

Genomic Selection for Improved Fertility of Dairy Cows with Emphasis on Cyclicity and Pregnancy

Personnel Management

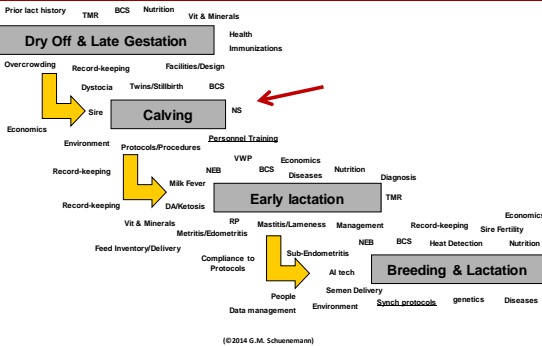
P.J. Pinedo, J.E.P. Santos, G.M. Schuenemann, R.C. Chebel, W.W. Thatcher, K.N. Galvão, R.C. Bicalho, S. Rodriguez-Zas, R.O. Gilbert, G. Rosa, C. Seabury, and J. Fetrow

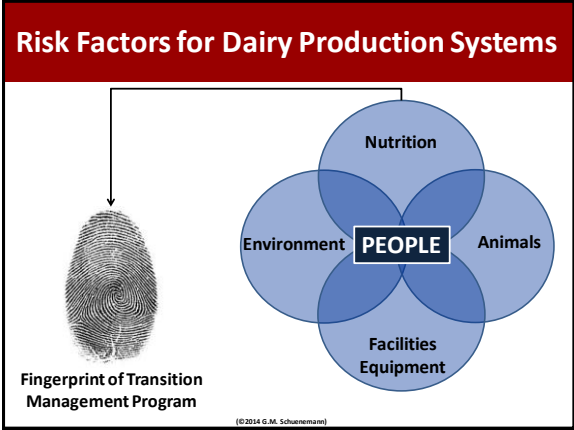


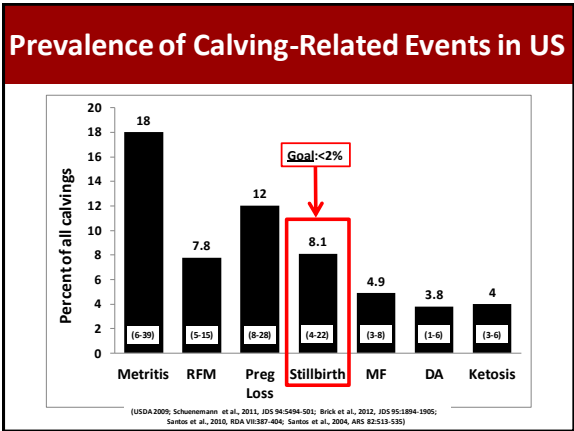
Management and Training of Dairy Personnel with Emphasis on Team Work and Performance

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Transition Period: What, How, Why, & When?









Dairy Herd Performance

- Significant genetic (milk yield) and knowledge progress (nutrition, physiology, therapies) during the last 40 yrs
- Are we training human resources to meet the management demands of modern dairy cows?
- How about facility design?
- At the end of the day, PEOPLE performance will likely determine the RoI (\$\$\$, \$\$\$, \$\$\$)

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What Makes an Effective Team?

- We are looking for a herd manager with **PEOPLE** skills, team builder (dirt under the nails experience) ...

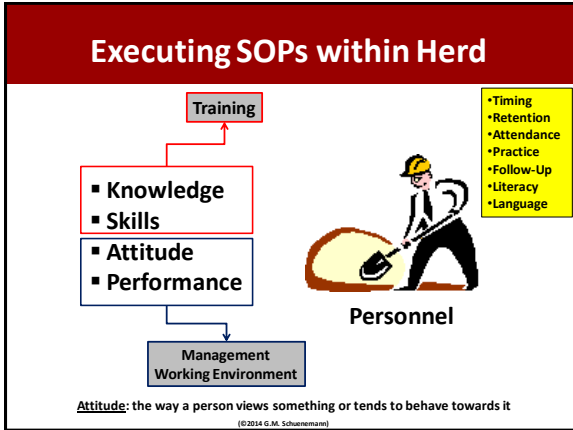
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graph TD
    Owner[Owner] -.-> Advisory[Advisory Team (3)]
    Owner --> HM[Herd Manager (1)]
    HM --> Milking[Milking (10)]
    HM --> PrePartum[Pre-partum & Calving (4)]
    HM --> FreshCows[Fresh Cows & Hospital (4)]
    HM --> Feeding[Feeding (3)]
    HM --> HoofTrimming[Hoof Trimming (1)]
    HM --> CowPusher[Cow Pusher & Clean Stall (3)]
    HM --> Reproduction[Reproduction (3)]
    HM --> Maintenance[Maintenance (2)]
    HM --> Records[Records (1)]
    
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SOPs for Transition Management

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- ### Situations that Require Skillful Managers
- “No-show” worker, how do you deal with it?
 - “This is not my job”, how do we improve attitude?
 - Trouble-shooting low performance (e.g., PR, SCC)
 - How do we pick the “relief” worker?
 - ...
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- ### Things that Set the Alarm “On”
- ... you should train the owner on calving management. We agree with the information, but we are told to do something different ...
 - ... thank you for your training, but actually the problem around here is the constant disrespect from the herd manager ...
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Knowledge, Skills, and Attitude Matter for Effective Team Work



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© American Dairy Science Association, 2013.

Dairy calving management: Description and assessment of a training program for dairy personnel

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ABSTRACT

Key words: dairy personnel, calving management, education

The objective of this study was to assess the effectiveness of a comprehensive calving management program designed to enhance the flow of animal research-based

INTRODUCTION

Finding well-qualified workers is a challenging task for dairy farmers and it is painful to lose them

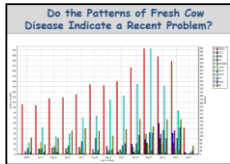
The tests of knowledge and hands-on demonstrations serve as valuable instruments to identify those workers that are skilled and able to follow the on-farm SOPs

Personnel and Herd Performance

Fully trained and competent workers know what to do and how to do it, and have the skills and abilities to do the work

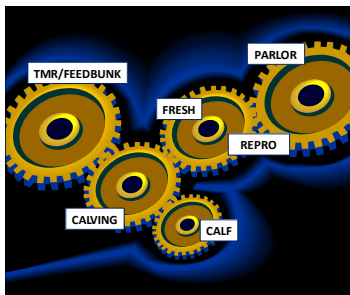
However, competent workers will often fail to perform effectively if they have a poor attitude due to conflict, lack of satisfaction, motivation, or communication

Poor attitude will cause low work performance, affecting the overall herd performance



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How Do We Identify the Right People for the Right Task?



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New Cases of Mastitis: How Do Workers Perform?

2,000-cow herd

Day Shift				Night Shift			
PE	GR	SA	TO	ES	AM	AB	IG
2041	2987	2526	1774	2041	2987	2526	1774
1223		2432	2255	1223	243	2432	2255


Milking routine with emphasis on fresh cows, PRIM and MULT

Day Shift				Night Shift			
PE	GR	SA	TO	ES	AM	AB	IG
2243	3987	1526	2774	1143	387	1346	2224
1723		3432	3255	1323		3122	3335
2325			1056	3125			1446
3631			1326	3431			1456
1428			2143	2728			2663
1249			3898	3749			3788
2132							

→ New Milker

Day Shift				Night Shift			
PE	GR	SA	TO	ES	GR	AB	IG
2041		4526	1774	1041		4026	1174
1223		432	2255	3222		4302	2155
2425		87	2056	2422		870	2956
3231			3326	1233			3566
1928			4143	3928			1143
249			1898	047			1238
3132							

Personnel Performance and Turnover



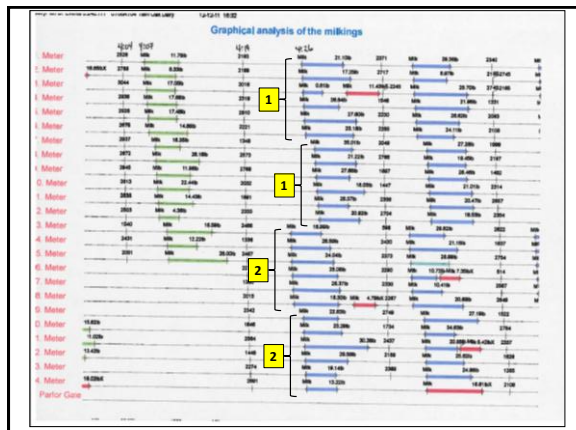
Parameters	Costs/Scenarios
Milk price, \$/kg	0.41
Herd audit, \$	1,000
Training (4/yr), \$	1,000
Compliance, %	85% vs 95%
Turnover, %	5% vs 30%

Assumptions for the Model

- **Personnel Performance:** Compliance with milking routine SOP (85% vs 95%)
- **Milking SOP:** pre-dip/strip/towel/attach/post-dip. Re-attachments (first lactation)
- **Milk losses** were set at 1 kg/cow/d due to lack of udder stimulation
- **Turnover:** worker/yr leaving the farm (5% vs 30%)
- **Adjustment period** of 14 d with a 66.5% performance was estimated for each new personnel

[Schoenemann et al., 2013 JDS 96:680]

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Both Personnel Performance and TO Affect the Bottom Line of Dairy Herds

2000-cow herd From Best to Worst	Cows at Risk (n)	Profit (\$/yr)	RoI (\$)
95% MPP with 5% TO	110	5,286	1:1.6
95% MPP with 30% TO	165	13,465	1:6.7
85% MPP with 5% TO	307	34,641	1:16
85% MPP with 30% TO	342	39,951	1:18

[Scheinemann et al., 2013, JDS 96:680]

The estimated ROI assumes that: 1) facilities are adequate, 2) participants are willing to learn and apply the newly learned concepts, and 3) the herd audit correctly identifies the needs and the training program correctly addresses them

How Much Does Your Employee Turnover Cost?

- 70%-150% of employee annual wages
- Losses in productivity, time and resources spent in recruitment, selection, and hiring, as well as the orientation and initial training of new personnel

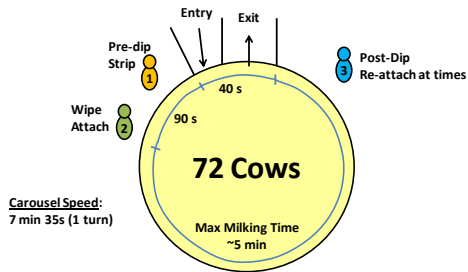
[Billkopf and González, 2009; Scheinemann et al., 2013]

Milking High-Producing Cows

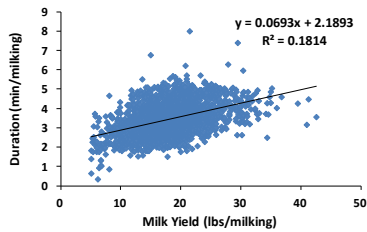
- 3x (every 8 h)
- ~90 lbs/cow/d
- ~140-160 lbs at peak
- Milking time
- Double-30 parallel
- Grouping cows by DIM



Milking Routine and Parlor Management



Effect of Milking Time on Milk Yield (3000-cow herd)



Duration of milking (min) = 2.18 + (0.069 * lbs milk per milking)

NOTE: great variation in milking time (low R²)

Estimating Milking Time

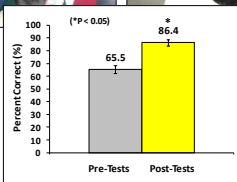
		Mein, 1998
Daily Production	Three milking times	Duration = 2.41 + (0.11 * lbs milk per milking)
Milk Yield (lbs/day)	3 x (lbs/milking)	Milking time (min)
40	13.33	3.88
50	16.67	4.24
60	20.00	4.61
70	23.33	4.98
80	26.67	5.34
90	30.00	5.71
140	46.67	7.54
160	53.33	8.28

(Mein, 1998; <http://www.nmconline.org/articles/100lbcow.htm>)

Effect of Calving Training on Personnel Knowledge Level

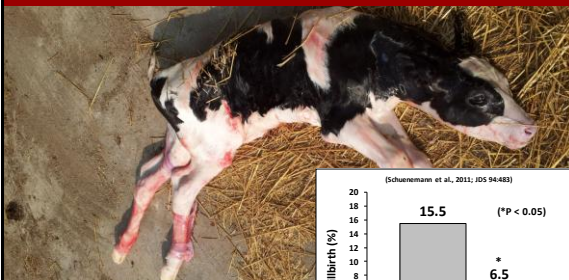


- 18,000 cows
- 18 herds
- 70 workers

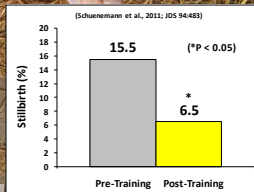


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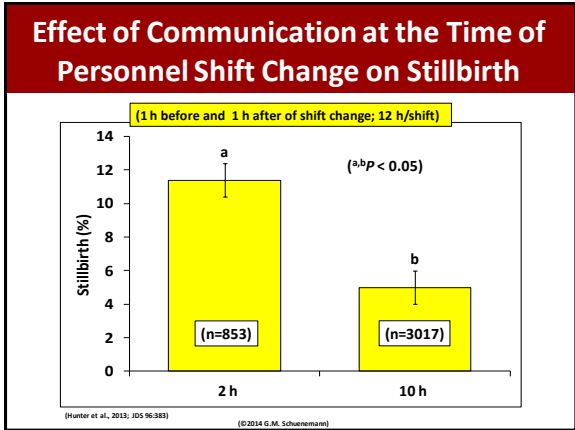
Effect of Personnel Training on Stillbirth

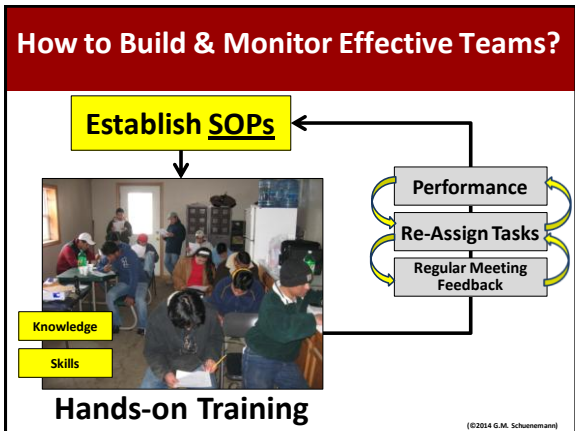


- Unresolved conflicts significantly affect personnel attitude
- ...



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- ### Managing the Working Environment
- | | |
|--|---|
| <p>Personnel:</p> <ul style="list-style-type: none"> ▪ No resources for the tasks ▪ Day-off for Christmas or Holiday ▪ Pay raise or bonus (incentives) ▪ "No-show" worker ▪ Want to use cell phone ▪ Change of work shift (night vs day) ▪ Fix gate/water hose ▪ Restroom for women ▪ This is not my job! ▪ Want break ▪ Dryer/washer don't work ▪ ... | <p>Owner/Herd Manager:</p> <ul style="list-style-type: none"> ▪ Be on time for your shift ▪ "No-show" worker ▪ No cell phone or texting while at work ▪ Pick up trash/clothing from lockers ▪ Improve milking routine ▪ Work as a team and communication ▪ High SCC and milk quality ▪ Keep accurate/readable records ▪ SOPs for safety/treatments ▪ SOPs for feeding/handling cows-calves ▪ Clean, clean, clean! ▪ ... |
|--|---|
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Effect of Conflict on Personnel Performance

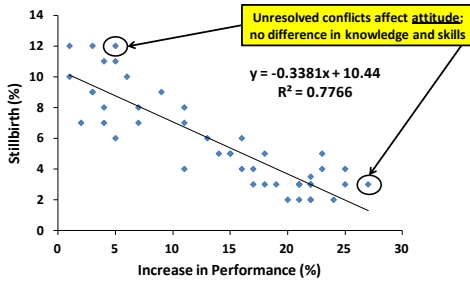
Parameter Assessed	Interpersonal Problems [§]		P
	Yes	No	
Knowledge [†] , %	19	21	0.5
Skills [‡] , %	32	35	0.6
Performance [§] , %	4	23	<0.05

[†]Percentage points increase in knowledge gain by dairy personnel between pre- and post-test scores during a calving management workshop.
[‡]Percentage points increase in dairy personnel skills after calving management or milking routine training.
[§]Percentage points increase in dairy personnel performance after calving management or milking routine training.
[§]Two farm problem/focus was defined as self-reported conflict, lack of communication, disrespect, etc. with herd manager or co-worker by dairy personnel.

(Schuenemann et al., 2013 AABP Proceeding)

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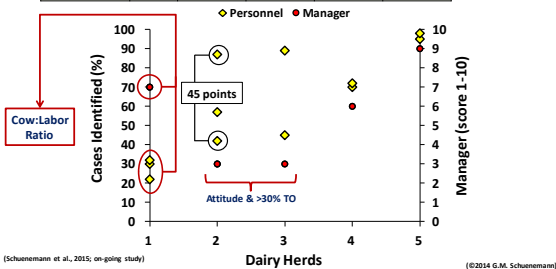
Effect of Calving Personnel Performance on Stillbirth



Animal Welfare Implications

Example 3: Effect of Personnel Performance on ID Cows with Metritis

Metritis (%)	21	23	26	19	6
21-d PR (%)	19	18	17	20	26
Size (cows)	2100	2800	1300	900	1200




(Schuenemann et al., 2015; on-going study)

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Areas for Consideration

- Personnel vision loss/impairment
- SOPs with pictures

How Text May Look for Personnel with Vision Problems





... She completed that the past week there are...
... She could not keep her place on the page...
... She was unable to read it...

... She completed that the past week there are...
... She could not keep her place on the page...
... She was unable to read it...

(Source: <http://www.cdc.gov/visionhealth/bov/resources.html>)

Resources for the Task

Significantly Associated with Attitude

What the Top 10% of Dairy Herds Do for their Personnel?

- Training and re-training programs (personnel, manager, owner)
- Regular meetings with personnel
- Monitoring performance of personnel
- Herd managers focused on managing the working environment (e.g., conflicts, motivation, etc.)
- Offer incentives based on performance and year of service
- ...

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Example of Economic Incentive

- Regular pay increases based on performance (Starting at \$9 per hour):
 - 3 months --- add \$0.25 per hour
 - 6 months --- add \$0.25 per hour
 - 9 months --- add \$0.25 per hour
- Incentive: Based on years of service & performance
- Scheme (paid on anniversary day):
 - 2 years ----- 4 x daily pay or 4 days paid vacation
 - 3 years ----- 6 x daily pay or 6 days paid vacation
 - 4 years ----- 8 x daily pay or 8 days paid vacation
 - 5 years ----- 10 x daily pay or 10 days paid vacation
 - 6 years ----- 12 x daily pay or 12 days paid vacation
 - 7 or > years ----- 14 x daily pay or 14 days paid vacation

This example relies on honesty, trust, and objectivity

For Effective Team Work ..., We All Have a Job to Do



Acknowledgements

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THANK YOU!



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