ICBA

ISRAELI CATTLE BREEDER'S ASSOCIATION

2011 Herdbook Summary

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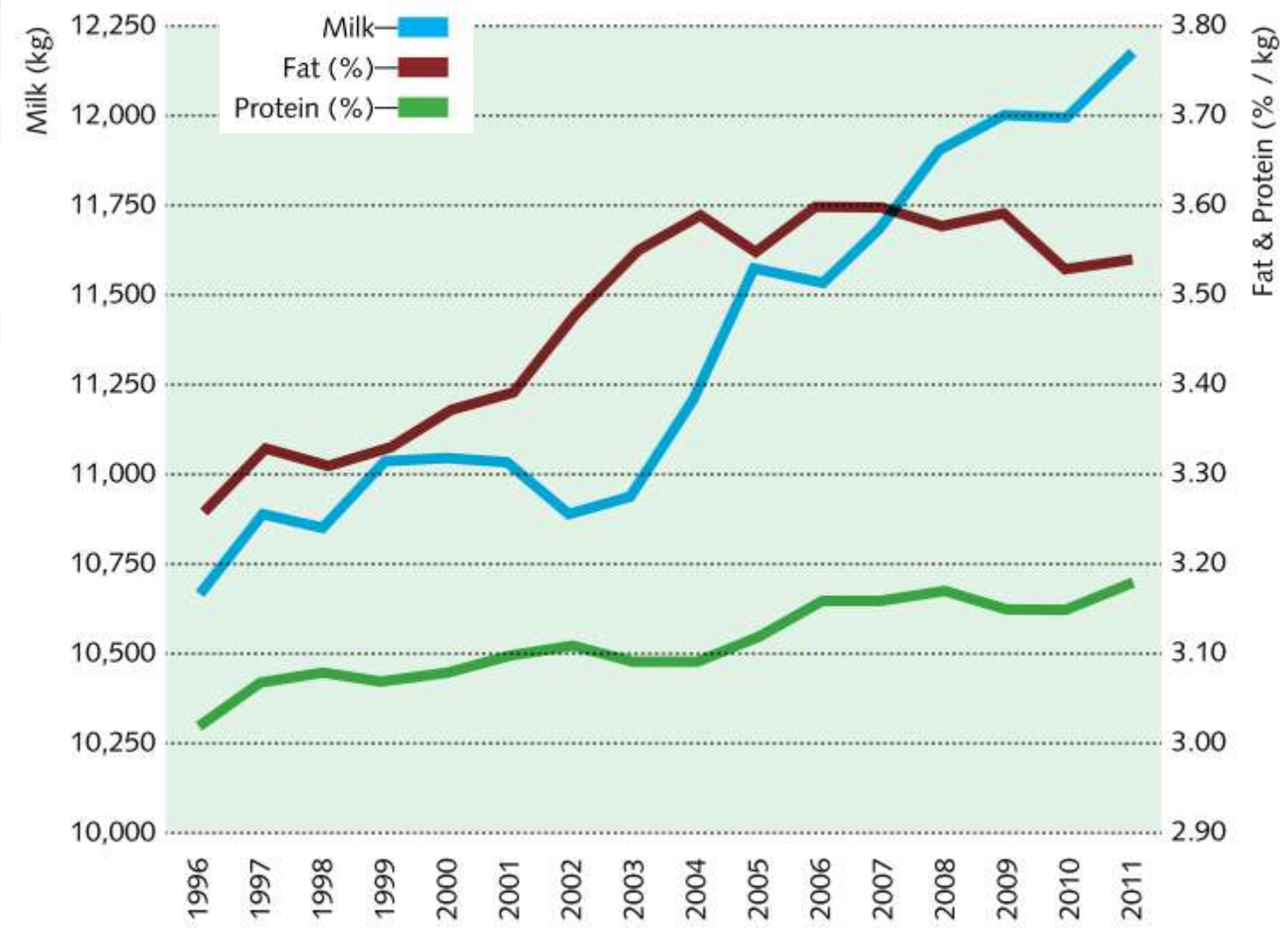
The Heart of the Dairy Farm

Milk Production & Components



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Milk Production

	1st lactation cows	2nd lactation cows	Adult cows	Total
Adjusted 305-d lactations				
No.	26,051	16,902	26,248	69,201
305-d adjusted ECM, kg	11,976	12,267	12,233	12,145
Days in milk	366	362	359	362
Milk yield, kg/day in milk	32.7	37.5	39.1	36.3
Feed days	426	424	423	424
ECM yield, kg/cow in herd-day	28.5	32.5	33.3	31.3
Dry period, days	59	61	63	61
Days open	151	148	147	148

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Top 10 Herds

No.	Herd	ECM kg	Milk kg	Fat %	Protein %	F+P kg	SCC x1000	No. of cows in herd
1	Sa'ad	14,531	14,199	3.53	3.34	976	214	315
2	Nahal Oz	13,994	13,928	3.57	3.21	945	153	333
3	Gevim	13,950	14,055	3.36	3.26	930	178	307
4	Urim	13,911	13,989	3.54	3.17	939	130	377
5	Carmiya	13,859	13,412	3.76	3.28	943	243	392
6	Revivim	13,855	13,873	3.50	3.22	932	174	1,006
7	Ein Hashelosha	13,634	13,572	3.56	3.22	920	146	319
8	Alumim	13,619	13,214	3.69	3.30	923	199	348
9	Tse'elim	13,585	13,228	3.57	3.34	914	168	301
10	Hanaton	13,574	13,294	3.69	3.24	922	202	535

Afimilk customers

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Calving

	1st lactation cows	2nd lactation cows	Adult cows	Total
Calvings				
Total No. of calvings	34,837	26,318	44,038	105,193
Calves born	35,261	27,602	47,479	110,342
Age at calving, months	24	38	67	46
Normal calvings	30,814	24,542	41,080	96,436
Normal calvings, %	88.5	93.3	93.3	91.7
Premature calvings	763	580	985	2,328
Premature calvings, %	2.2	2.2	2.2	2.2
Abortions, %	11.7	11.0	10.9	11.2
Stillborn calves, %	7.5	6.6	7.5	7.3

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Calving benchmarks

Calving traits	1st Lactation	2+ Lactation
b. % Twins	(0.0)	(5.7)
c. % Stillbirth	(5.0)	(5.1)
d. % Milk fever	(0.0)	(1.9)
e. % Prolapsed uteri	(0.6)	(0.3)
f. % Displaced abomasum	(0.7)	(0.6)
g. % Retained placenta	(4.4)	(9.5)
h. % Primary metritis	(33.7)	(23.6)
I. % Ketosis	(9.1)	(14.7)
j. % Calved with mastitis	(0.9)	(0.5)
k. % With DAYDRY >70 d		(15.0)
l. % With DAYDRY <60 d		(15.0)
m. % Induced calving	(10.0)	(2.0)
n. % With edema	(10.0)	(5.0)

Ref.: Dr. Oded Nir (Markusfeld)

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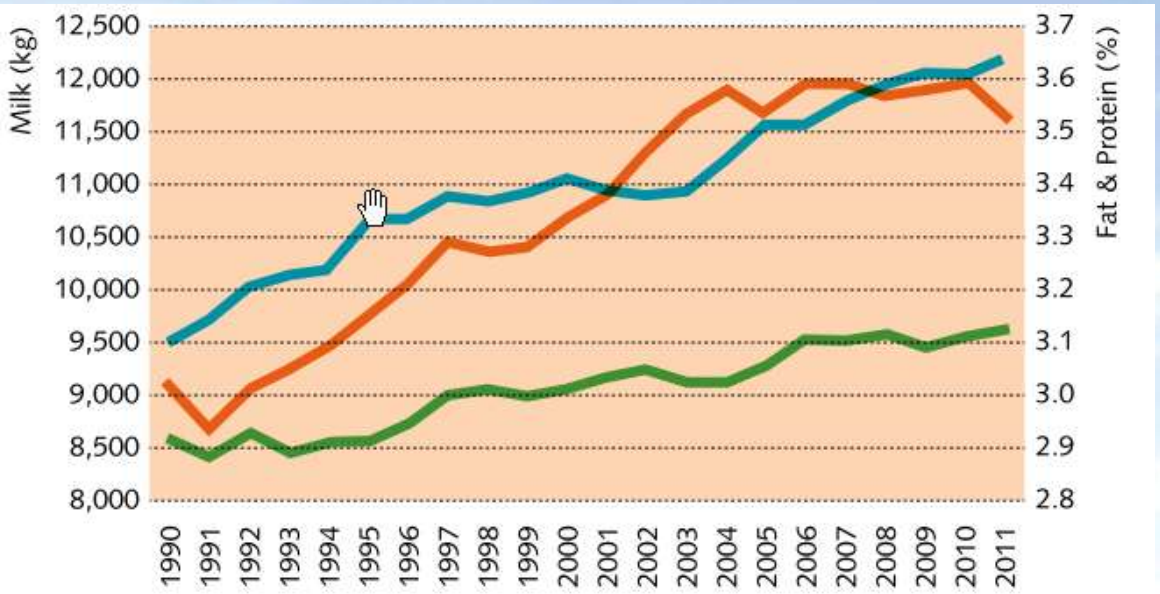
Reproduction

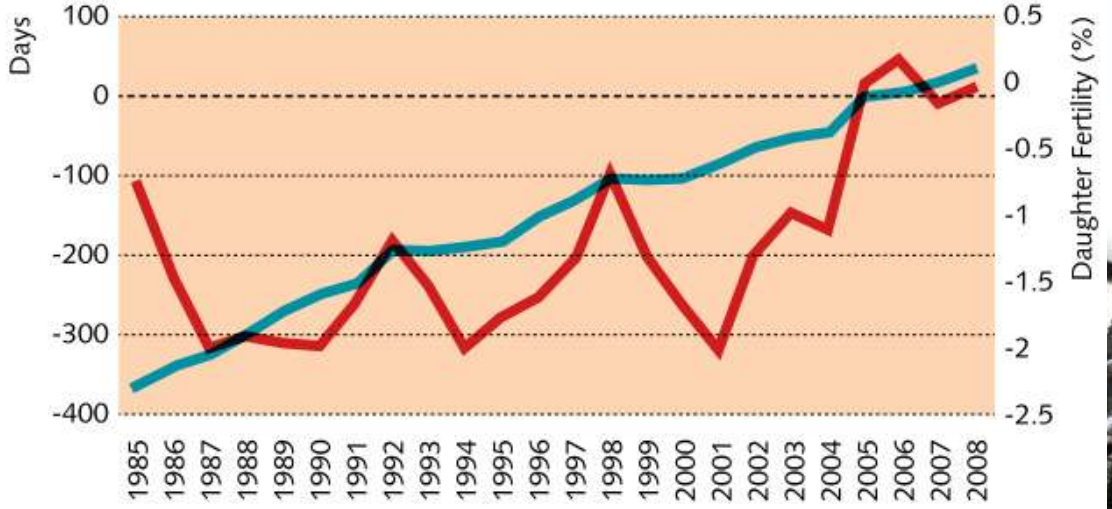
Graph 1

Average breeding value of cows for Milk Production and for Fat and Protein percent



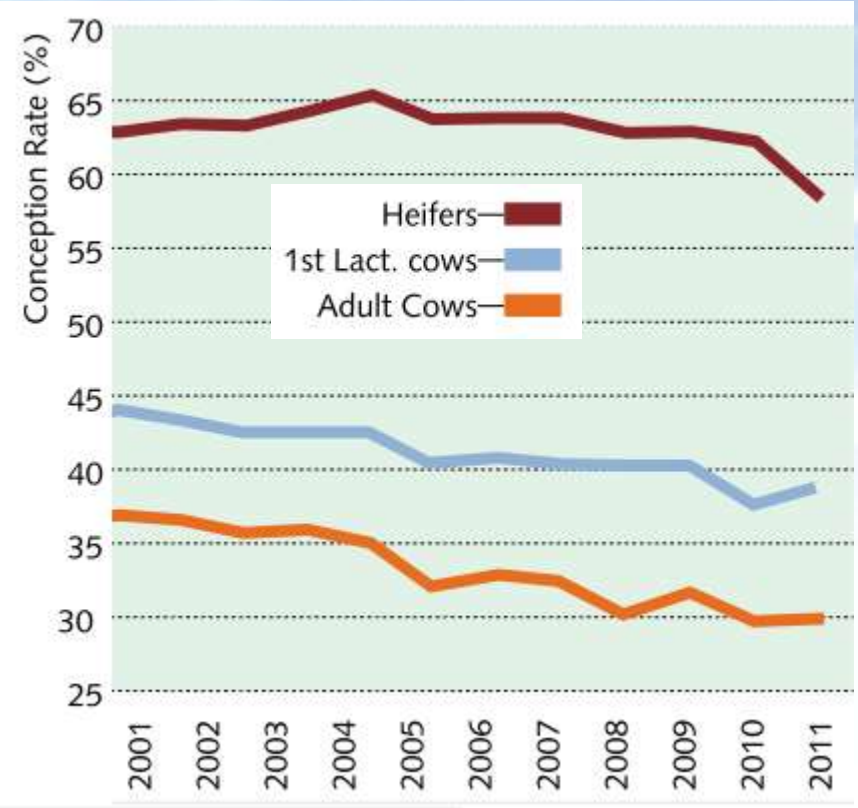
Graph 2

Average breeding value of cows for Daughter Fertility and Longevity



Conception Rates

Conception Rate at 1st service (%)			
Year	Heifers	1st Lact. cows	Adult cows
2001	63.9	44.0	37.1
2002	63.8	43.0	36.1
2003	64.6	43.0	36.4
2004	65.9	43.0	35.6
2005	64.2	40.7	32.6
2006	64.3	41.2	33.3
2007	64.3	40.9	33.0
2008	63.1	40.7	30.5
2009	63.1	40.6	32.0
2010	62.3	37.7	29.8
2011	58.4	38.8	30.0



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Common reproductive indices and their optimal values under ideal circumstances

Reproductive index	Optimal value	Value indicating serious problems
Calving interval	13 - 14 months	> 14 months
Average days to first observed heat	< 40 days	> 60 days
Cows observed in heat within 60 days after calving	> 90%	< 90%
Average days open to first breeding	60 to 75 days	> 85 days
Service per conception	< 2.0	> 2.5
First service conception rate of heifers	63 to 70%	< 60%

Reproductive indices (2)

Reproductive index	Optimal value	Value indicating serious problems
First service conception rate of lactating cows	40 to 60%	< 40%
Cows that conceived with less than 3 services	> 90%	< 90%
Cows with a breeding interval between 18 and 24 days	> 85%	< 85%
Average days open	90 to 115 days	> 140 days
Cows open more than 150 days	< 10%	> 15%

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Reproductive indices (3)

Reproductive index	Optimal value	Value indicating serious problems
Dry period length	53 to 64 days	< 45 or > 70 days
Abortion rate	< 5%	> 10%
Average age at first calving	24 months	< 24 or > 30 months
Culling rate for reproductive problems	< 10%	> 10%
Average DIM	170-180 days	> 190 days
Cull rate	=/<30%	> 35%

Michel A. Wattiaux
The Babcock Institute

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AfiFarm Data Management

- Data is entered and managed on farm Herd Management software
- Inseminator transfers all inseminations by WIFI while on farm site.
- Automatic monthly transfer of all animal events to DHI via Internet.
- Milk Test data is transferred by DHI automatically via Internet to farms.
- Same for new bulls, bull genetics and cow genetics

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Ferme GENUTIS - AfiFarm v 3.076

File Edit View Tools Window Help

New | Find | Type Animal to Find | Find Animal

Shortcu | Standard

Afifarm Today
Data Entry
Herd View
Station Reports
Health Reports
Estrus Reports
Group Reports
10 Day Graphs
Lactation Graphs
Vet Visit

AfiLab

Folder list

Afifarm Today

- Today
  - Afifarm Today
  - Parlor Monitoring
  - Today's Tasks
  - Reports Today
- Animals
- Milk Production
- Health
- Fertility
- Stations
- Individual Feed
- Calf Feeding
- Maintenance
- AfiTools
- My Folder

Afifarm Today (04/09/2012 06:58:04)

Design | Refresh | Add to schedule | Parameters

Summary (Milk Production Report)

Total animals	757		
Milked yes	755	Milked no	2
Total yield	26580		
Daily yield	35.1	Last week	35.3
Min. Cow	6180	Min. Milk	12.8
Max. Cow	6519	Max. Milk	56.0

Number of Events

General

Daily Agenda	--
List of Events	41
Today's Tasks	--
Vet Visit	--

Number of Animals

Health

Health for 2 Deviations	19
Anestrus	121
Suspected Abortion	6
Suspected Ketosis (AfiLab Configuration)	13

Fertility

Cows for Insemination	18
Expected Dry (Today)	55
Expected Calving (Today)	40
Heifers (pre) for Insemination	5

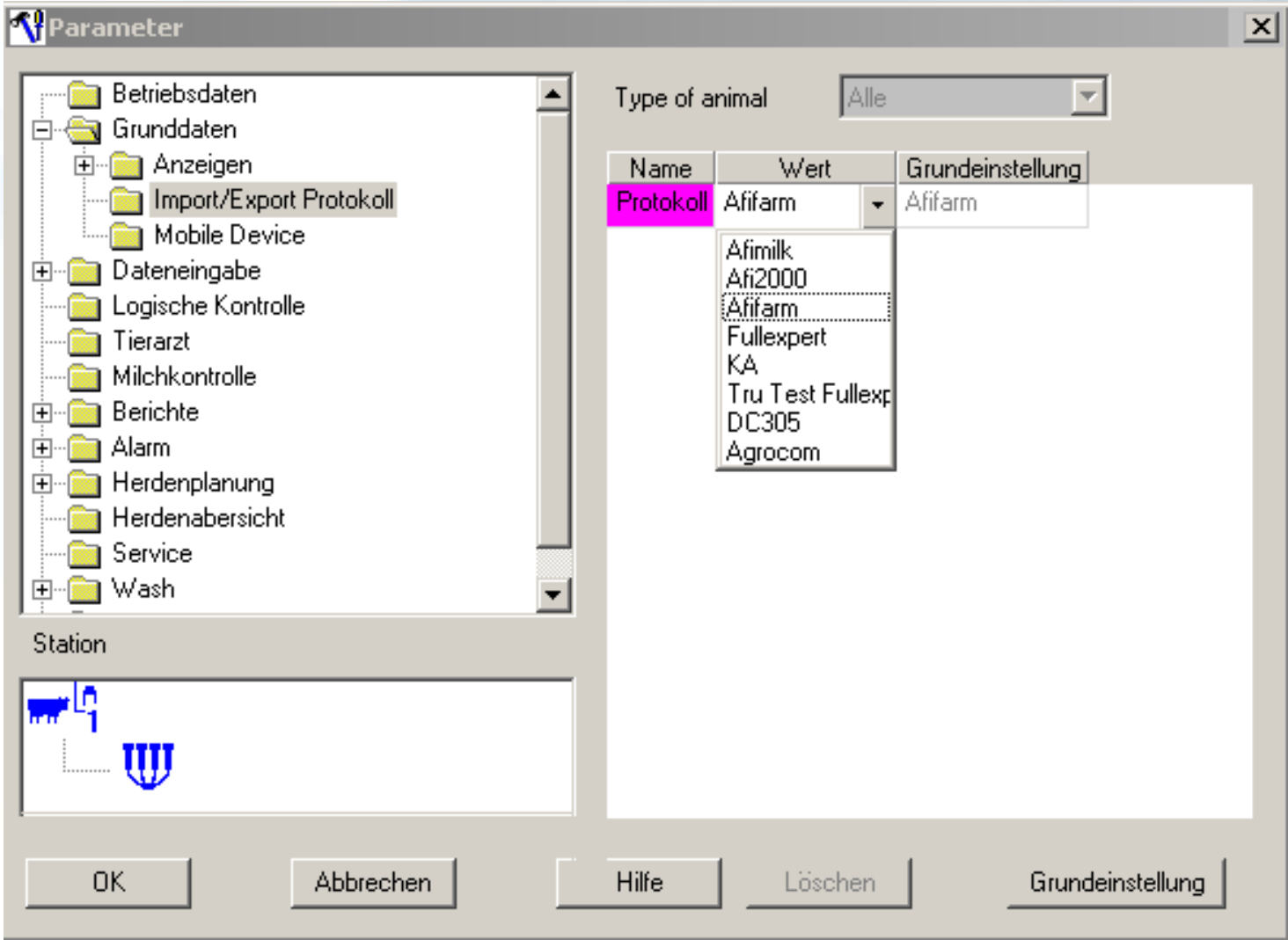
Animals

Milk Cows	757
Dry Cows	85
Offspring < 8 Days	--
Heifers (pre)	737
Pregnant Heifers	229

Current modification: משתמש

CAP NUM SCRL

Data transfer with major German Dairy Associations



DLG SIGNUM TEST
10/05 bestanden

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Herd Test Data

List

Milk Test

New | Edit | Delete | Report | Result | Import from file

Date	Month relation	Milk tester's name	Yield (m. t.)	Fat <%> (m.t.)	Protein <%> (m.t.)	Lactose <%> (m.t.)	SCC (m.t.)	Urea (m.t.)
18/07/2012	7		37.3	3.55	3.10	4.77	337	--
19/06/2012	6		37.3	3.70	3.14	4.84	336	--
22/05/2012	5		39.4	3.54	3.18	4.83	292	--
17/04/2012	4		39.5	3.64	3.25	4.84	278	--
11/03/2012	2		40.5	3.64	3.27	4.84	276	--
16/02/2012	2		39.6	3.80	3.35	4.91	268	--
18/01/2012	1		40.0	3.74	3.34	4.95	212	--
20/12/2011	12		39.6	3.63	3.32	4.92	176	--
23/11/2011	11		39.1	3.57	3.33	4.84	211	--
25/10/2011	10		36.0	3.72	3.23	4.82	214	--
25/09/2011	9		34.8	3.66	3.12	4.77	228	--
04/09/2011	8		34.8	3.50	3.19	4.90	244	--
19/07/2011	7		35.7	3.49	3.16	4.84	256	--

Details

Milk Test Result[18/07/2012]

Save and Close | Change animal list | Delete

Index	Cow	Grp.	Yield (m. t.)	Fat <%> (m.t.)	Protein <%> (m.t.)	Lactose <%> (m.t.)	SCC (m.t.)	Urea (m.t.)
1	244	9	36.3	3.58	3.33	4.61	214	--
2	270	14	35.2	3.70	3.07	4.66	293	--
3	276	2	27.4	3.58	3.16	4.24	99	--
4	325	6	37.7	3.45	2.67	4.50	115	--
5	329	10	32.7	3.88	3.54	4.48	116	--
6	384	1	47.0	3.34	2.95	4.55	141	--
7	436	1	34.7	3.89	2.87	4.73	37	--
8	450	6	35.3	3.51	2.98	4.63	2112	--
9	479	10	45.2	3.32	3.02	4.73	92	--
10	489	10	40.3	2.85	2.90	4.80	345	--
11	517	2	51.8	2.64	2.72	4.69	125	--
12	522	10	40.4	3.74	3.48	4.55	1369	--
13	528	6	42.6	2.68	2.82	4.34	163	--
14	537	5	28.5	4.51	2.85	4.55	1315	--
15	559	2	48.7	3.34	3.24	4.68	877	--

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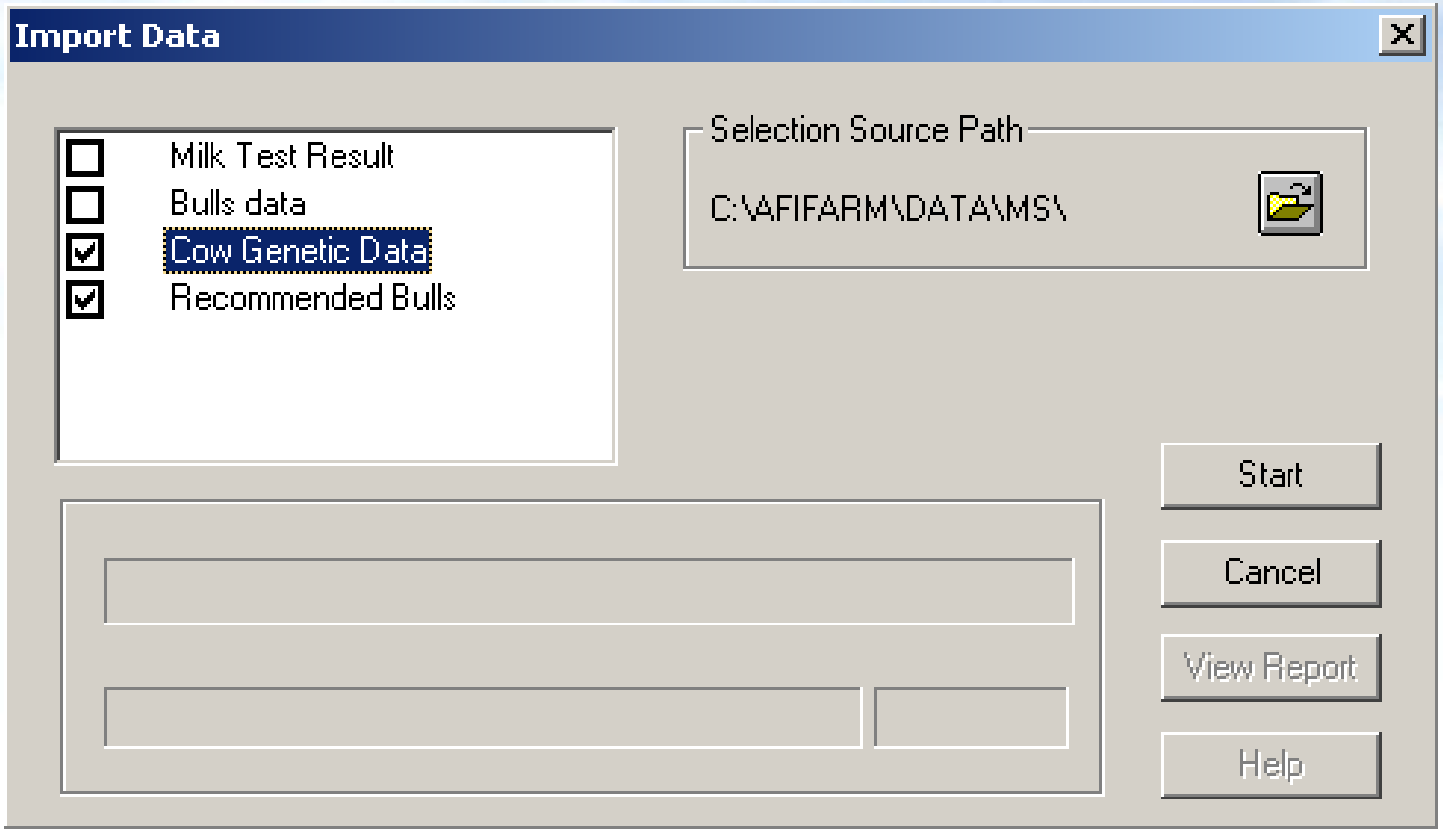
Import Data from Dairy Association



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Recommended Bulls in Cows for Insemination Report

Cows for Insemination + Recommended Bu (31/07/2007 06:12:26)

Save | Save As... | Design | Refresh

Index	Cow	Grp.	Number		DIM	Days After		Activity<%>			Prod. Rate<%>			First recom. bull ID	Second recom. bull ID
			Lact.	Insem.		Heat	Insem.	1	2	3	1	2	3		
1	464	1	1	2	253	32	32	506	147	-21	21	-9	-17	761704	963923
2	625	1	1	1	106	0	0	161	154	-16	-4	-2	-6	763729	963923
3	631	1	1	1	220	39	39	268	243	11	-35	39	-12	972128	972223
4	652	3	1	1	180	0	0	190	151	-8	-91	85	-16	761704	963923
5	655	2	1	1	58	5	5	139	121	35	2	-9	20	762250	974005
6	724	2	2	1	64	0	0	108	85	9	2	-7	-6	764092	970093
7	799	2	2	3	390	6	6	-28	93	14	-2	-21	1	973318	970093
8	842	3	3	1	224	7	7	-27	111	-23	1	-8	13	973689	974156
9	882 !	3	2	2	99	21	21	93	177	53	15	16	2	973689	974156
Avg.	--	--	--	1	177	12	12	157	142	6	-10	9	-2	--	--

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Bull Card with Genetic Data

Bulls

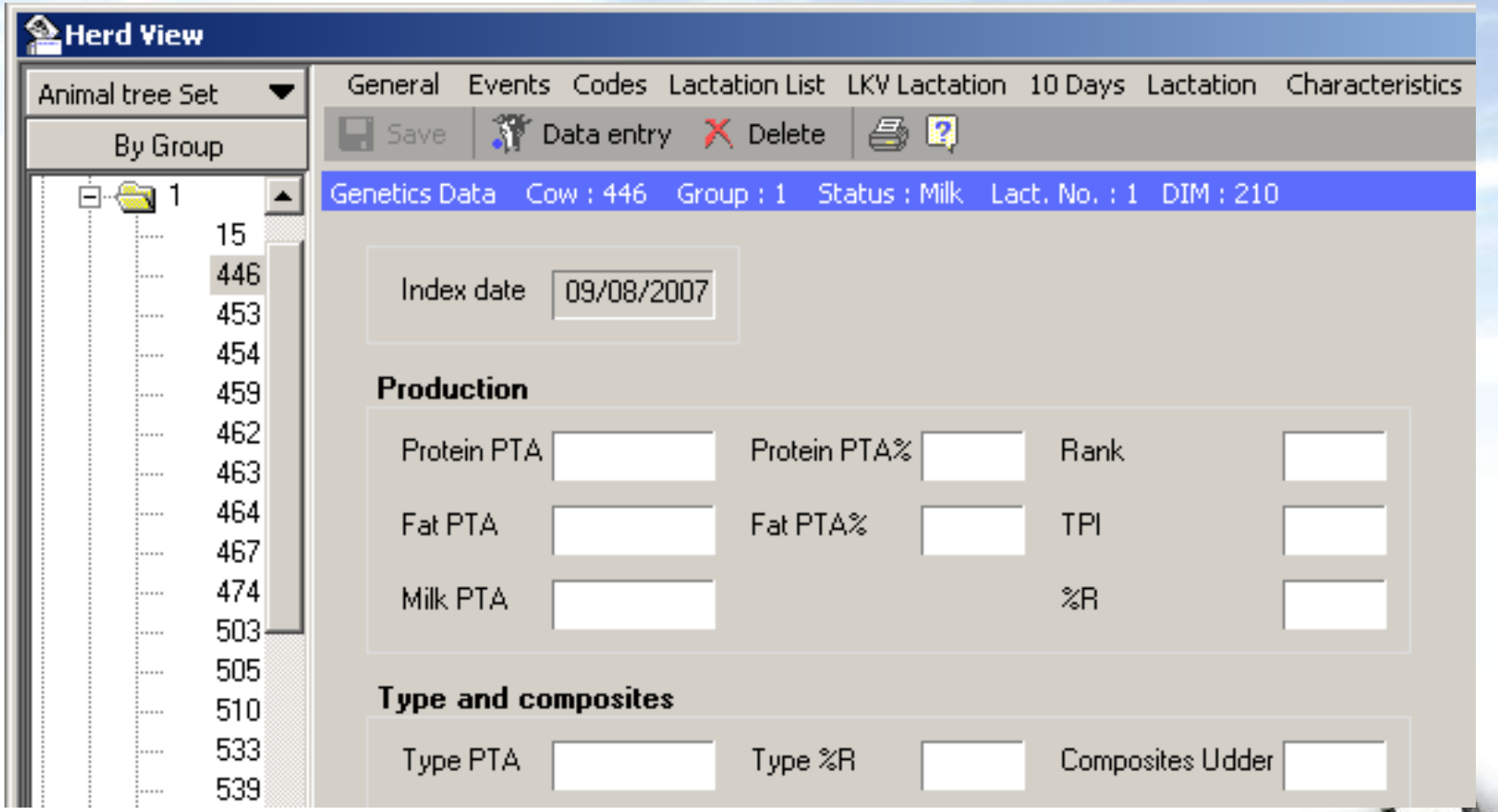
Save | New | Delete | Parents | Trigger

Type to Find | Advance Find | or Select One from the List below

Bull ID	Bull Name
60028	Bello Belg
761704	Jocko
762250	Spock Dik
763729	Togstorg
764092	Jango
770701	Darwin
963923	Dakota
970093	Grandprix
971915	Kirby
972128	Winton
972223	Rafael
972492	Stilist
973318	Olympic
973689	Canvas
974005	Alexander
974156	Fortune
974251	Pennoti
97/667	Cogan
977702	Libarator
977782	Mandell
977793	Manitoba

Bull ID	60028	Bull Name	Bello Belg
Bull's registr. no.			
Bull birth date		Bull breed	
Dam's no.	--	Sire's name	
Available for insemination	☑	Add Semen	
Semen portion available	1.00		
Available for natural breeding	☑		
Index date			
Protein PTA		Protein PTA%	
Fat PTA		Fat PTA%	
Net merit		TPI	
Milk PTA		%R	
Type PTA		Type %R	
Composites Udder		Composites FtLg	
Calving ease		Milking speed	

Cow Card with Genetic Data



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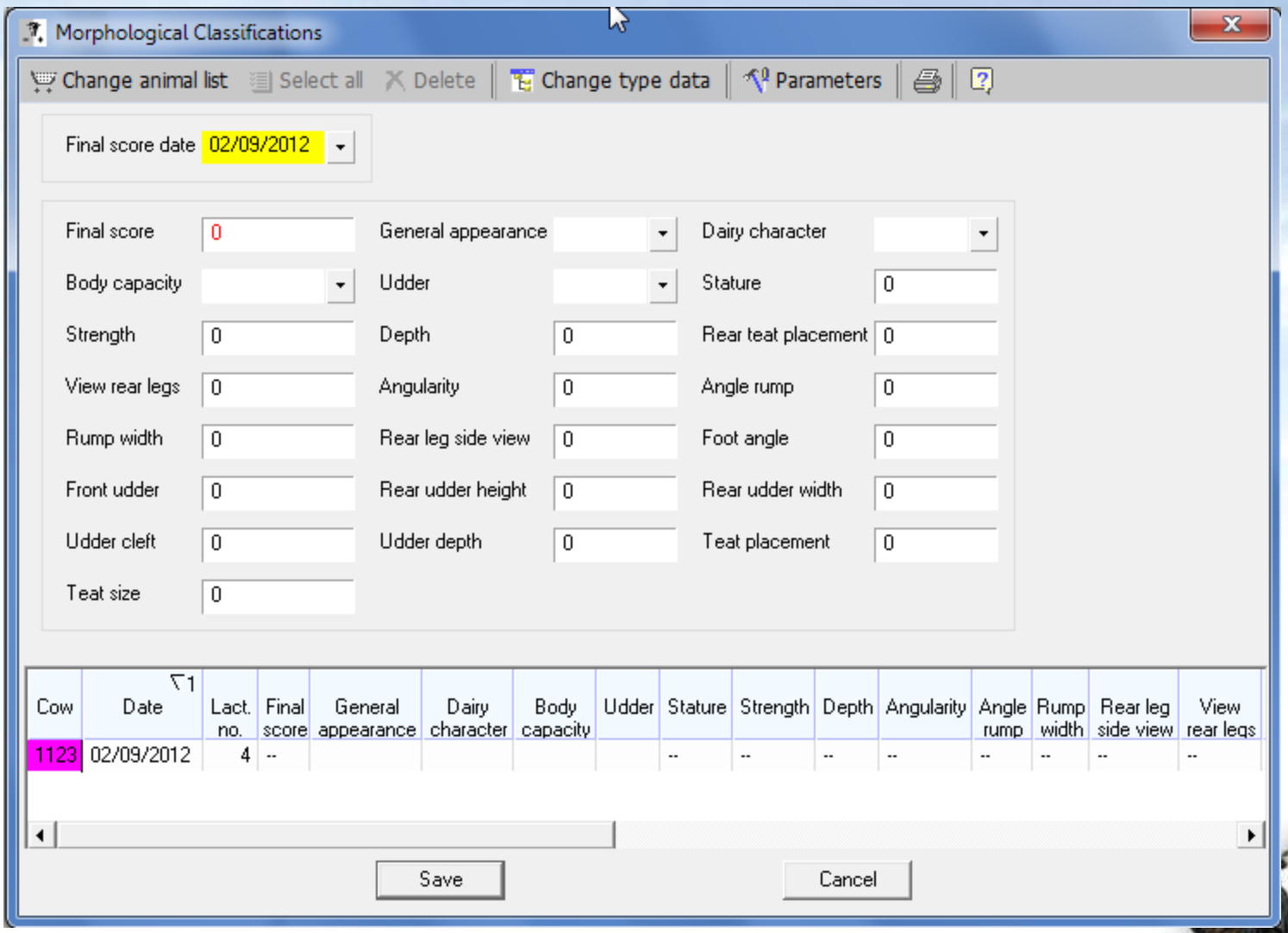
Cow Morphological Classification



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afimilk®

AfiAct™
Automatic Heat Detection and Fertility Management

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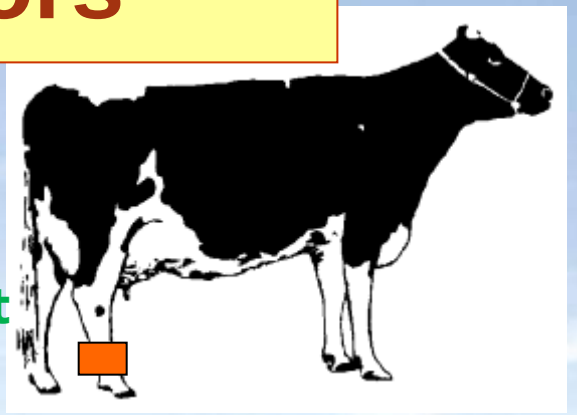
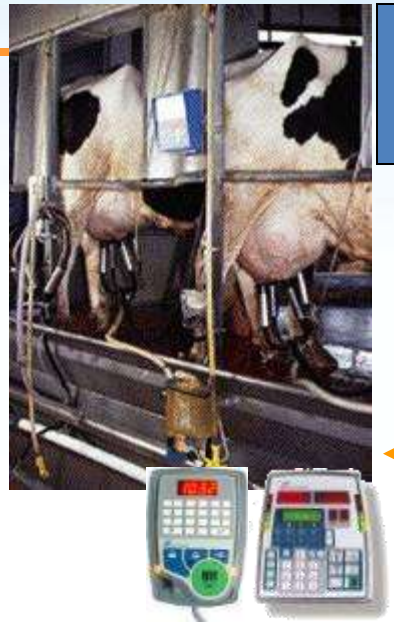
Data collected by the sensors

Self-Feeder

Identification
Walking
Activity- **AfiAct**

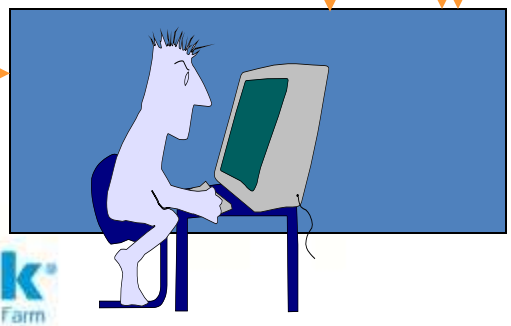


Weigh Scale
Sort Gate



Milking parlor

Milk Production
Milk Electric Conductivity
Milking Performance
Milk Components



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Pedometry & Heat Detection

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AfiAct™ - Identification and activity measurement with the AfiTag™ Pedometer

- Automatic heat detection
- No visual observation
- High sensitivity and accuracy

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Heat Detection

n = (2661)

Dransfield et al., 1998

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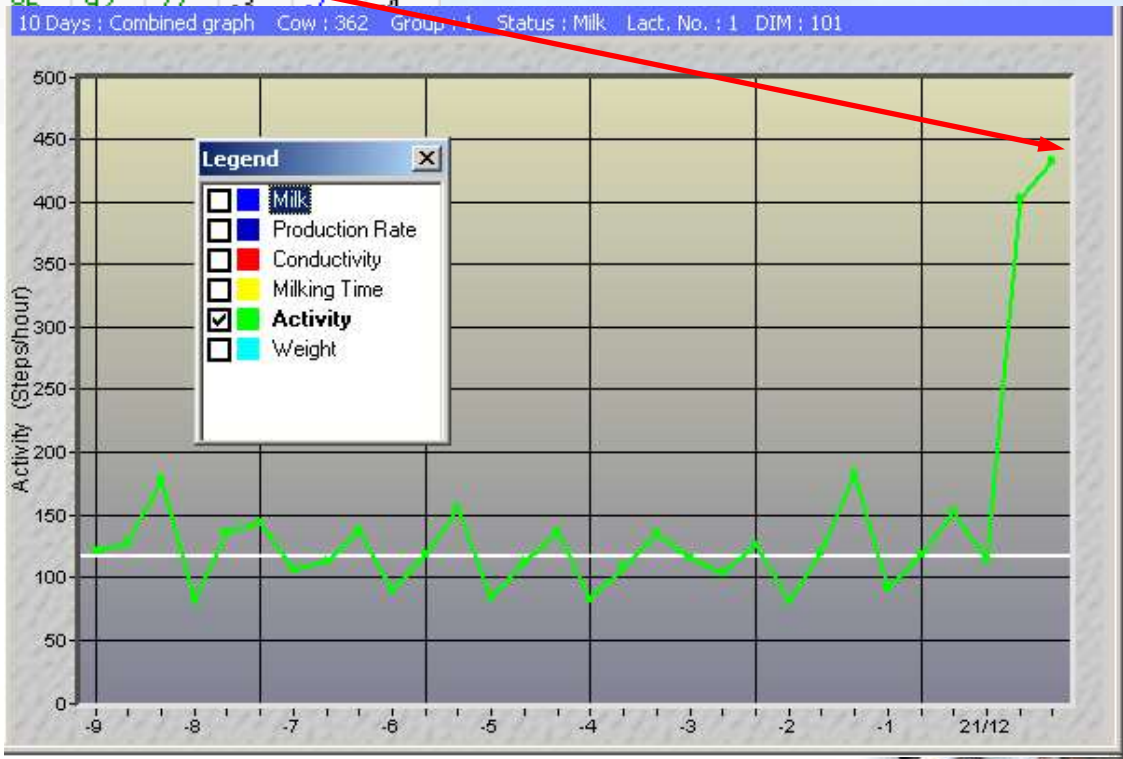
Cows for Insemination Report

Cows for Insemination

Design | Refresh | 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						
6	4680	2	5	--	89	35	--						
7	4695 +	2	5	--	49	5	--						



Increased Activity
Normal 21 Day Cycle since last Heat
History of previous heats

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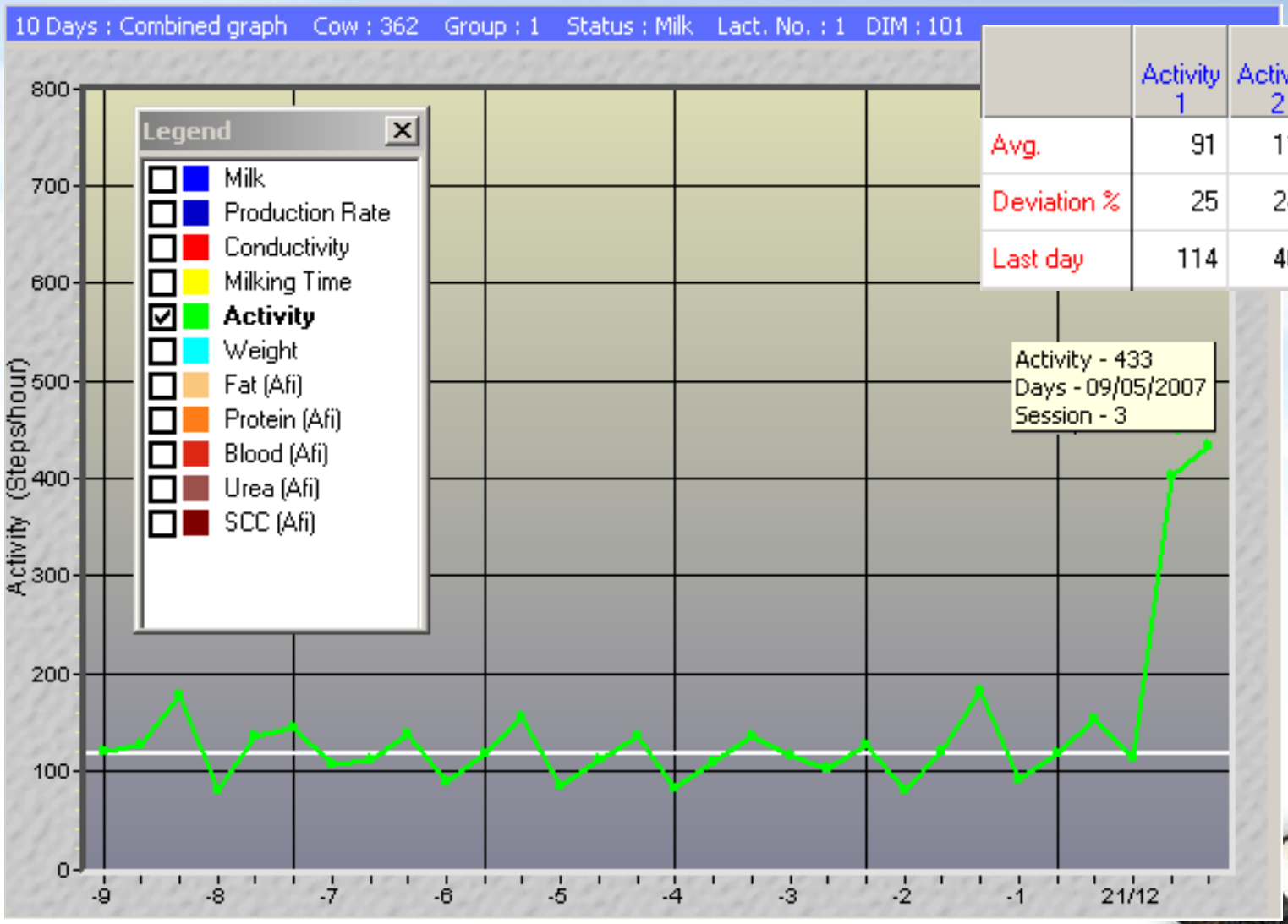
10 day activity graph



	Activity 1	Activity 2	Activity 3
Avg.	91	116	145
Deviation %	25	247	199
Last day	114	402	433

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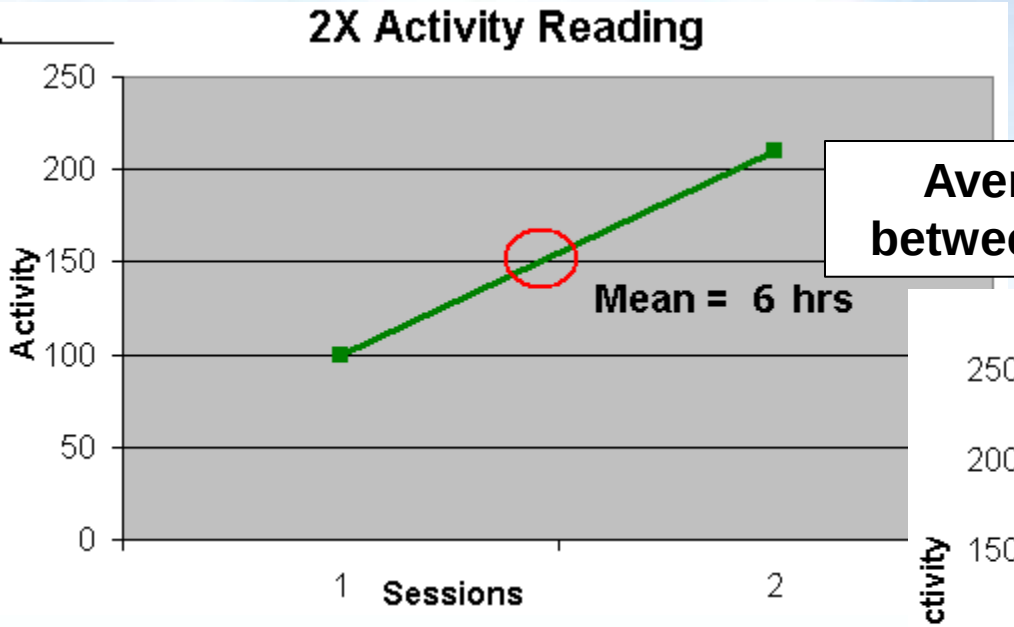
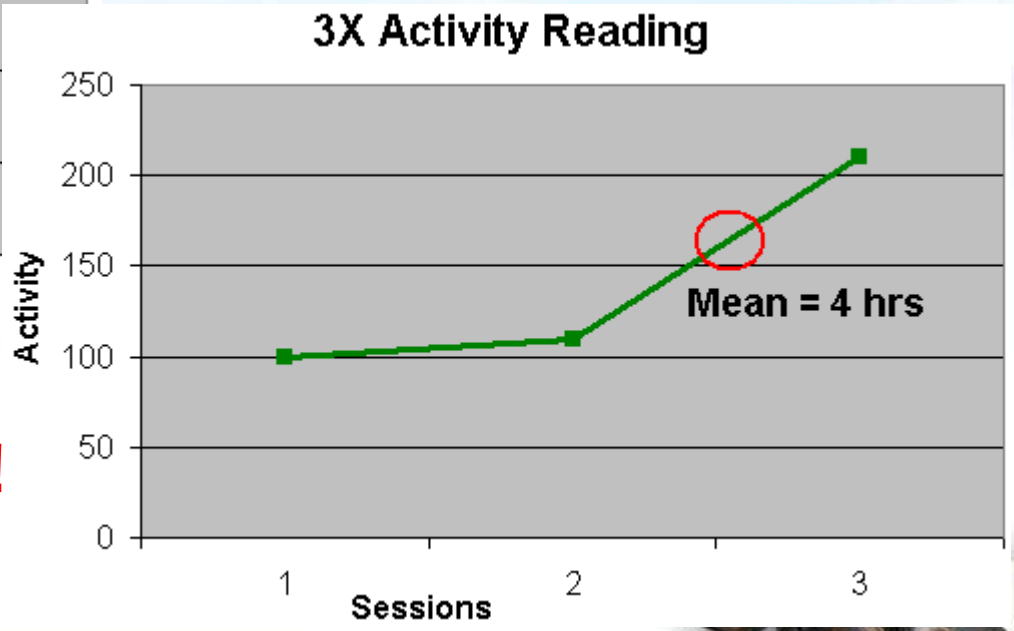
Optimal Timing of AI

Should occur between 6 and 17 h after increased pedometer readings (Maatje et al., 1997)



Average time between readings



Inseminate after first significant activity peak!

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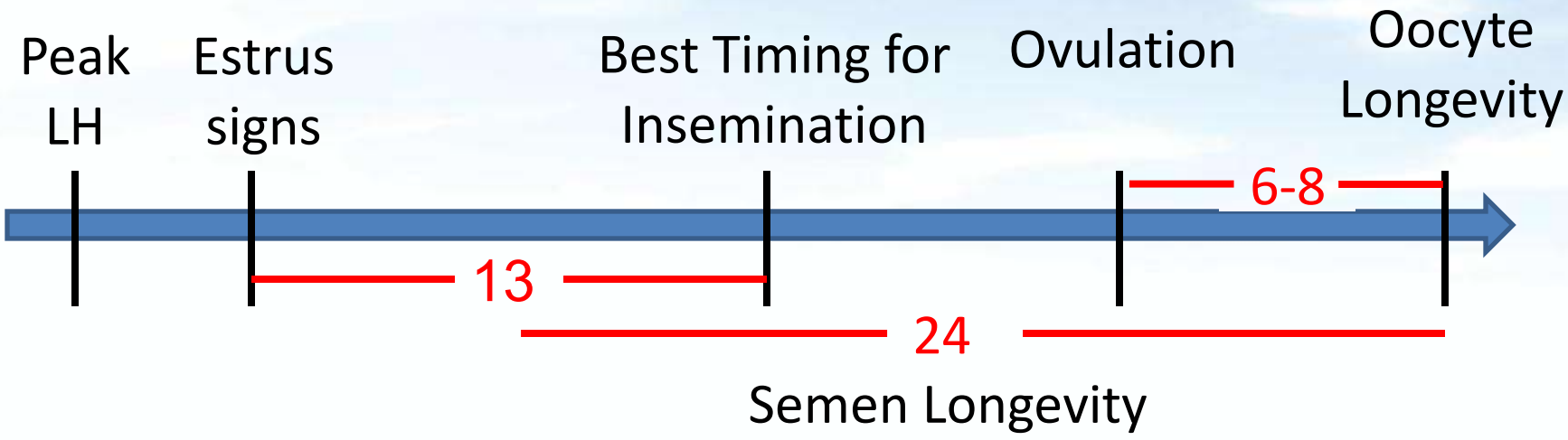
Time Table (Hours)



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Last timing for Insemination

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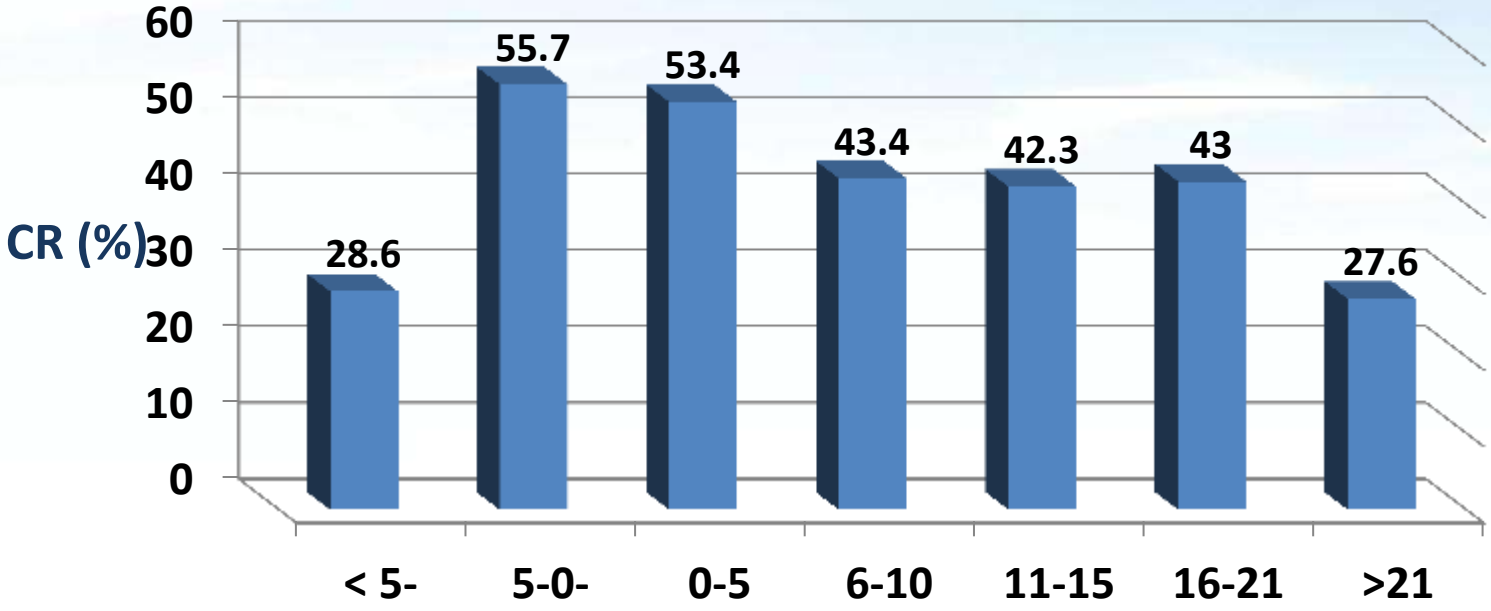
Timing of Insemination Based on afimilk Pedometry System (Hojman & Aizenbud, 1997)

C.R. (%) in correlation of insemination from the first activity deviation time



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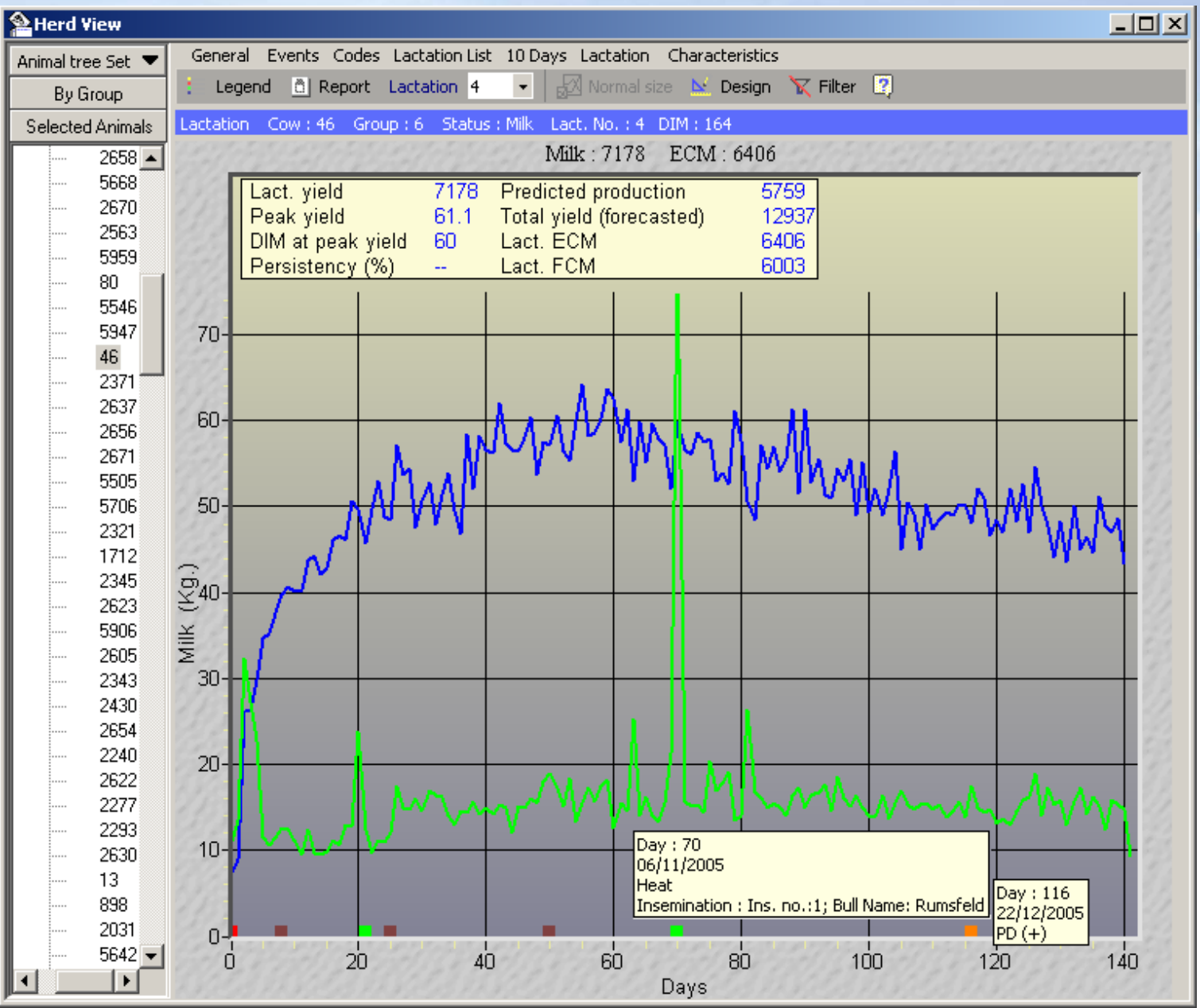
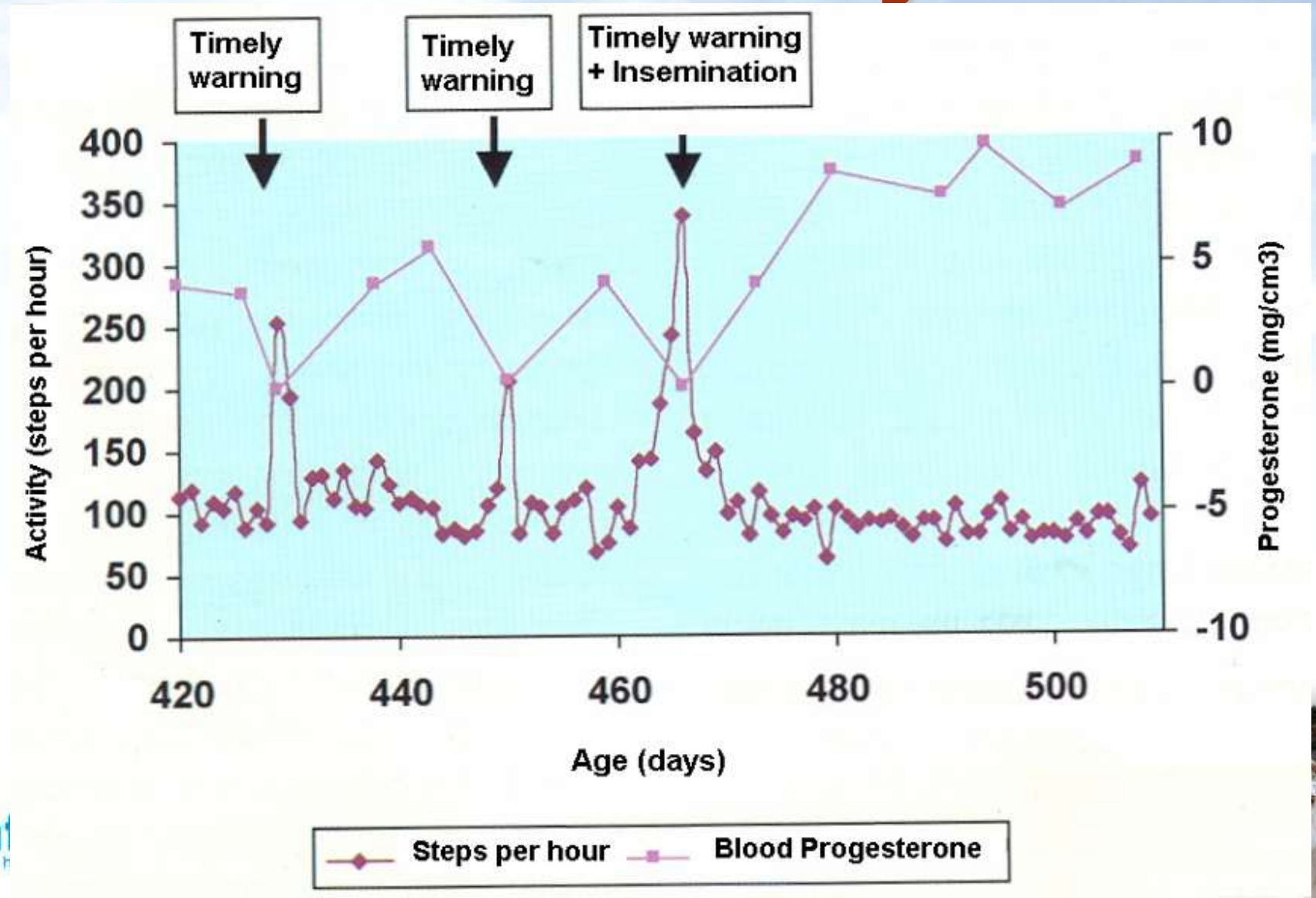
Lactation Graph



Cyclic Progesterone changes confirm the credibility of Pedometer findings



Pedometer

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time and money
for the farmer

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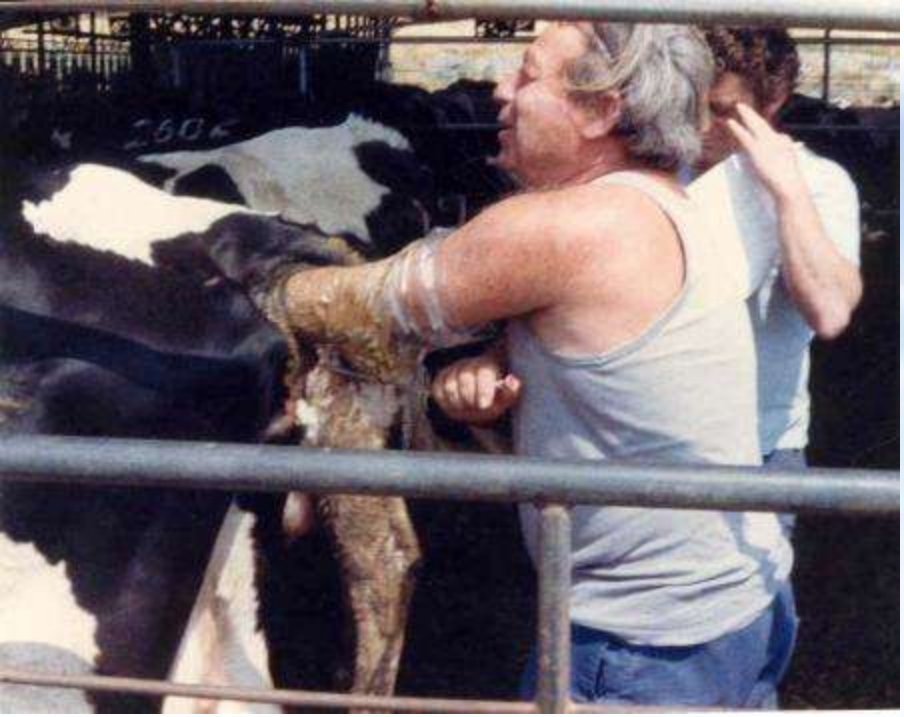

Fertility Management

Cows – Suspected Heat

Cows - Suspected Heat (Excessive Activity)

Design | Refresh | Cows - Suspected Heat (Excessive Activity)

Index	Cow	Grp.	Gyn. status	Number		DIM	After heat	After insem.	Activity<%>			Prod. Rate<%>		
				Lact.	Insem.				1	2	3	1	2	3
1	7557	6	Not for Insemination	6	2	428	253	233	110	-12	14	-3	6	2
2	7937	6	Not for Insemination	4	1	394	348	322	377	131	112	13	19	-19
3	8146	6	Not for Insemination	3	--	146	--	--	275	67	5	-4	22	2
4	8206	6	Not for Insemination	1	15	767	284	128	75	120	96	1	2	-8
5	8369	8	Calving	2	--	52	--	--	-18	-17	80	29	-10	15
6	8417	10	Pregnant	1	7	323	258	67	212	-27	46	28	21	7

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Suspected Abortion report

Suspected Abortion (05/22/2011 19:30:35)

Save | Save As... | Design | Refresh

Index	Cow	Grp.	Gyn. status	Cur.lact. abortions	Lifetime abortions	DIM	Days preg.	Days to dry off	Daily yield	Daily avg. yield	Activ. dev.<%> s. 1	Activ. dev.<%> s. 2	Activ. dev.<%> s. 3
1	8417	10	Pregnant	0	0	323	67	153	62.8	53.5	212	-27	46
2	8592	1	Pregnant	0	0	--	58	--	--	--	571	--	--
Total	--	--	--	0	0	--	--	--	62.8	--	--	--	--
Avg.	--	--	--	0	0	323	62	153	62.8	53.5	391	-27	46

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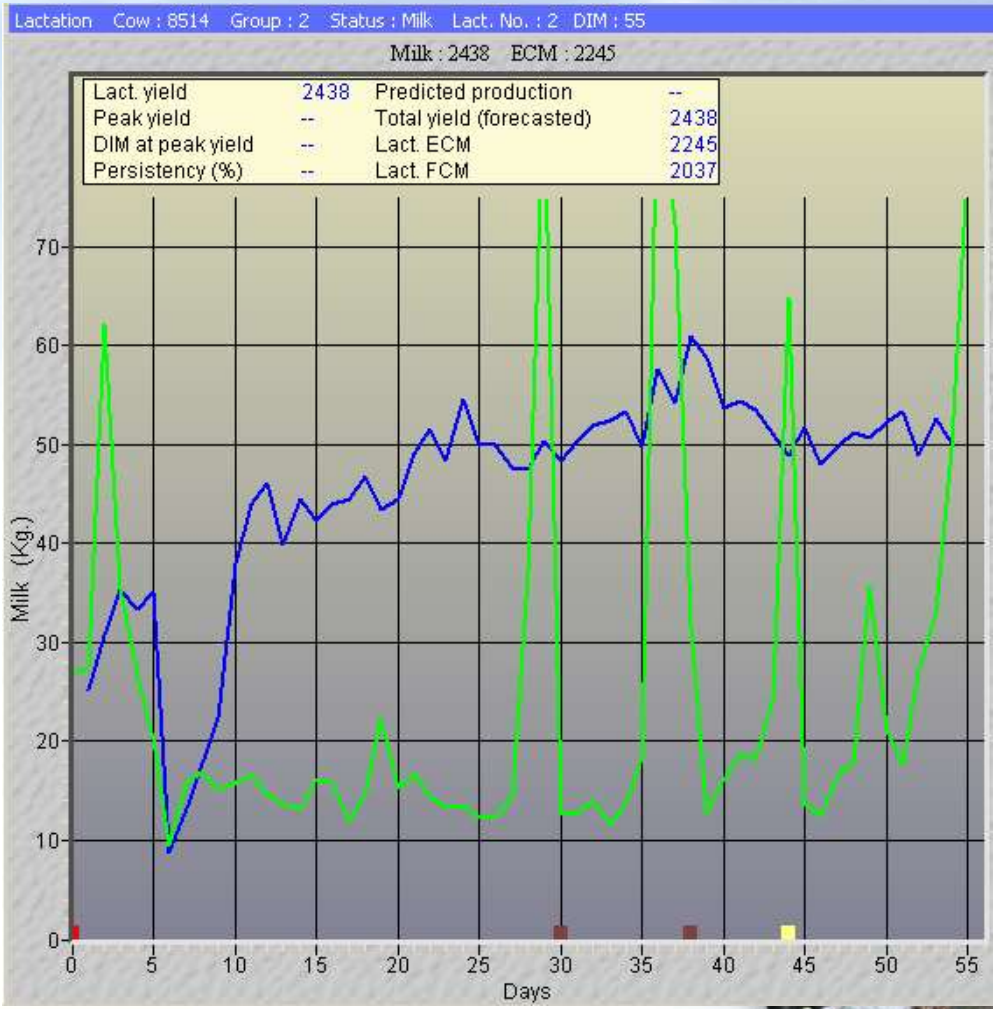
Easily find cystic cows

Cow #8514 – short cycles

Cows for Insemination

Design | Refresh | Cows for Insemination

Index	Cow	Grp.	Number		DIM	Days After		Activity<%>			Prod. Rate<%>		
			Lact.	Insem.		Heat	Insem.	1	2	3	1	2	3
1	2856 !	2	1	2	107	18	17	93	-4	12	-11	-1	5
2	6222	1	1	3	156	16	16	9	78	22	-19	4	4
3	6242 !	6	1	1	151	24	24	-26	107	-46	40	--	105
4	6954	2	2	2	132	3	3	48	172	73	-31	13	-9
5	8042	6	2	--	235	--	--	20	236	-19	95	92	35
6	8171 !	2	2	--	74	21	--	612	-19	363	-5	0	23
7	8213	1	2	--	88	--	--	176	-19	-2	-6	5	-7
8	8242	3	2	3	286	106	106	39	34	80	12	3	0
9	8275 !+	2	2	3	113	21	21	-16	-26	-18	-26	-3	0
10	8307	2	1	15	475	4	3	241	0	64	-9	-7	-3
11	8514	2	2	--	55	11	--	387	11	44	-15	-7	-7
12	8730 !	2	2	2	148	23	23	33	214	321	-34	-83	41



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Anestrus report

No animal is forgotten!

Anestrus (11/11/2005 06:23:17)

Save | Save As... | Design | Refresh

Index	Cow	Grp.	Status	Δ1 DIM	Age (months)	Gyn. status	After heat
1	7363	55	Heifer (pre)	--	15.0	Heat	37
2	7365	55	Heifer (pre)	--	14.9	Heat	32
3	5162	5	Milk	99	87.5	Calving	--
4	6958	2	Milk	100	26.3	Calving	--
5	7013	6	Milk	107	27.1	Calving	--
6	5636	6	Milk	117	43.7	Calving	--
7	7004	2	Milk	130	28.3	Calving	--
8	6125	3	Milk	166	111.5	Calving	--
9	2052	3	Milk	183	50.3	Calving	--
Avg.	--	--	--	128	45.0	--	34

Parameters

- Heifer Age
- VWP
- DIM (Days Open)

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Fertility analysis - CR

Fertility Report (General) (17/07/2011 - 17/07/2012) (02/09/2012 16:20:35)

Save | Save As... | Design | Refresh | Fertility Report (General)

		Heifers (pre)	Heifers (pre) %	1st lact.	1st lact. %	2+ lact.	2+ lact. %	All cows	All cows %	Total	Total %
Normal insem. and conception rates											
First inseminations	C.R.	320	60.62	226	48.23	484	35.33	710	39.44	1030	46.02
Second inseminations	C.R.	122	50.82	111	39.64	295	34.92	406	36.21	528	39.58
Third inseminations	C.R.	58	51.72	74	41.89	181	32.04	255	34.90	313	38.02
Fourth + more inseminations	C.R.	68	35.29	136	30.88	296	31.42	432	31.25	500	31.80
Total of inseminations	C.R.	568	54.40	547	40.77	1256	32.80	1803	35.22	2371	39.81

First Insemination Targets:

- **Heifers: 63%**
- **1st Lactation: 44%**
- **Adult cows: 35%**

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US Dairy Farm 17,000 cows (Jersey's and crossbred)

Fertility analysis – Distribution of cycles

Fertility Report (General) (30/07/2006 - 31/07/2007) (08/02/2009 12:37:32)

Save | Save As... | Design | Refresh | Fertility Report (General)

	Heifers (pre)	Heifers (pre) %	1st lact	1st lact %	2+ lact.	2+ lact. %	All cows	All cows %	Total	Total %
Heat Detection										
Distribution of cycles: 5-17 days	4	3.60	4	2.58	19	4.63	23	4.07	27	3.99
18-25 days	68	61.26	101	65.16	229	55.85	330	58.41	398	58.88
26-35 days	5	4.50	14	9.03	52	12.68	66	11.68	71	10.50
36-60 days	34	30.63	36	23.23	110	26.83	146	25.84	180	26.63
Average days betwee										
Rejections by insemina										
Preg. checks with neg										

Cycle Distribution Targets	
Short Cycles – 5-17 days	**>6% = cystic cows, check ration for estrogens**
Normal Cycles – 18-25 days	**~65%**
Long Cycles – 26-35 days	**>12% = early embryonic death**
Double Cycles – 36-60 days	**>17% = review Estrus Parameters and use of the Estrus reports**

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Fertility Indexes

Fertility Report (General) (30/07/2006 - 31/07/2007) (08/02/2009 12:37:32)

Save | Save As... | Design | Refresh | Fertility Report (General)

Fertility Report (General) (02/04/2010 - 03/04/2011) (02/10/2011 13:10:50)

Save | Save As... | Design | Refresh | Fertility Report (General)

	Heifers (pre)	Heifers (pre) %	1st lact.	1st lact. %	2+ lact.	2+ lact. %	All cows	All cows %	Total	Total %
Sums and Averages										
Calving Interval					378		378			
Total of confirmed pregnancies	183	100.00	250	83.89	1094	85.00	1344	84.79	1527	86.37
Avg. days open	16.07		97		103		102			
Avg. days to first service	12.33		68		60		61			
Avg. Wasted Days	--		29		43		40		36	
Open more then 150 DIM			31	12.35	205	17.42	236	16.53		
Avg. inseminations per cow	1.01		2.07		2.44		2.37		2.23	
Avg. inseminations per pregnancy	1.00		2.05		2.30		2.26		2.10	

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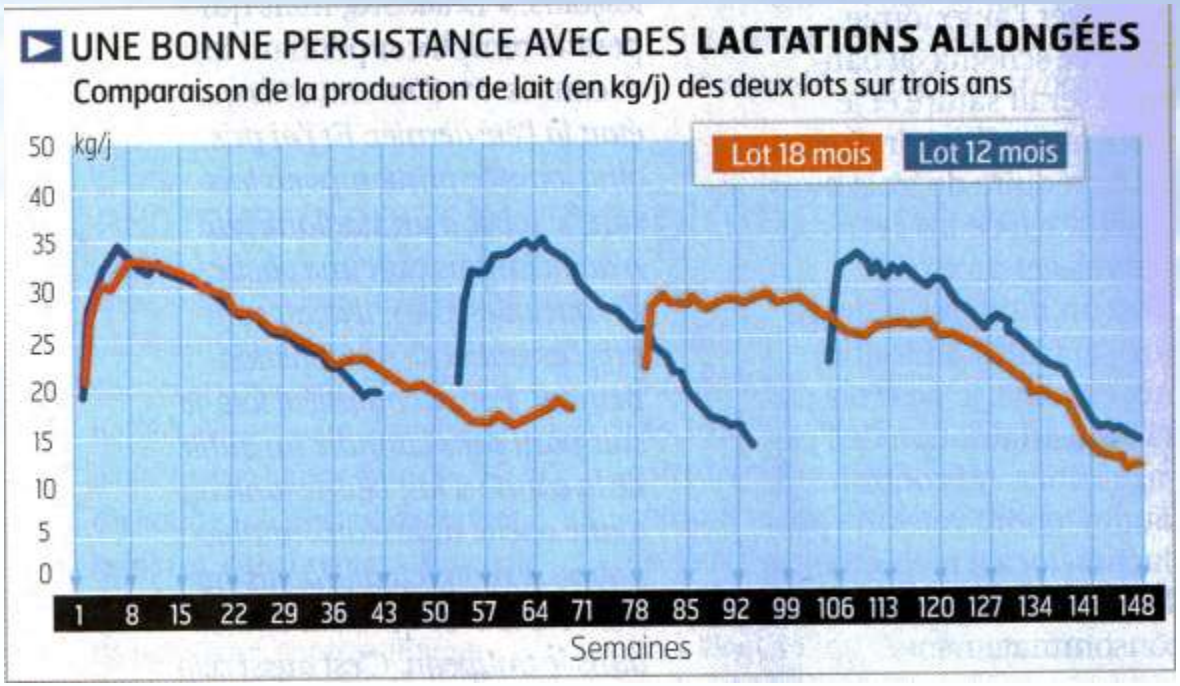
Prolonged Lactations?



Prolonged Lactations – why not! Israeli conclusions

- Shorter lactations = more peak milk days
- More milk produced per period
- Less chance of “Fat cow syndrome”
- Less metabolic disease: Ketosis, LDA

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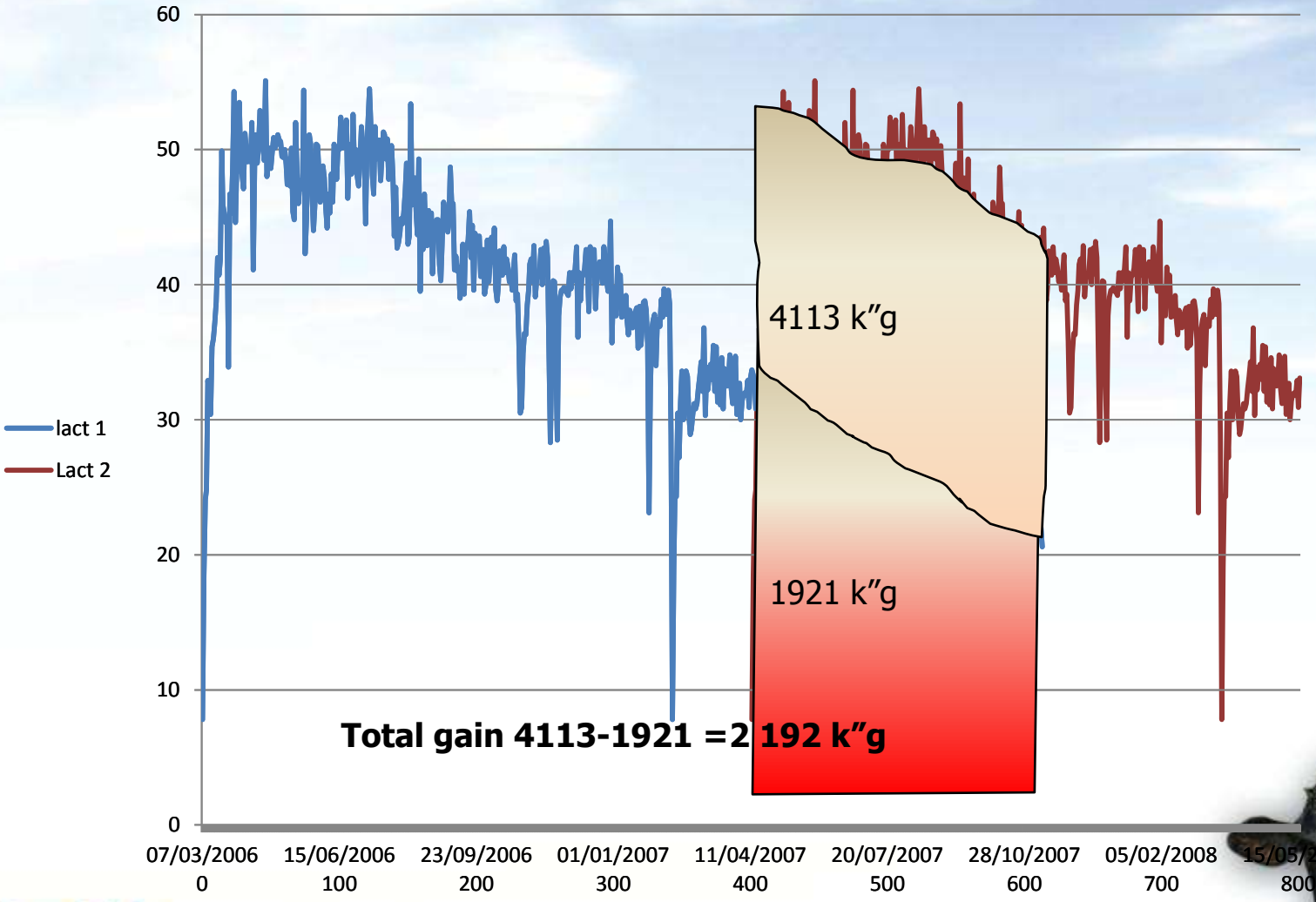
Improve Calving interval



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Fertility analysis

Fertility: Conception rates per Bull (1)

Fertility Report (by Bull) (11/03/2010 - 12/03/2011) (02/10/2011 13:01:35)

Save | Save As... | Design | Refresh | Fertility Report (by Bull)

Bull Name	Bull ID	1st normal insem.	▽1 CR 1st insem.	2+ more normal insem.	CR 2+ insem.	Heifers (pre)	Cows	Total normal insem.	Heifers (pre) CR	Cows CR	CR total	Insem. without follow-up	Double insem.	Total insem.
29H13494	29H13494	5	60.00	16	43.75	--	21	21	--	47.62	47.62	--	1	21
94H876	94H876	2	50.00	3	33.33	--	5	5	--	40.00	40.00	--	--	5
29H13268	29H13268	112	41.07	154	41.56	--	266	266	--	41.35	41.35	5	3	271
11H8618	11H8618	27	40.74	19	36.84	--	46	46	--	39.13	39.13	1	3	47
11H0528	11H0528	5	40.00	2	50.00	--	7	7	--	42.86	42.86	--	--	7
29H13388	29H13388	28	39.29	45	40.00	--	73	73	--	39.73	39.73	--	5	73
29H13352	29H13352	46	39.13	50	40.00	--	96	96	--	39.58	39.58	1	79	97
29H11938	29H11938	243	38.27	354	37.01	--	597	597	--	37.52	37.52	10	11	607
29H11090	29H11090	77	36.36	118	40.68	--	195	195	--	38.97	38.97	2	7	197
29H11359	29H11359	453	33.33	884	38.80	--	1337	1337	--	36.95	36.95	18	26	1355
29H13080	29H13080	145	31.72	302	36.75	--	447	447	--	35.12	35.12	6	19	453
29H10370	29H10370	164	31.71	224	36.16	--	388	388	--	34.28	34.28	6	4	394
29H11992	29H11992	13	30.77	25	28.00	--	38	38	--	28.95	28.95	1	2	39

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Fertility analysis

Fertility: Conception rates per Bull (2)

Fertility Report (by Bull) (10/31/2007 - 10/31/2008) (11/30/2008 15:10:24)

Save | Save As... | Design | Refresh | Fertility Report (by Bull)

Bull Name	Bull ID	1st normal insem.	CR 1st insem.	2+ more normal insem.	CR 2+ insem.	Heifers (pre)	Cows	Total normal insem.	Heifers (pre) CR	Cows CR	CR total	Insem. without follow-up	Double insem.	Total insem.
PLUS	7HO07839	55	49.09	123	34.15	25	153	178	44.00	37.91	38.76	1	1	179
52H048	52H048	31	48.39	37	40.54	--	68	68	--	44.12	44.12	1	--	69
NILES	29HO10932	53	47.17	138	32.61	39	152	191	46.15	34.21	36.65	--	1	191
MASTER	7HO08036	52	44.23	108	33.33	17	143	160	29.41	37.76	36.88	--	--	160
29H10124	123586443	7	42.86	12	16.67	--	19	19	--	26.32	26.32	--	--	19
REECE	29HO10356	26	42.31	41	39.02	38	29	67	42.11	37.93	40.30	1	--	68
SCOOP	14HO04110	55	41.82	107	27.10	--	162	162	--	32.10	32.10	--	1	162
52HO046	52HO046	27	40.74	39	38.46	--	66	66	--	39.39	39.39	--	--	66
PROWLER	529HO11481	5	40.00	3	66.67	8	--	8	50.00	--	50.00	--	--	8
HOMESTEAD	29HO11153	72	37.50	118	33.05	--	190	190	--	34.74	34.74	2	1	192
1H5491	121407948	16	37.50	15	20.00	31	--	31	29.03	--	29.03	--	1	31

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Fertility analysis

Fertility: Conception rates per Inseminator

Fertility Report (by Inseminator) (08/02/2010 - 08/02/2011) (02/10/2011 12:54:56)

Save | Save As... | Design | Refresh | Fertility Report (by Inseminator)

Inseminator's name	1st normal insem.	CR 1st insem. ▽1	2+ more normal insem.	CR 2+ insem.	Heifers (pre)	Cows	Total normal insem.	Heifers (pre) CR	Cows CR	CR total	Insem. without follow-up	Double insem.	Total insem.
Randy	569	39.72	727	39.48	--	1296	1296	--	39.58	39.58	18	97	1314
Chalk	250	39.20	483	39.54	--	733	733	--	39.43	39.43	8	17	741
Pedro D	47	38.30	54	24.07	--	101	101	--	30.69	30.69	6	--	107
Jim Parsch	42	38.10	129	44.96	--	171	171	--	43.27	43.27	1	3	172
Marcia	198	32.83	369	38.75	--	567	567	--	36.68	36.68	6	35	573
Ross	50	22.00	--	--	--	50	50	--	22.00	22.00	1	--	51
Ryan Kuhl	122	18.03	138	34.06	1	259	260	100.00	26.25	26.54	3	--	263
Juan	95	16.84	2	--	--	97	97	--	16.49	16.49	1	--	98

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Fertility analysis

Fertility: Conception rates per Inseminator

Fertility Report (by Inseminator) (10/31/2007 - 10/31/2008) (11/30/2008 15:11:57)

Save | Save As... | Design | Refresh | Fertility Report (by Inseminator)

Inseminator's name	1st normal insem.	▽1 CR 1st insem.	2+ more normal insem.	CR 2+ insem.	Heifers (pre)	Cows	Total normal insem.	Heifers (pre) CR	Cows CR	CR total	Insem. without follow-up	Double insem.	Total insem.
Jeremy Block	508	42.91	641	37.75	391	758	1149	41.69	39.18	40.03	4	--	1153
Luciano Bonilla	18	38.89	65	33.85	36	47	83	33.33	36.17	34.94	--	--	83
Grady Byers	16	37.50	73	20.55	--	89	89	--	23.60	23.60	--	--	89
Eric Diepersloot	44	34.09	94	32.98	--	138	138	--	33.33	33.33	3	1	141
Judy Fowler	5	20.00	127	32.28	--	132	132	--	31.82	31.82	--	--	132
Jeff Tomlinson	10	20.00	37	10.81	--	47	47	--	12.77	12.77	--	--	47

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Pregnancy Rate Detection

Pregnancy Rate Detection (01/02/2010 - 28/02/2011) (02/10/2011 14:55:55)

Design | Refresh | Parameters

Date	Heat eligible	Heat	Heat detection rate %	Pregnancy eligible	Pregnancy	Pregnancy rate %	Abortion
26/01/2010 - 15/02/2010	299	178	60	300	63	21	10
16/02/2010 - 08/03/2010	287	154	54	291	59	20	7
09/03/2010 - 29/03/2010	304	186	61	303	69	23	1
30/03/2010 - 19/04/2010	296	155	52	298	57	19	3
20/04/2010 - 10/05/2010	329	213	65	328	71	22	6
11/05/2010 - 31/05/2010	382	183	48	383	66	17	5
01/06/2010 - 21/06/2010	444	292	66	446	112	25	5
22/06/2010 - 12/07/2010	437	244	56	441	95	22	5
13/07/2010 - 02/08/2010	435	312	72	438	114	26	3
03/08/2010 - 23/08/2010	397	216	54	399	78	20	5
24/08/2010 - 13/09/2010	385	253	66	388	99	26	15
14/09/2010 - 04/10/2010	367	257	70	365	102	28	17
05/10/2010 - 25/10/2010	299	219	73	301	69	23	10
26/10/2010 - 15/11/2010	277	162	58	277	57	21	9
16/11/2010 - 06/12/2010	279	182	65	282	73	26	11
07/12/2010 - 27/12/2010	262	138	53	262	48	18	7
28/12/2010 - 17/01/2011	304	206	68	298	72	24	15
18/01/2011 - 07/02/2011	311	186	60	304	67	22	12
08/02/2011 - 28/02/2011	315	173	55	313	67	21	11
Sum	6409	3909	61	6417	1438	22	157

- Raising your herd's PR means that you can reduce reproductive culling
- Dramatically lower replacement costs
- Produce more milk because cows are at peak lactation (fresh) more often
- Have more calves born per year

Pregnancy Rate is a time-sensitive variable. Pregnant cows at 60 to 80 days in milk are more valuable than pregnant cows anytime later.
So, it is worthwhile to invest dollars and effort into reliable heat detection that will accelerate pregnancies in this early window.

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Goal = >20%

Lactations Comparison & Persistency

Milk by Lactation Graph

305 day average production per lactation

Targets:

Yield

- **3+ Lactation should have highest yield**
- **2nd Lactation – 96% of 3+**
- **1st Lactation – 79% of 3+**

DIM at Peak Yield

Early peak can indicate NEB, late peak reflects high instance of Calving disease.

- **3+ Lactation – 60-70 DIM**
- **2nd Lactation – +/- 70 DIM**
- **1st Lactation – 90-110 DIM**

Persistency

- **3+ Lactation – 87%**
- **2nd Lactation – 89%**
- **1st Lactation – 90%**

SOP's for preventing Fertility problems

- Post-partum check of all cows at 5-12 DIM
- NEB and Ketosis monitoring
- BCS and BW monitoring
- Mastitis control
- Strict adherence of dry periods of 54-67 days
- Monitoring of Anestrus cows
- Monitoring of Sub Acute Ruminal Acidosis
- Cool cows properly, avoid heat stress
- Feed more concentrated rations in summer

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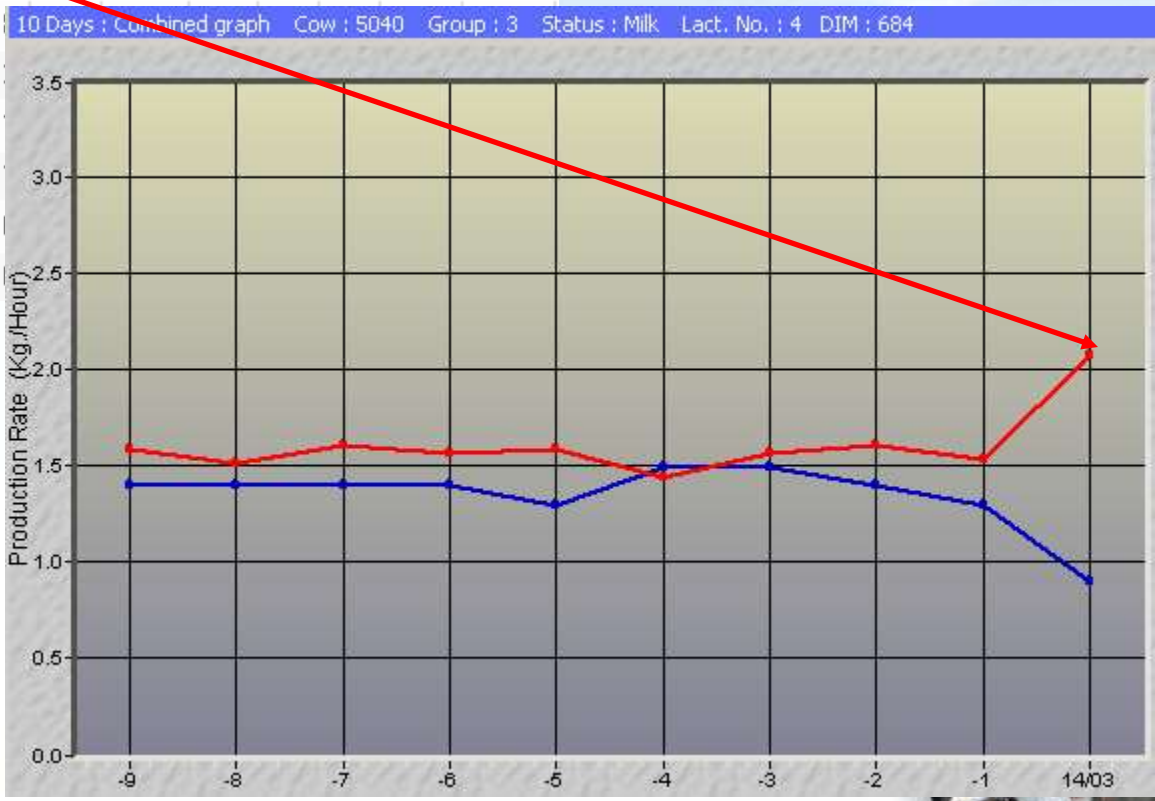
Early Mastitis Detection

Health for 2 Deviations

Design | Refresh | Health for 2 Deviations

Index	Cow	Grp.	DIM	Pop. type	Daily avg. yield	Prod. Rate<%> 1	Prod. Rate<%> 2	Prod. Rate<%> 3	Conductivity<%> ∇1 1	Conductivity<%> 2	Conductivity<%> 3	Activity<%> 1	Activity<%> 2	Activity<%> 3	Daily yield <%>	Daily yield
1	5040	3	684	D	34.5	-44	8	-20	24	-5	7	-36	-9	-2	-24	26.21
2	8988	7	515	D	45.1	-22	-51	--								
3	8799	5	473	D	67.3	-42	44	-36								
4	8654	4	756	D	29.7	38	-14	-100								
5	9541	6	557	D	46.2	-13	-39	-42								
6	2262*	6	474	D	37.0	-92	-66	-80								
7	2368	6	446	H	39.3	-31	-7	-43								



Increased Conductivity
Drop in Milk
Detection

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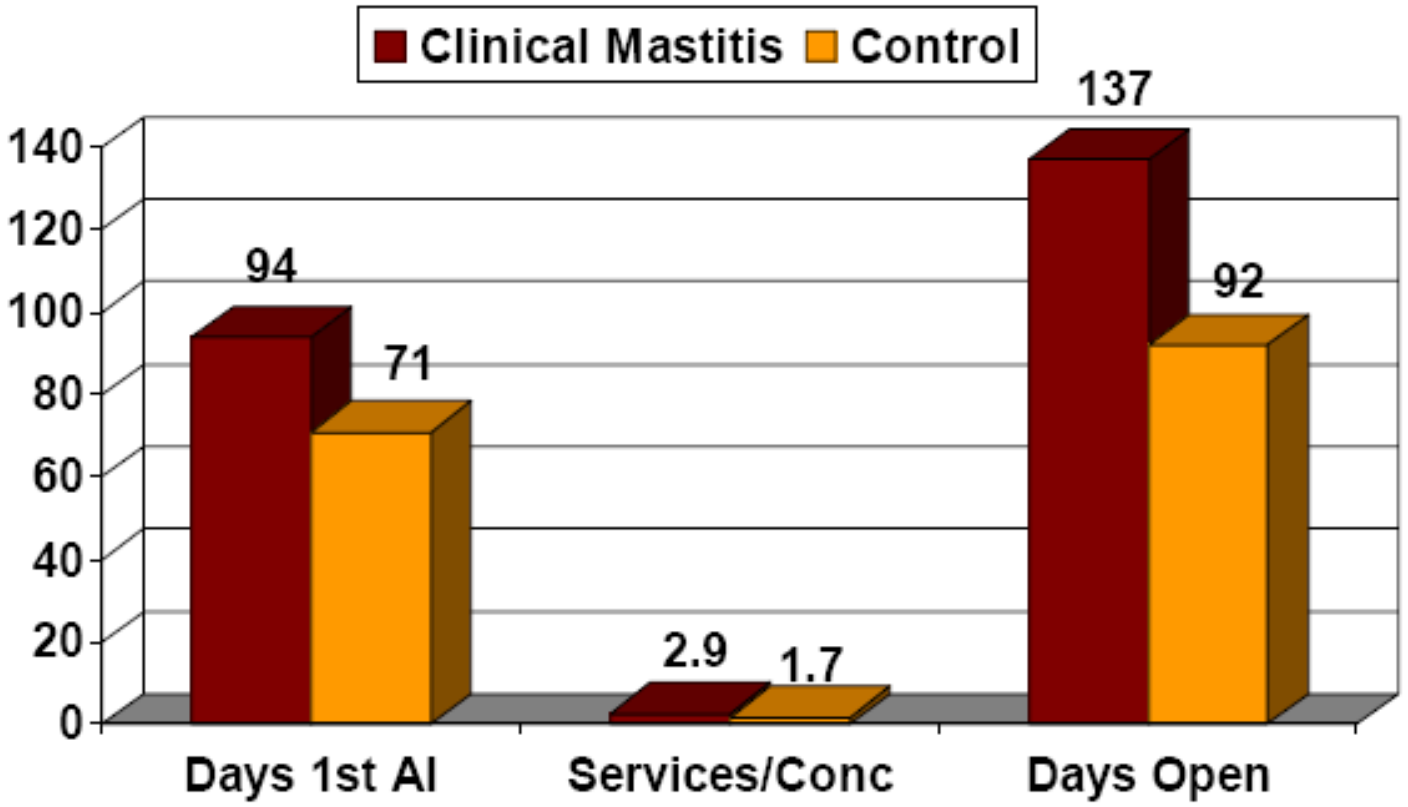
Mastitis Affects Conception!!!



Oliver et al., 2000 NMC Proc. 35-36.


7643

Solutions for farmers with Fertility problems

- **Afifarm Training Team – F2F, remote support**
- **Afimilk Professional Services Team**
- **NIR Analysis**

What is a NIR Model Analysis?

Nir Model was developed by an Israeli veterinarian, Oded Nir (Markusfeld)*, one of the leaders of Israeli Dairy industry.

Nir Model analyzes the performance of a dairy farm by cross reference of collected data in a unique multi factorial algorithm processed in a computer. The model is designed to answer questions that bother the dairy manager most:

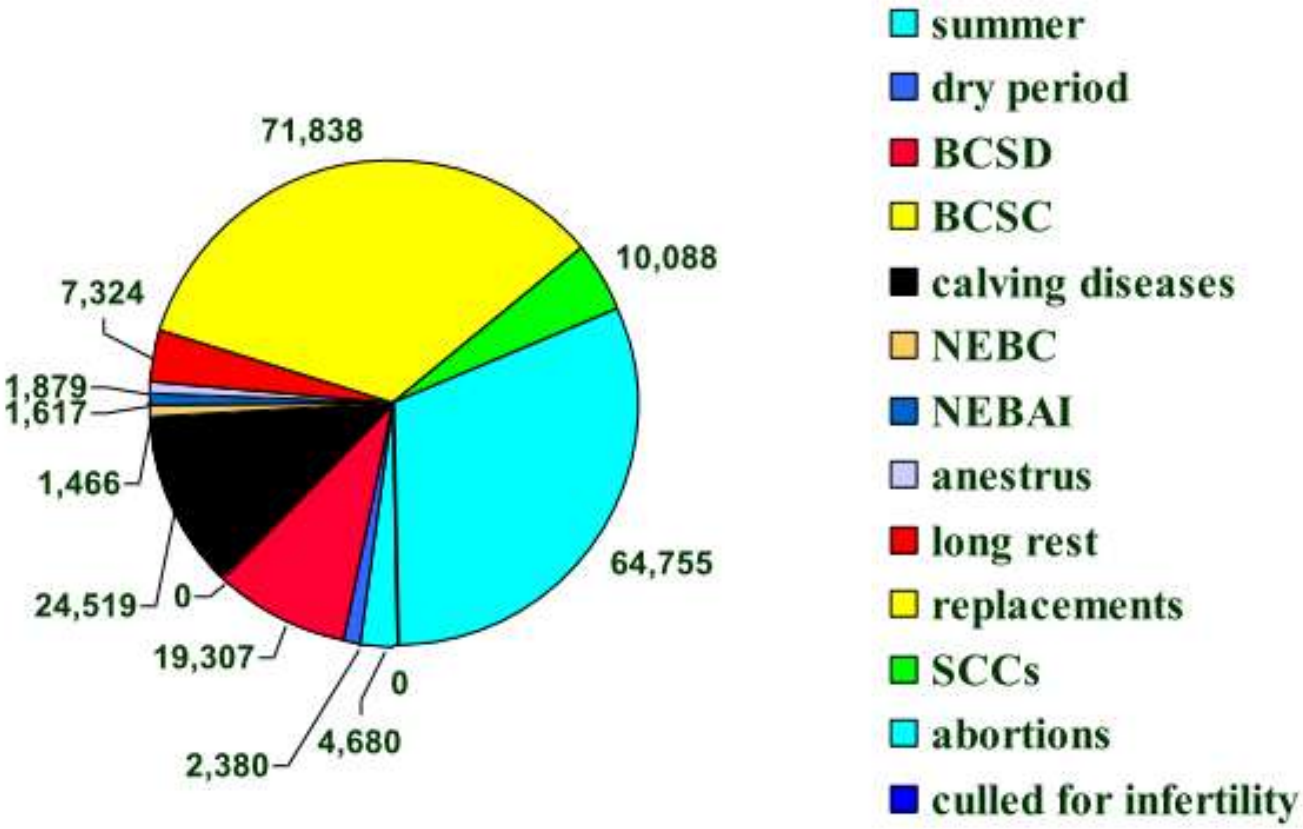
- **What happened?**
- **Why it happened?**
- **What were losses in production and fertility?**
- **How much did it cost?**

A few samples from the NIR Model analysis

Distribution of Reasons for losses

How Much Money Did We Loose in 2006 (US$)?

Total of $ 209,852 11.5% of the estimated income from milk



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What Happened ?

Monitoring – Calving diseases & traits (partial)

Calving traits	Primipara		Multipara	
a. Total calved	48		202	
g. % Retained placenta	10.4	(5.6)	9.4	(8.9)
h. % Primary metritis	31.2	(31.2)	32.2	(20.4)
I. % Ketosis	27.1	(6.9)	40.1	(10.6)
k. % With DAYDRY >70 d			26.7	(15.0)
l. % With DAYDRY <60 d			37.6	(15.0)

Why did it happen ?

What were losses in production ?

c. Factors responsible for loss of milk						
lactation	First		Second		>Second	
305_d extended milk yield	with	9,077	with	11,668	with	11,896
total	factor	39	factor	70	factor	99
calving diseases	20	-977	31		62	
summer calvings	17		34		55	
low BCS at calving	5		10		21	
high BCS at calving	8		6		22	-1,177
Dry periods longer >68 (68) day			23	1,872	28	
Dry periods shorter <56 (59) da			19	1,365	29	-1,077
Dried off not according to BCS			38		47	-1,027
Lost ≥0.5 u BCS in the dry peri			13		12	
High Somatic cell counts	12		16	-1,956	35	-1,745
First calving ≤23 months	6					
First calving >25 months	10					
induction						

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AfiLab™

- Control nutritional status – herd and groups
- Prediction (diagnosis) metabolic disease: NEB, Ketosis

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Fat/Protein Ratio up to 45 DIM

Fresh Cows
- NEB
- Ketosis

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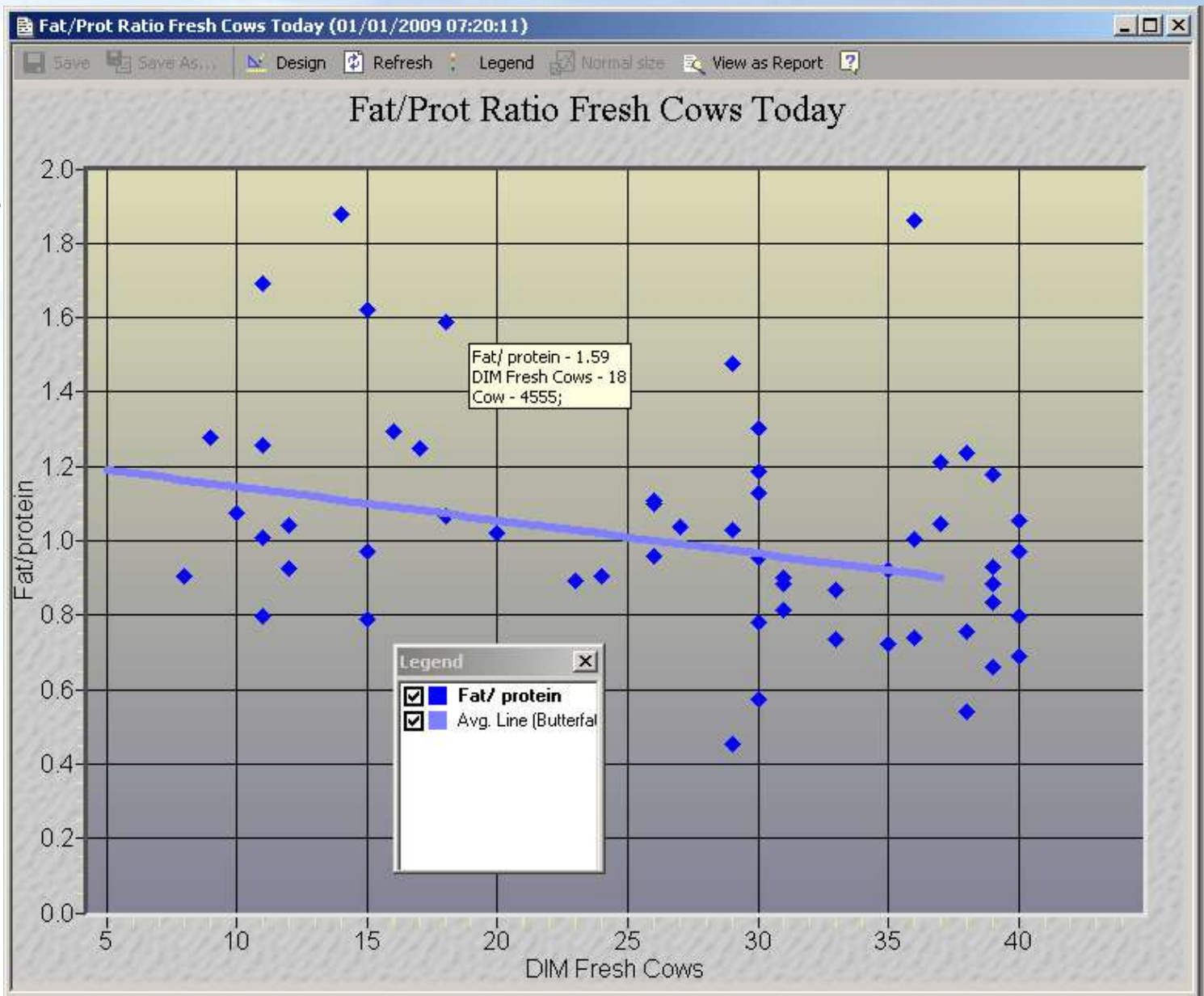

Suspect Ketosis report
based on Fat/Protein Ratio

2X milking

Suspected Ketosis (AfiLab Configuration)

Save | Save As... | Design | Refre

Index	Cow	Lact. no.	Grp.	DIM	Fat/Protein 1	Fat/Protein 2
1	4475	7	10	19	1.41	1.54
2	5327	4	10	13	1.24	1.33
3	5384	4	15	26	1.33	1.04
4	5719	3	10	7	1.52	1.62
5	5844	2	10	17	1.51	1.38
6	5867	2	10	23	1.46	1.40
7	6284	5	10	31	1.25	1.53
8	6289	4	15	9	1.29	1.34
9	7149	1	7	13	1.38	1.36
10	7150	1	15	14	1.94	1.86
11	7173	1	7	18	1.44	1.20
12	7176	1	15	28	1.70	1.17
13	7194	1	15	27	1.91	1.67
Avg.	--	--	--	20	1.48	1.40

3X milking

Suspected Ketosis (AfiLab Configuration) (28/1

Save | Save As... | Design | Refresh

Index	Cow	Lact. no.	Grp.	DIM	Fat/Protein 1	Fat/Protein 2	Fat/Protein 3
1	4420	6	7	31	1.23	1.61	1.30
2	4571	6	7	11	1.14	1.38	1.32
3	4663	5	7	8	1.31	1.32	1.26
4	4671	5	7	25	0.96	1.31	0.93
5	4797	4	7	4	1.15	1.16	1.32
6	4798	4	7	24	1.29	1.46	1.52
7	4825	3	2	31	1.02	1.33	1.20
8	4837	3	7	12	1.99	2.06	1.60
9	4892	3	2	29	1.12	1.40	1.36
10	4912	3	2	38	1.08	1.32	1.17
11	4988	2	7	19	1.32	1.31	1.34
12	5046	2	2	29	1.29	1.50	1.30
Avg.	--	--	--	21	1.28	1.41	1.31

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SARA (by Groups)

Report reflects current situation

Suspected Subclinical Acidosis by Groups (01/01/2009 07:...

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Index	Status+ group	Total animals	Daily yield	Daily avg. yield	Daily yield <%>	Fat %	Avg. fat	% suspect. acidosis	Low fat cows
1	101	80	34.7	36.5	-5	3.27	3.21	10	8
2	102	75	26.2	28.7	-10	3.44	3.38	13	10
3	103	90	34.6	38.0	-9	3.31	3.20	4	4
4	104	80	36.4	39.8	-8	3.21	3.14	23	18
5	105	88	35.2	37.5	-5	3.21	3.19	22	19
6	106	90	39.2	41.0	-4	3.06	3.09	22	20
7	107	90	39.1	39.1	0	3.05	3.05	22	20
8	108	80	37.4	37.2	0	3.12	3.13	16	13
9	109	89	36.8	37.2	-2	3.29	3.26	9	8
10	110	89	34.8	35.8	-3	3.34	3.25	11	10
11	111	62	35.1	33.7	6	3.10	3.13	21	13
12	112	48	28.1	30.6	-8	3.51	3.40	2	1
Total	--	961	--	--	--	--	--	--	144
Avg.	--	--	35.2	36.7	-5	3.23	3.19	15	--

Index	Cow	Lact. no.	DIM	Gyn. status	Δ1 Fat %	Avg. fat	Daily yield	Daily avg. yield
1	4562	2	198	Insemination	1.90	2.44	27.4	35.7
2	1048	2	188	Insemination	2.04	3.18	44.7	47.6

☑ Show details ☐ Show vertical

Detecting Calving Time

- Helpful tool for daily routine planning
- Monitor expected difficult calving
- Cows behavior changes prior to calving

Calving Alert Report (05/20/2011 01:42:46)

Save | Design | Refresh | Reject | View | Add

Index	Cow	Status	Grp.	Days preg.
1	978	Heifer (pre)	7	279
Avg.	--	--	--	279

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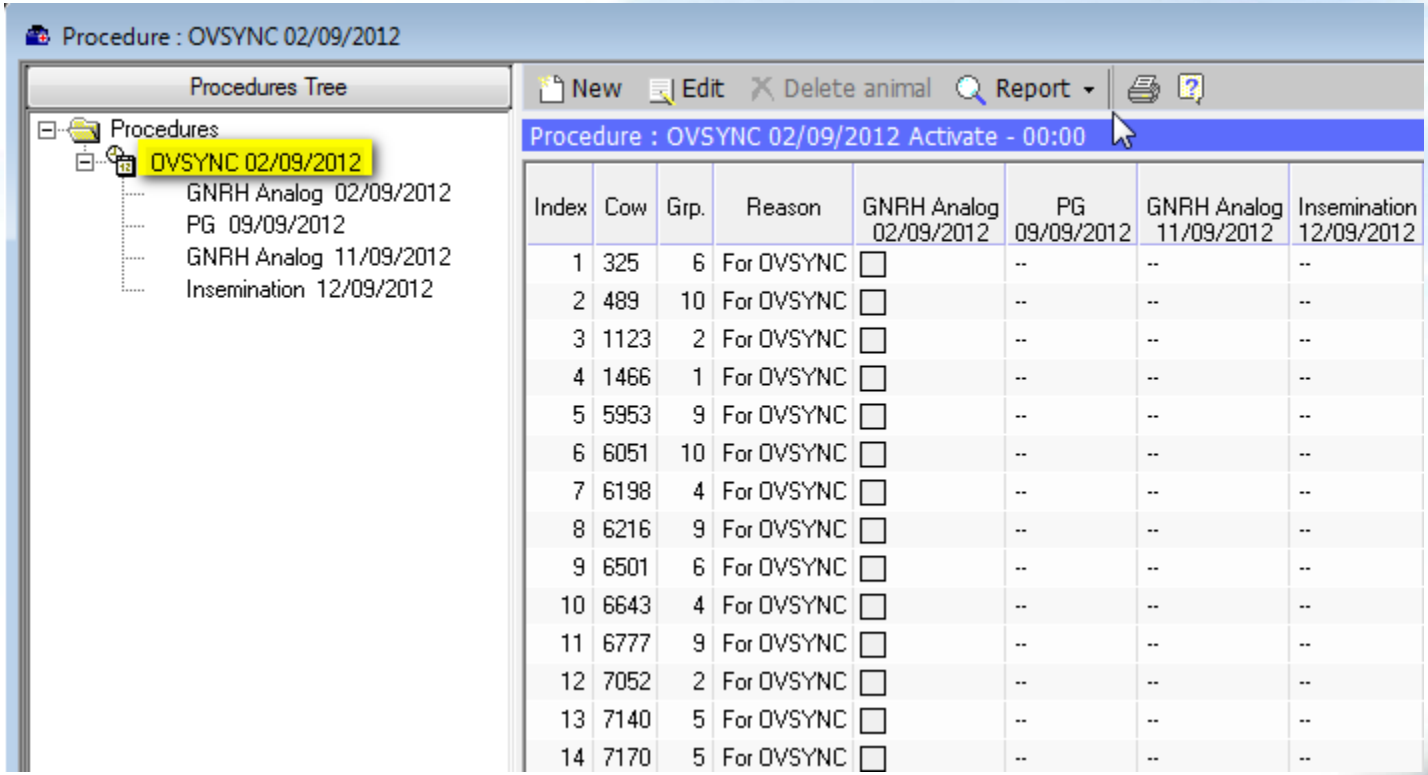
Ovsync Procedures in AfiFarm

In Israel Ovsync is used selectively, only for very problematic cows



Index	Cow	Grp.	Reason	GNRH Analog 02/09/2012	PG 09/09/2012	GNRH Analog 11/09/2012	Insemination 12/09/2012
1	325	6	For OVSYNC	☐	--	--	--
2	489	10	For OVSYNC	☐	--	--	--
3	1123	2	For OVSYNC	☐	--	--	--
4	1466	1	For OVSYNC	☐	--	--	--
5	5953	9	For OVSYNC	☐	--	--	--
6	6051	10	For OVSYNC	☐	--	--	--
7	6198	4	For OVSYNC	☐	--	--	--
8	6216	9	For OVSYNC	☐	--	--	--
9	6501	6	For OVSYNC	☐	--	--	--
10	6643	4	For OVSYNC	☐	--	--	--
11	6777	9	For OVSYNC	☐	--	--	--
12	7052	2	For OVSYNC	☐	--	--	--
13	7140	5	For OVSYNC	☐	--	--	--
14	7170	5	For OVSYNC	☐	--	--	--

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The afimilk® system contributes to all the aspects of managing a modern dairy farm

- More than 10,000 computerized management systems, 190,000 milk meters and over 6 million ID tags in more than 50 countries on five continents.
- There are more **afimilk®** automated systems in the US than any other brand
- Short term return on investment: <2 years (full system)
- The company is always on the edge of technological development to help good farmers become great farmers and increase farm profitability

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Precision dairy farming the afimilk® way

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Management !!!

AfiFarm software = management tool

The power is in your hand

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afimilk Professional Services

- ***AfiFarm*** software training
- Professional consulting
  - Management
  - Milk Production
  - Health Management
  - Nutrition
  - Heifer procurement for DFS Projects
  - Semen procurement & breeding programs

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7R1506

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Additional Slides

Reproduction

Glucose ↓ Keton Bodies ↑

NEFA ↑

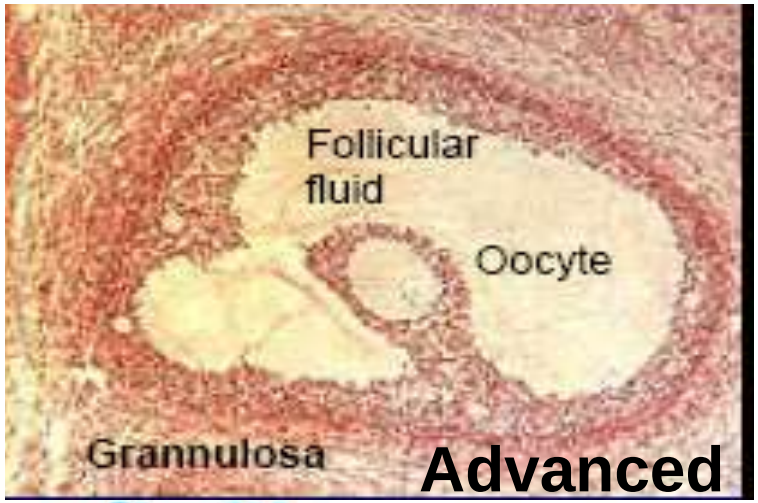
Reduced DMI

↓

Negative energy balance

delay

delay

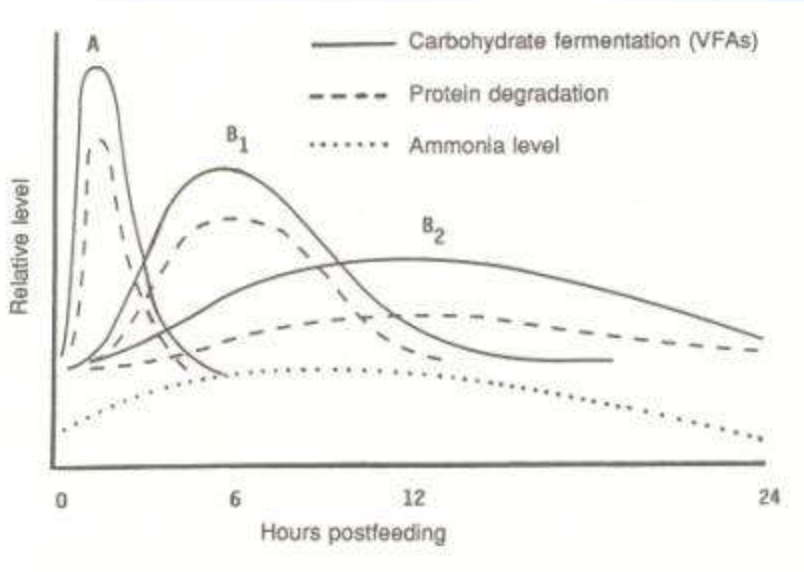


Advanced Follicle

Follicle

Reproduction

- Transition diseases
- Nitrogen and carbohydrate synchrony
- Caloric intake vs. BCS
- Moldy feeds
- P supplementation



Phosphorus and Reproduction

	Recommended (0.37%; n=134)	Excess (0.57%; =133)
First Progest, d	53±3.0	53±2.8
Anovular@71d	29.9%	27.1%
First Service, d	89±2.0	90±2.0
First service CR	39.4%	42.0%
Overall CR@60d	29.1%	31.8%
Pregnancies Lost (30-60d)	15.2%	16.2%
Multiple Ovulations	21.6%	19.5%
Twinning Rate	6.8%	6.4%
Estrous Cycle Length	23±0.6	23±0.5

Lopez et al. (2002)

Daily Milk Recording

Milk Cows (26/11/2006 06:51:29)

Save | Save As... | Design | Refresh

△1 Cow	Tag	Grp.	Gyn. status	Daily Yield Today	Daily Yield Avg.	Daily Yield %	Lact. no.	DIM
2002	593	6	Calving	48.1	43.7	10	4	31

6	2493	2123	6	Calving	55.1	59.5	-7	3	49	--	--	MM V 2	711
7	2546	190	5	Insemination	41.9	45.8	-8	2	90	2	0	MM 2	559
8	2627	309	5	Insemination	36.4	37.7	-3	2	128	1	14	MM 2 6	627
9	2907	608	2	Insemination	35.8	36.9	-3	1	82	1	9	2 1 6	563
10	2953	55	3	Calving	21.6	15.6	38	1	13	--	--	V 2	493
11	5642	3600	6	Calving	42.8	45.6	-6	3	122	--	--	AL 2	652
12	5742	514	8	Pregnant	32.7	33.9	-4	3	235	1	152	AL 2	676
13	5845	2405	6	Insemination	45.0	45.6	-1	2	264	4	26	AL 2	636
14	5936	153	5	Pregnant	48.1	43.8	10	2	202	2	67	2	549
15	5947	700	5	Heat	44.1	45.6	-3	2	103	--	--	MM 1 2	648
16	5984	963	2	Pregnant	40.9	43.8	-7	1	320	4	62	2	586
Total	--	--	--	--	714.4	--	--	--	--	--	--	--	--
Avg.	--	--	--	--	44.7	44.5	2	--	113	2	43	--	623

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Last 10 days milk production

Milk Report (Day) (15/08/2008 - 24/08/2008) (24/08/2008 04:06:01)

Save | Save As... | Design | Refresh

Index	Date ▽1	Total yield	Yield (ident. cows)	Yield (non ident. cows)	Avg. yield per milk cow	Total milk cows	Avg. yield per cow	Total cows	Avg. yield per milked cow	Total milked cows
1	24/08/2008	26828	26726	102	33.2	809	28.4	940	33.0	810
2	23/08/2008	26424	26411	13	32.7	809	28.1	940	32.8	805
3	22/08/2008	26337	26337	--	32.7	806	28.1	938	32.7	806
4	21/08/2008	26232	26160	72	32.6	804	27.9	936	32.6	803
5	20/08/2008	26700	26693	7	33.4	799	28.6	934	33.1	807
6	19/08/2008	26946	26946	--	33.4	807	28.8	934	33.4	806
7	18/08/2008	27667	27667	--	34.3	806	29.6	934	34.4	805
8	17/08/2008	28008	28008	--	34.8	804	30.1	932	34.7	806
9	16/08/2008	28805	28689	116	35.7	806	30.8	932	35.6	805
10	15/08/2008	28872	28872	--	35.9	804	31.0	931	35.6	810
Total	--	272819	272509	310	--	8054	--	9351	--	8063

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Daily Milk Component report

Milk Component (Day) (15/08/2008 - 24/08/2008) (24/08/2008 12:24:36)

Save | Save As... | Design | Refresh

Index	Date	Total yield	Avg. yield per milk cow	Total milk cows	Total cows	Avg. yield per cow	Daily FCM	Fat %	Protein %
1	15/08/2008	28872	35.9	804	931	31.0	36.0	4.07	3.10
2	16/08/2008	28805	35.7	806	932	30.8	36.4	4.12	3.07
3	17/08/2008	28008	34.8	804	932	30.1	36.0	4.25	3.05
4	18/08/2008	27667	34.3	806	934	29.6	35.4	4.19	3.02
5	19/08/2008	26946	33.4	807	934	28.8	34.9	4.30	2.93
6	20/08/2008	26700	33.4	799	934	28.6	33.1	4.00	3.13
7	21/08/2008	26232	32.6	804	936	27.9	32.2	3.90	3.19
8	22/08/2008	26337	32.7	806	938	28.1	31.9	3.85	3.19
9	23/08/2008	26424	32.7	809	940	28.1	32.0	3.84	3.21
10	24/08/2008	26828	33.2	809	940	28.4	32.1	3.79	3.20
Total	--	272819	--	8054	9351	--	--	--	--
Avg.	--	--	--	--	--	--	33.7	4.00	3.13

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Total yearly milk production

Milk Report (Month) (01/01/2007 - 31/12/2007) (24/08/2008 04:07:40)

Save | Save As... | Design | Refresh

Index	Month	Total yield	Avg. yield per milk cow	Avg. milk cows
1	January	821507	33.8	783
2	February	742453	34.1	778
3	March	830767	34.3	780
4	April	813008	34.5	786
5	May	870023	34.8	805
6	June	833670	35.4	785
7	July	843398	35.2	773
8	August	831670	33.6	798
9	September	822046	33.4	819
10	October	868303	33.7	830
11	November	850919	34.6	819
12	December	882469	34.9	816
Total	--	10010233	--	--

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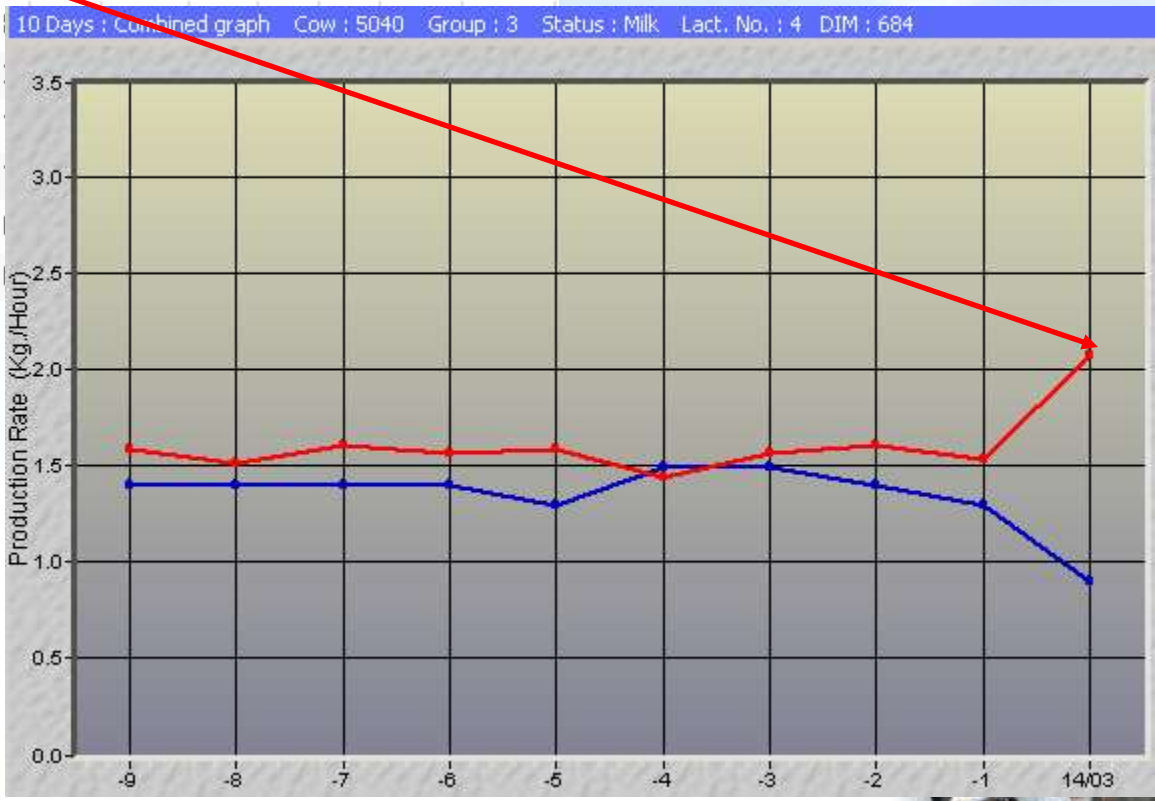
Early Mastitis Detection

Health for 2 Deviations

Design | Refresh | Health for 2 Deviations

Index	Cow	Grp.	DIM	Pop. type	Daily avg. yield	Prod. Rate<%> 1	Prod. Rate<%> 2	Prod. Rate<%> 3	Conductivity<%> ∇1 1	Conductivity<%> 2	Conductivity<%> 3	Activity<%> 1	Activity<%> 2	Activity<%> 3	Daily yield <%>	Daily yield
1	5040	3	684	D	34.5	-44	8	-20	24	-5	7	-36	-9	-2	-24	26.21
2	8988	7	515	D	45.1	-22	-51	--								
3	8799	5	473	D	67.3	-42	44	-36								
4	8654	4	756	D	29.7	38	-14	-100								
5	9541	6	557	D	46.2	-13	-39	-42								
6	2262*	6	474	D	37.0	-92	-66	-80								
7	2368	6	446	H	39.3	-31	-7	-43								



Increased Conductivity
Drop in Milk
Detection

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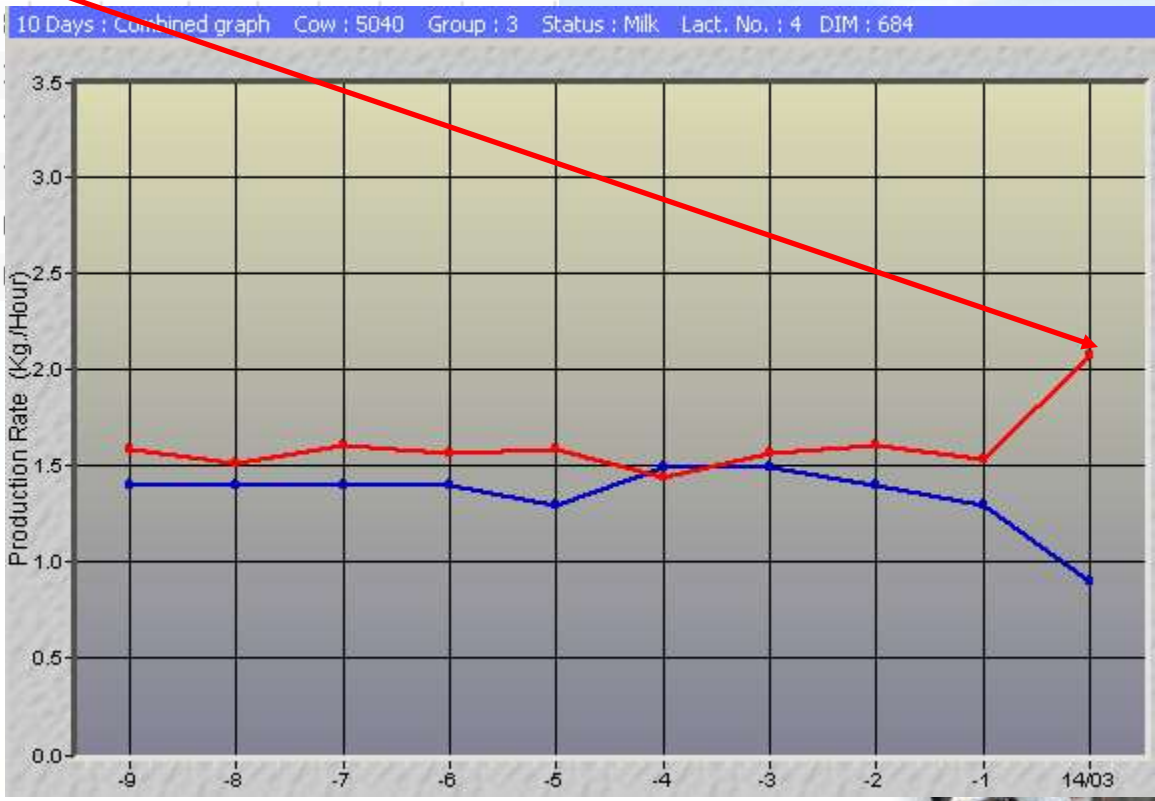
Early Mastitis Detection

Health for 2 Deviations

Design | Refresh | Health for 2 Deviations

Index	Cow	Grp.	DIM	Pop. type	Daily avg. yield	Prod. Rate<%> 1	Prod. Rate<%> 2	Prod. Rate<%> 3	Conductivity<%> ∇1 1	Conductivity<%> 2	Conductivity<%> 3	Activity<%> 1	Activity<%> 2	Activity<%> 3	Daily yield <%>	Daily yield
1	5040	3	684	D	34.5	-44	8	-20	24	-5	7	-36	-9	-2	-24	26.21
2	8988	7	515	D	45.1	-22	-51	--								
3	8799	5	473	D	67.3	-42	44	-36								
4	8654	4	756	D	29.7	38	-14	-100								
5	9541	6	557	D	46.2	-13	-39	-42								
6	2262*	6	474	D	37.0	-92	-66	-80								
7	2368	6	446	H	39.3	-31	-7	-43								



Increased Conductivity
Drop in Milk
Detection

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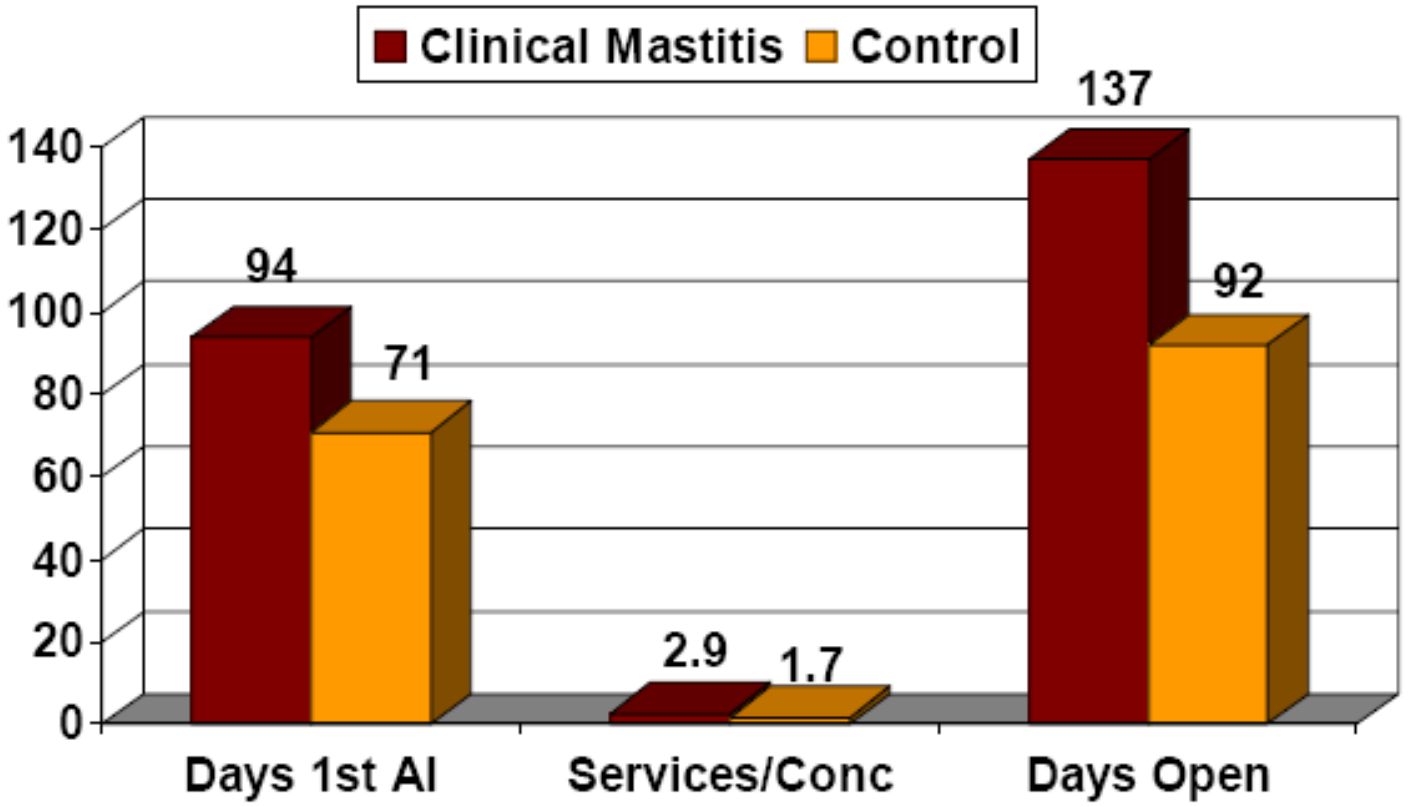
Mastitis Affects Conception!!!

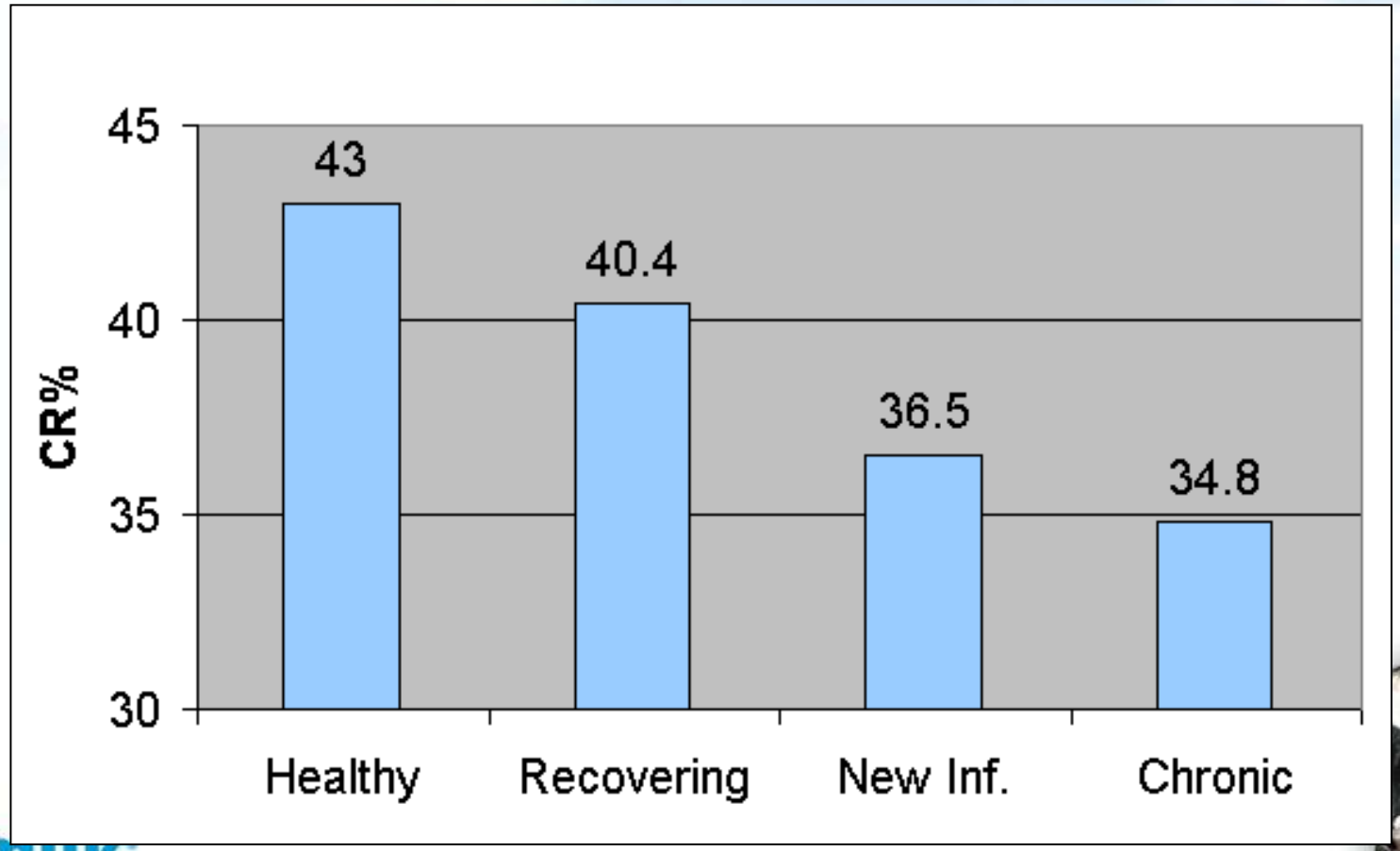


Oliver et al., 2000 NMC Proc. 35-36.

The link between SCC milk levels, heat occurrence and conception rates

Israel 235,388 1st inseminations

Y. Lavon, E. Ezrea, G. Litner, M. Kaim & D. Wolfenson - 2006



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