

Management of Individual Cows in Large Herds – a Challenge to Modern Dairy Farming



Manufacturers Showcase - 36th ICAR Session and Interbull
Meeting 16-20 June 2008

- Herd of 3000 milking cows
- Annual production per cow – 10,000 Liter
- What is the meaning of increasing production by 1% ?

300,000 liter

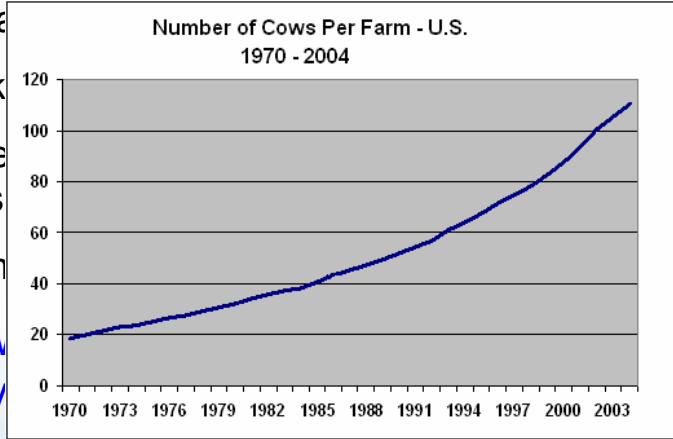
$$3000 * 10,000 * 0.01 = 300,000 \text{ L}$$

(660,000 Lb)



Modern Dairy Farm

- Small
 - Milk
 - One
 - Bus
 - Intin
- ⇒ New
adv



Source: ABS data available on request



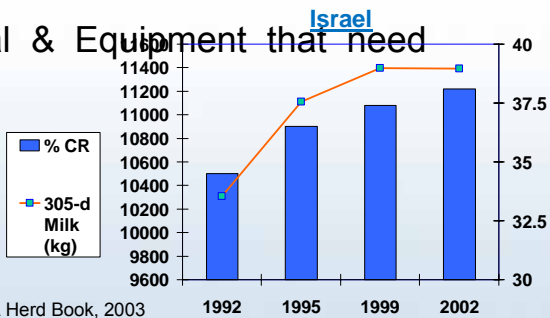
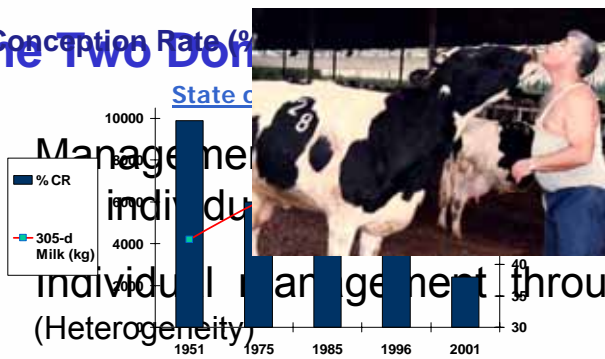
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The Two Different Management Practices

- Management that does not deal with individual cows
- Individual management through exceptions (Heterogeneity)

After Butler, 2003

Emphasize Animal & Equipment that need individual attention

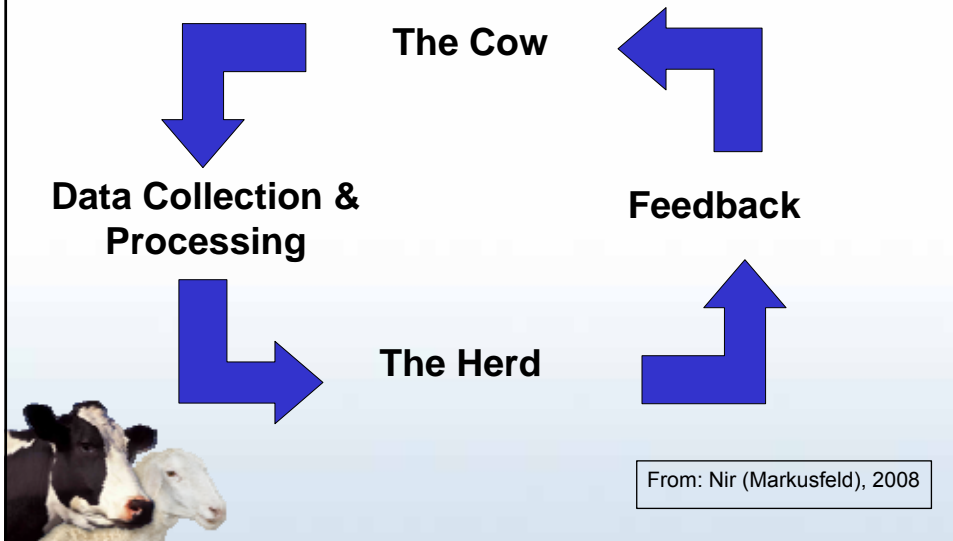


ICBA Herd Book, 2003



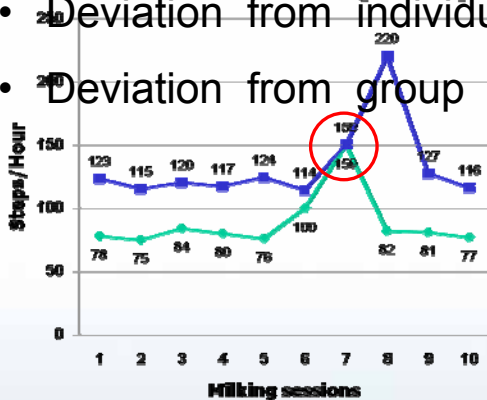
The Israeli Herd Health Program

The Conception



How Do We Define Our Exceptions?

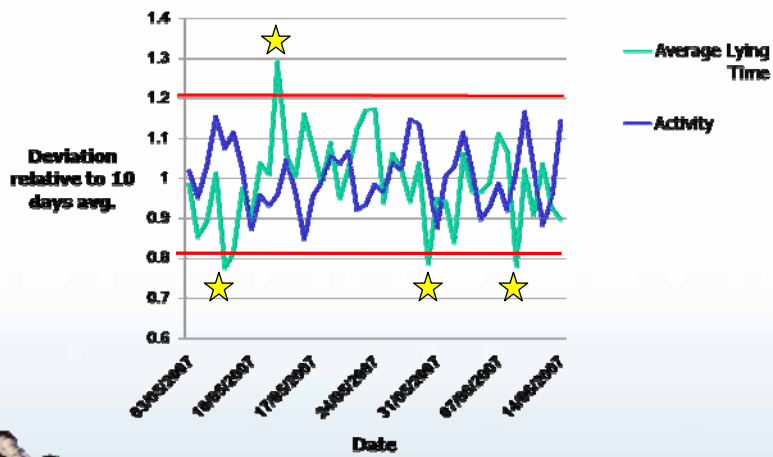
- Heat detection by activity**
- Deviation from individual history normality
 - Deviation from group normality



Cow	Steps/Hour		
	Avg. steps	25% Dev.	80% Dev.
105	80	100	150
2471	120	150	220
			Heat



Welfare and comfort deviation – Group Level



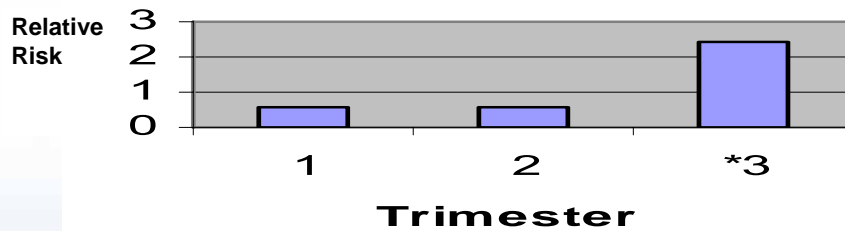
How Do We Define Our Exceptions?

- Deviation from individual history normality
- Deviation from group normality
- Individual / Group / Herd



Monitoring abortions – Herd Level

By trimester



From: Nir (Markusfeld) O., 2007

How Do We Do It ? (AfiMilk Management System)

- Automated data collection based on reliable **animal ID** and advanced sensors
- Real time Analysis → decisions support
- Retrospective analysis → Herd planning



Products and Benefits

afimilk™
The Heart of the Dairy Farm
www.afimilk.com

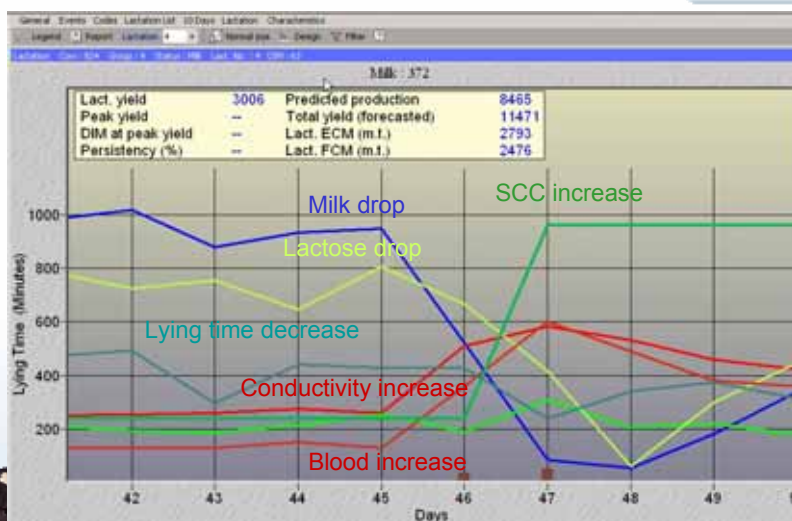


- Heat detection, Health, Animal Welfare
- Production, Health, Milk efficiency & Parlor performance
- Feeding, Health, Genetic, Payment, RT applications
- Feeding, Health, Reproduction

herd management software (multifactorial approach) point out exceptions

Multifactorial approach - Mastitis

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How Is Production Increased ?

- Individual Management through Exceptions
 - ✓ Early treatment of Health problem
 - ✓ Shortening open days period
 - ✓ Optimal feeding
 - ✓ Animal welfare optimization (Bedding, Climate)
 - ✓ Preventing abortions
 - ✓ Genetic improvement by selection for ex

Individual care = Money



The Future of Exceptions

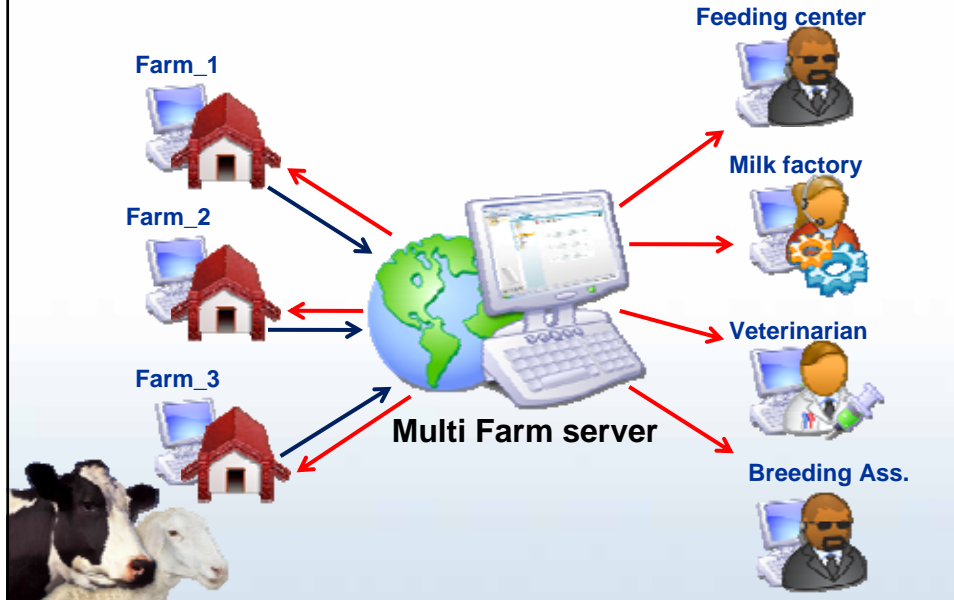
- Comparison between farms performance
- Create regional goals
- Accessible data every where any time

Farms management by exceptions



Multi Farm (Internet Based Software)

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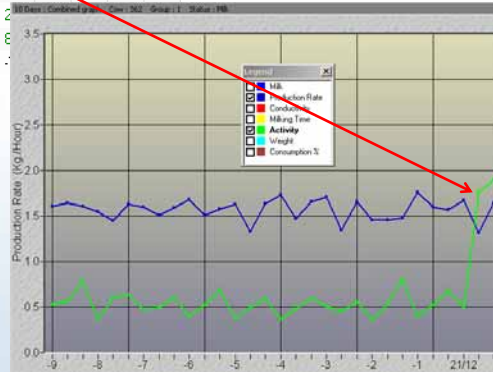
Thank you



Cows for Insemination

Cows for Insemination															
Index	Cow	Grp.	Number		DIM		Days After			Activity<%>			Prod. Rate<%>		
			Lact.	Insem.	Heat	Insem.	1	2	3	1	2	3			
1	343!	1	1	--	84	20	--	19	319	29	-12	6	0		
2	345!	1	1	--	98	21	--	36	289	124	-6	-17	7		
3	362!	1	1	--	101	21	--	25	247	199	3	-8	2		
4	4589	2	6	1	65	0	0	86	92	77	-3	-7	-4		
5	4674!	2	5	1	83	20	20	28	2						
6	4680	2	5	--	89	35	--	110	6						
7	4695 +	2	5	--	49	5	--	0							

- Increased Activity
- Normal 21 Day Cycle since last Heat



Equipment malfunction

Equipment Malfunction (Measurement)									
Date	Session	Stall	Fault	Accuracy	Electrodes	Cleaning fault	Communication	Antenna	
30/04/2007	2	6	OK	OK	OK	Fault	OK	OK	
30/04/2007	2	7	OK	OK	OK	Fault	OK	OK	
30/04/2007	2	8	OK	Fault	OK	Fault	OK	OK	
30/04/2007	2	9	OK	OK	OK	Fault	OK	OK	
30/04/2007	2	10	OK	OK	OK	Fault	OK	OK	
30/04/2007	2	11	OK	OK	OK	Fault	OK	OK	
30/04/2007	2	12	OK	OK	OK	Fault	OK	OK	



Fat concentrations measured over thirty consecutive milking session (ten days)

