount are reported to DelPro DDM



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DeLaval DelPro™ Milking unit

System integration with feeding

Improved feeding performance:

- Automated feeding processes
- Improved feeding accuracy
- Optimized feeding costs
- Feed storage and inventory

Improved herd health

- Feeding adapted to milk yield
- Low milk yield alarms
- Auto ration calculation
- Feed tables

Increased milk production

- Optimum feeding



* WRT = Working Routine Times

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