

webinar



UNDERSTANDING YOUR PARLOR DATA TO OPTIMIZE PERFORMANCE

David Reid, DVM - Rocky Ridge Dairy Consulting, LLC
Craig Walter, Senior Educator - VAS



Parlor Performance Monitors

DAVID A. REID, DVM

ROCKY RIDGE DAIRY CONSULTING, LLC

HAZEL GREEN, WI

Parlor Performance Numbers

Parlor performance numbers are only one part of the overall evaluation of any parlor

- Observations in the parlor need to be made to understand the parlor numbers, these include:
 - Teat coloration at unit detach
 - Level & severity of teat ringing
 - Amount and length of time for teat blanching to subside
 - Behavior of cows during udder prep, unit attachment, shortly after units attached, shortly before detach and at unit detach.

Parlor Performance Monitors

Make sure what you monitor is controlled by the milk harvest technicians!

Most parameters are controlled by a combination of cow handling and milk harvest technician performance.

Typical Monitor

Controlled by Milk Harvest Technicians:

- Average flow
- Average duration
- Turns/hour or effective speed on rotary
- Milk in the first two minutes
- Time in low flow
- Manual detaches

Parlor Performance Monitors

Guidelines are only guidelines!

What are the numbers on the dairy today and what happens to the numbers as either management or equipment settings are made

Average Milk Flow Rate Goals

2X Herds > 8.5# (4.8kg)

3X Herds > 6.5# (3kg)

Milking Duration Goals

The 1st 25#s/milking (11.5 Kg) = **3.6 min or less**

Each additional 10# (4.5Kg) = **.5 min or less**

Milking Duration

Milk per cow		Expected milking duration
25 pounds	11.5 kg	3.5 minutes
30 pounds	13.6kg	3.9 minutes
35 pounds	15.9kg	4.2 minutes
40 pounds	18.2kg	4.6 minutes

2 minute milk

2x herds 18.5 pounds (8.4 Kg)

3X herds 14.5 pounds (6.6 Kg)

These are minimal levels – the higher the better!

% units are attached

Driven by the number of technicians, the size of the parlor, & the procedures and routines being followed.

Goal is to have consistency between all milkings and all technician groups

Cows/stall/ hour or Milk/stall/hour

Cows/stall/hour 4.5 to 4.7 for 3x herds

4.0 to 4.25 for 2x herds

6.5+ for larger Rotaries (60 or more stalls)

Milk/stall/hour 115# (52Kg) 3X herds

150# (68Kg) 2X herds

Peak Milk Flow Rate

Between 1 -2 minutes after units attached

2X herds over 10.5# (4.75 L/min)

3x herds over 9# (4.0L/min)

Monitor reports or check during milk testing

Stripping Milk Testing

Hand strip into measuring cup

Strip immediately after unit removed

Examine teat color, swelling, ringing

Note resistance to stripping and volume of stripping milk

High producing cows will never have significant stripping milk!

Stripping Milk Testing

Start with far teats, use the “whole hand” method of stripping. Strip the teat until a full stream of milk cannot be made with the full hand, then strip all remaining teats. Now go back and strip each teat again until not able to achieve a full stream.

High producing cows will never have significant stripping milk. Strip cows in mid lactation for determining the correct detacher settings.

Stripping Milk Testing

Ideally less than .5# (225ml)

Less than 1# (454mL) is considered milked out

Should record # of quarters with more than 100 ml

Stripping Milk Testing



Monitor volume and resistance of the cows to hand stripping

Frequency of Unit Falloffs & Adjustments

Less than 5 per 100 cow milkings

- early-may indicate low vacuum level or poor udder prep/timing
- late-unit alignment, poor liner condition, overmilking



Parlor Performance Reports

References:

Dr. David Reid

Dr. Brandon Treichler

Dr. Steve Eicker

Dr. Steve Stewart

PARLOR Switches

- **Commonly used switches**

\E	Error codes
\F	Full detail
\G	Default to GRAPH tab, not GRID/REPORT tab
\H	Display last 7 days of PARLOR\W reports from TXT files
\In	Info for PIT n when multiple pits
\Mn	Milking number (n)
\N	Do not print the report
\O	Overview, runs the PG305 program
\R	Rotary parlor
\S	Display summary only for selected item
\W	Report with wrong pen cows
\WQ	Report with only the wrong pen cows
\WMn	Report with wrong pen cows for milking n
\WMnV	Report with meter calibration data for DHI verification
\X	Graph of duration vs latest milk
\Y	Print report

Parlor Performance Report

5 Sections:

- Pen Summary
- Prep Summary
- Error Summary
- Stall Summary
- Wrong Pen Details
 - In separate section

Milking report for 5/10/16 Milking 1 at 04:55 PM 20120524 42 20 10

PEN	Total Milk	Milk /Hr	Milk /Cow	Cows	Total Cows	Start Time	Stop Time	Avg #/m	Avg Dur	Avg Dev	Net ID	
5	9805	10894	30	324	360	0:54	4:54	5:49	6.2	5.1	-1	24
1	11807	2989	35	334	84	3:57	4:58	8:55	7.3	4.9	-1	12
6	10198	3307	30	337	109	3:05	5:49	8:54	7.0	4.4	-3	3
11	1628	299	26	62	11	5:26	6:24	11:50	5.8	4.4	-4	-19
7	12385	9650	37	333	259	1:17	6:34	7:51	7.6	5.0	-1	5
8	13322	5792	42	320	139	2:18	7:20	9:38	8.0	5.3	-2	13
2	12760	16643	40	317	413	0:46	8:53	9:39	8.4	4.8	-2	18
3	9036	11786	27	331	431	0:46	9:37	10:24	5.9	4.5	-2	5
4	8003	10670	25	323	430	0:45	10:22	11:08	5.7	4.3	-2	0
9	1165	5376	18	64	295	0:13	11:09	11:22	5.8	3.2	0	6
13	47	1410	24	2	60	0:02	11:14	11:17	8.2	2.8	0	0
10	1893	7061	22	86	322	0:16	11:21	11:38	6.0	3.8	-2	-6
11	21	252	21	1	12	0:05	11:44	11:49	4.0	5.2	-12	0
Total	92060	13309	32	2834	409	6:55	4:54	11:50	6.9	4.7	-2	61

Description	Pen	5	1	6	11	7	8	2	3	4	9	10
% Units were attached	38	35	8	9	0	25	14	39	38	36	18	23
Milk / stall / hour	158	127	35	39	3	114	68	197	139	125	63	80
Cows / stall / hour	4.8	4.2	1.0	1.2	0.1	3.0	1.6	4.9	5.0	5.0	3.5	3.6
Flowrate 0 to 15 seconds	5.2	3.9	4.8	5.2	5.1	5.6	5.5	6.4	5.3	5.3	4.9	6.1
Flowrate 15 to 30 seconds	7.6	4.9	7.0	7.2	6.8	8.9	9.2	10.1	7.2	7.0	6.4	7.4
Flowrate 30 to 60 seconds	7.0	5.3	6.2	6.2	6.5	8.2	9.0	9.7	5.9	6.1	7.9	6.7
"Peak" Flowrate	7.8	7.0	8.1	7.8	6.1	8.8	9.5	10.1	6.2	6.1	6.6	6.2
Milk in the first 2 minutes	15	12	14	14	12	17	18	19	12	12	13	13
Percent milk in 2 minutes	45	39	40	46	47	44	43	47	45	50	74	59
Percent time in low flow	6	7	6	8	14	5	4	4	8	8	10	12
Seconds in low flow	19	21	17	21	37	16	13	13	23	22	20	28

Error Summary:

	Pen	5	1	6	11	7	8	2	3	4	9	10
Reattach	41	20	5	6	2	1	1	1	3	0	1	1
No Milk	1	0	1	0	0	0	0	0	0	0	0	0
No Letdown	500	14	50	59	13	58	44	48	90	83	14	27
Manual Mode	106	33	14	7	3	6	6	10	6	8	5	8
Early Falloff	9	3	2	1	0	0	1	1	1	0	0	0
Late Rehang	81	32	5	4	18	5	0	4	0	1	7	5
Manual Detach	532	99	78	42	29	51	58	61	40	40	11	22
Total	1270	201	155	119	65	121	110	125	140	132	38	63

Stall	Cows	Dev	Milk	Time	Flow	Cond	Peak	Fall	Mode	MDet	Wash	NoID
1	36										97	1
3	36							6				0
8	35				8.0							0
17	35					0.0						0
23	35								4			0
28	35										51	1
39	34									14		1
40	34									13		1
41	34									13		1
42	34										45	2
48	35								4			1
54	35	6	43		9.3							5
56	35					0.0						1
66	34								4			2
71	32					0.2						0



Pen Summary

- Command : PARLOR\WM1

Milking report for 12/30/16 Milking 1 at 11:05 AM 20120524 42 20 10

PEN	Total Milk	Milk /Hr	Milk /Cow	Cows	Cows /Hr	Total Time	Start Time	Stop Time	Avg #/m	Avg Dur	Avg Dev	Not ID
5	8353	10663	29	290	370	0:47	5:39	6:26	6.2	4.9	-1	10
6	10142	12170	30	335	402	0:50	6:25	7:15	7.1	4.3	-1	1
7	12052	10184	36	333	281	1:11	7:12	8:23	7.9	4.7	-2	5
8	12699	14110	39	323	358	0:54	8:03	8:57	7.6	5.2	-3	7
9	363	97	9	39	10	3:43	8:55	12:39	3.0	3.1	-7	0
1	11322	12817	34	334	378	0:53	9:02	9:56	7.5	4.6	-2	6
2	12505	13163	39	322	338	0:57	9:52	10:50	7.7	5.2	-2	10
3	9659	10934	29	333	376	0:53	10:47	11:40	6.7	4.4	-3	5
4	8304	9581	26	322	371	0:52	11:36	12:29	6.2	4.2	-2	3
10	1275	1366	18	71	76	0:56	11:57	12:54	4.9	3.9	1	2
9	348	3480	10	34	340	0:06	12:32	12:38	3.8	2.7	-7	5
11	915	3660	23	39	156	0:15	12:47	13:03	5.1	4.5	-7	4
Total	87937	11910	32	2775	375	7:23	5:39	13:03	7.0	4.6	-2	58

What was lbs./cow?

Did they start on time?
Did they finish on time?

What was the avg. flow rate?
(goal: 3X >6.5#)

What was the avg. duration?
(goal: 4 min or less first 25 # and
.5 or less each 10# after)

Prep (People) Summary

Description	Pen	5	6	7	8	9	1	2	3	4	10	9	11
Units were attached	34	35	34	26	37	0	34	34	32	30	5	17	13
Milk / stall / hour	141	125	144	121	167	1	151	154	129	112	16	40	41
Cows / stall / hour	4.4	4.3	4.7	3.3	4.2	0.1	4.4	3.9	4.4	4.3	0.8	3.9	1.7
Flowrate 0 to 15 seconds	5.2	4.1	4.9	5.8	5.7	3.6	5.0	5.8	5.4	5.4	4.6	4.0	4.6
Flowrate 15 to 30 seconds	7.1	3.8	6.5	8.3	8.7	1.9	6.8	8.8	7.0	7.4	5.8	5.8	4.9
Flowrate 30 to 60 seconds	6.8	4.9	6.0	8.3	8.4	1.7	6.3	8.7	6.6	6.8	5.1	5.4	4.8
"Peak" Flowrate	8.0	7.0	8.3	9.3	8.8	3.7	8.3	9.5	7.8	6.9	6.0	3.5	5.6
Milk in the first 2 minutes	15	11	14	17	17	6	14	18	14	14	11	9	10
Percent milk in 2 minutes	46	40	47	47	42	64	42	45	49	52	62	84	44
Percent time in low flow	7	8	9	5	5	35	6	4	9	7	14	15	10
Seconds in low flow	20	23	23	14	16	65	17	13	24	19	33	25	28

Milk (Lbs) in first 2 minutes

- likely single BEST measurement of overall (initial & continuing) milk letdown
- requires high producing cows, excellent pre-milking preparation/stimulation, & proper machine settings (esp. vacuum levels & pulsation rates/ratios)
- BEST Udder Prep and Cow Handling Monitor – 3X herds > 14.5#



Prep (People) Summary

Description	Pen	5	6	7	8	9	1	2	3	4	10	9	11
% Units were attached	34	35	34	26	37	0	34	34	32	30	5	17	13
Milk / stall / hour	141	125	144	121	167	1	151	154	129	112	16	40	41
Cows / stall / hour	4.4	4.3	4.7	3.3	4.2	0.1	4.4	3.9	4.4	4.3	0.8	3.9	1.7
Flowrate 0 to 15 seconds	5.2	4.1	4.9	5.8	5.7	3.6	5.0	5.8	5.4	5.4	4.6	4.0	4.6
Flowrate 15 to 30 seconds	7.1	3.8	6.5	8.3	8.7	1.9	6.8	8.8	7.0	7.4	5.8	5.8	4.9
Flowrate 30 to 60 seconds	6.8	4.9	6.0	8.3	8.4	1.7	6.3	8.7	6.6	6.8	5.1	5.4	4.8
"Peak" Flowrate	8.0	7.0	8.3	9.3	8.8	3.7	8.3	9.5	7.8	6.9	6.0	3.5	5.6
Milk in the first 2 minutes	15	11	14	17	17	6	14	18	14	14	11	9	10
Percent milk in 2 minutes	46	40	47	47	42	64	42	45	49	52	62	84	44
Percent time in low flow	7	8	9	5	5	35	6	4	9	7	14	15	10
Seconds in low flow	20	23	23	14	16	65	17	13	24	19	33	25	28

Milk / Stall / Hour

- More Closely Related to Income
- Easier Comparison between Parlors
- High Milk/Stall/Hour Requires:
 - High Producing Cows
 - Rapidly Milking Cows
 - Smooth and Rapid Parlor Turnover
- BEST Overall Parlor Efficiency Measure – 3X >100# Good >130# Excellent



Error Summary

Error Summary:	Pen	5	6	7	8	9	1	2	3	4	10	9	11
Reattach	25	8	0	3	1	1	0	4	3	3	2	0	0
No Milk	2	1	0	0	0	0	0	0	0	1	0	0	0
Entered Twice	1	0	0	0	0	0	0	0	0	0	0	0	1
No Letdown	358	11	38	41	51	3	35	29	56	62	13	14	5
Manual Mode	56	2	5	0	10	1	5	7	6	6	10	2	2
Early Falloff	7	1	0	0	4	0	1	0	0	0	1	0	0
Late Rehang	51	1	3	1	3	2	1	7	3	3	5	0	22
Manual Detach	197	57	11	10	22	4	17	21	9	10	10	3	23
Total	697	81	57	55	91	11	59	68	77	85	41	19	53

Error Summary	Error Definition
Reattach	unit reattached and more than 3 lbs collected
No Milk	unit attached but no milk weight recorded
Manual ID	cow was manually identified
Entered Twice	cow came to parlor twice in one milk shift
No Letdown	milk flow rate did not increase as expected
Early Falloff	unit detached with <25% of expected milk collected
Late Rehang	unit reattached and less than 3 pounds collected
Manual Detach	detach by human instead of low flow rate



Stall Summary

Stall	Cows	Dev	Milk	Time	Flow	Cond	Peak	Fall	Mode	MDet	Wash	NoID
3	34											4
17	34					0.0						0
18	34										239	0
34	32									5		0
36	32									5		1
40	29											0
41	29											0
42	28											0
52	34								4			1
54	34	4			9.1							1
56	34					0.0						1
60	34									5		0
62	34									6		1
63	34									7		0
64	34									5		0
67	34									7		0
73	33					0.2						0
74	32										8	0
76	31											1
79	31					0.0						1
81	29											0
82	29					0.0		4				0
83	30					0.4						3
84	28											2
Average	33	-2	32	4.6	7.0	5.8	8	1	1	2	60	
Tolerance	2	3	2	0.6	1.4	3.4	2	2	2	2	46	

Stall Summary Definitions

- **Cows** Number of cows per stall
- **Dev** Deviation from expected milk
- **Milk** Average milk per stall
- **Time** Average milking duration in minutes
- **Flow** Average milk flow per minute
- **Cond** Average conductivity reading
- **Peak** Average peak flow rate
- **Fall** Average number of machine fall offs
- **Temp** Average milk temperature
- **Mode** Number of meters set to manual mode
- **MDet** Number of times stall was put into manual detach mode
- **Wash** Number of times the meter filled up and dumped during the wash

- Needs to be review after every milking
- Stalls with outlaying values are flagged

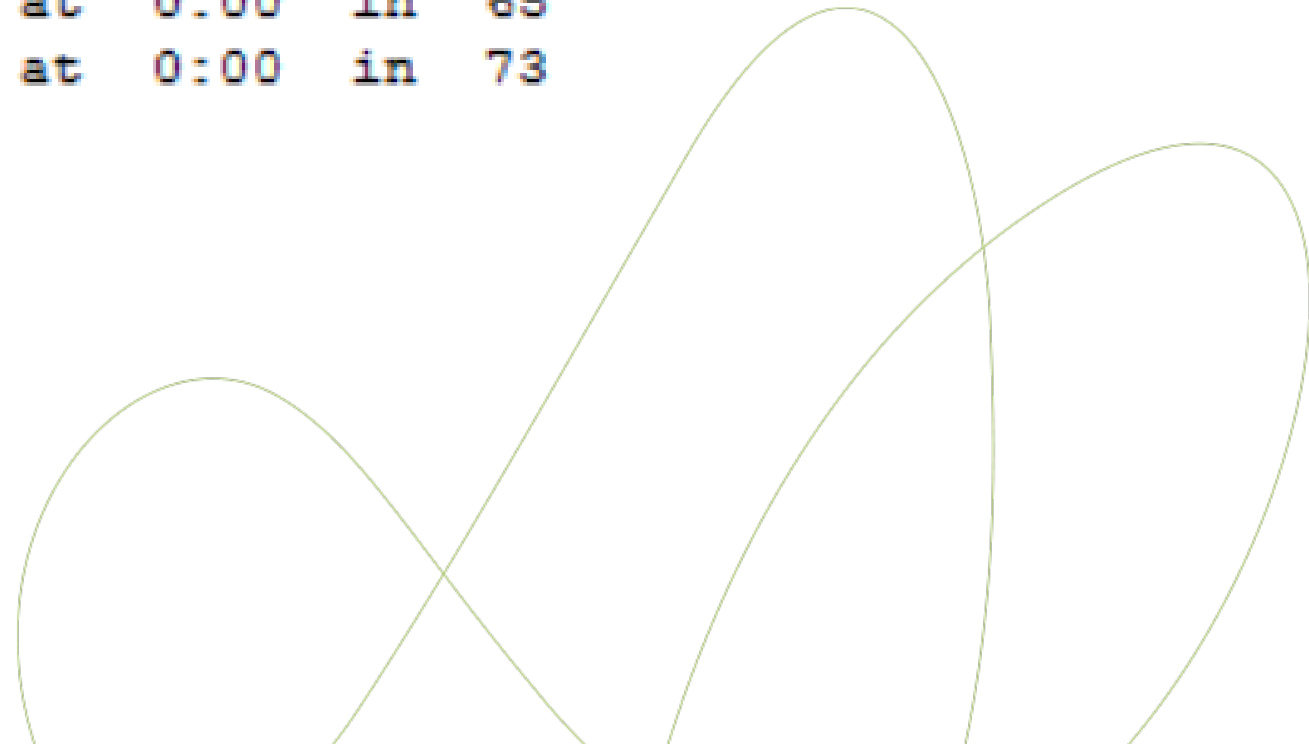
Properly functioning stalls (meters) is essential for accurate milk cow weights

Wrong Pen Details

ID Cows in wrong pens list:

=====

18912	found in pen	5	not	6	at	5:52	in	3
19497	found in pen	6	not	5	at	6:31	in	26
19142	found in pen	9	not	10	at	8:55	in	44
19610	found in pen	9	not	10	at	8:55	in	59
19088	found in pen	9	not	13	at	0:00	in	65
19370	found in pen	9	not	13	at	0:00	in	73



Rotary Parlors – Special Section

The rotary used for this example is a 60-stall rotary unit that has been set to turn 1 stall at about every 13 seconds. The fastest stalls turned at 14 minutes after midnight. The average was 1 stall every 13.26 seconds and this includes all the stops the platter made. The effective is calculated by taking the total milking time divided by the total cows milked. Efficiency is the effective rate compared to the fastest.

When a rotary parlor is detected one additional table is made when running a Parlor Performance.

Rotary	Mins/Turn	Secs/Stall	Cows/Hour	Turns/Hour
Fastest	12:21	12.35	291	4.9 at 0:14 stall 10
Average	13:15	13.26	271	4.5
Effective	14:30	14.50	248	4.1
Efficiency	85			
Empty Stalls	162			
Stops > 25s	165			

Stops > {#} seconds is determined by a SETUP parameter STOP setting (SETUP, then Parameters). Put the desired number in for its value, ie... 25 for this herd. Typically, we make this about 2 times the seconds per stall turn rate.



Parlor Report Graph

Dairy Comp 305: VAS Testing Herd

File Events1 Events2 DHI+ID Health Utils Rpr+Cul Prod_Boumatic SCC Genomics Heifer Help

Server

Command ?

Reports - Command : PARLOR\WM1

Milking report for 7/ 1/20 Milking 1 at 10:02 AM 20120524 16 25 10

	Total PEN	Milk Milk	Milk /Hr	/Cow	Cows	Cows /Hr	Total Time	Start Time	Stop Time	Avg #/m	Avg Dur	Avg Dev	Not ID
3	4262	4486	27	156	164	0:57	3:59	4:57	6.1	4.7	-3	12	
4	5117	6822	41	125	166	0:45	5:03	5:49	8.7	4.8	-3	5	
2	5033	5592	41	123	136	0:54	5:51	6:46	7.8	5.4	-4	9	
1	5279	6885	44	119	155	0:46	6:43	7:30	8.4	5.3	-3	10	
8	1554	5180	33	47	156	0:18	7:32	7:51	7.1	4.8	-2	4	
9	3798	4848	34	111	141	0:47	7:49	8:36	7.4	4.8	-2	4	
5	2282	4149	36	63	114	0:33	8:37	9:11	7.2	5.1	1	-7	
6	3652	5766	34	109	172	0:38	9:12	9:51	7.3	4.7	-3	6	
Total	30977	5295	36	853	145	5:51	3:59	9:51	7.5	5.0	-2	43	

=====
 Description Pen 3 4 2 1 8 9 5 6

 % Units were attached 37 39 41 38 43 37 35 29 41
 Milk / stall / hour 165 140 209 173 214 156 151 127 177
 Cows / stall / hour 4.5 5.1 5.1 4.2 4.8 4.7 4.4 3.5 5.3

 Flowrate 0 to 15 seconds 2.2 1.6 3.0 2.4 2.9 1.9 1.9 2.3 1.8
 Flowrate 15 to 30 seconds 6.9 5.4 8.3 7.8 8.7 5.2 6.5 7.6 5.1
 Flowrate 30 to 60 seconds 6.4 4.5 7.0 7.5 8.1 5.5 6.0 7.7 5.5
 "Peak" Flowrate 8.7 6.5 10.3 8.8 9.7 8.8 8.4 9.0 8.8

 Milk in the first 2 minutes 14 10 17 15 17 13 13 15 13
 Percent milk in 2 minutes 39 38 41 37 38 40 39 42 40
 Percent time in low flow 11 16 10 11 7 12 10 11 11
 Seconds in low flow 34 46 30 37 25 36 31 34 33

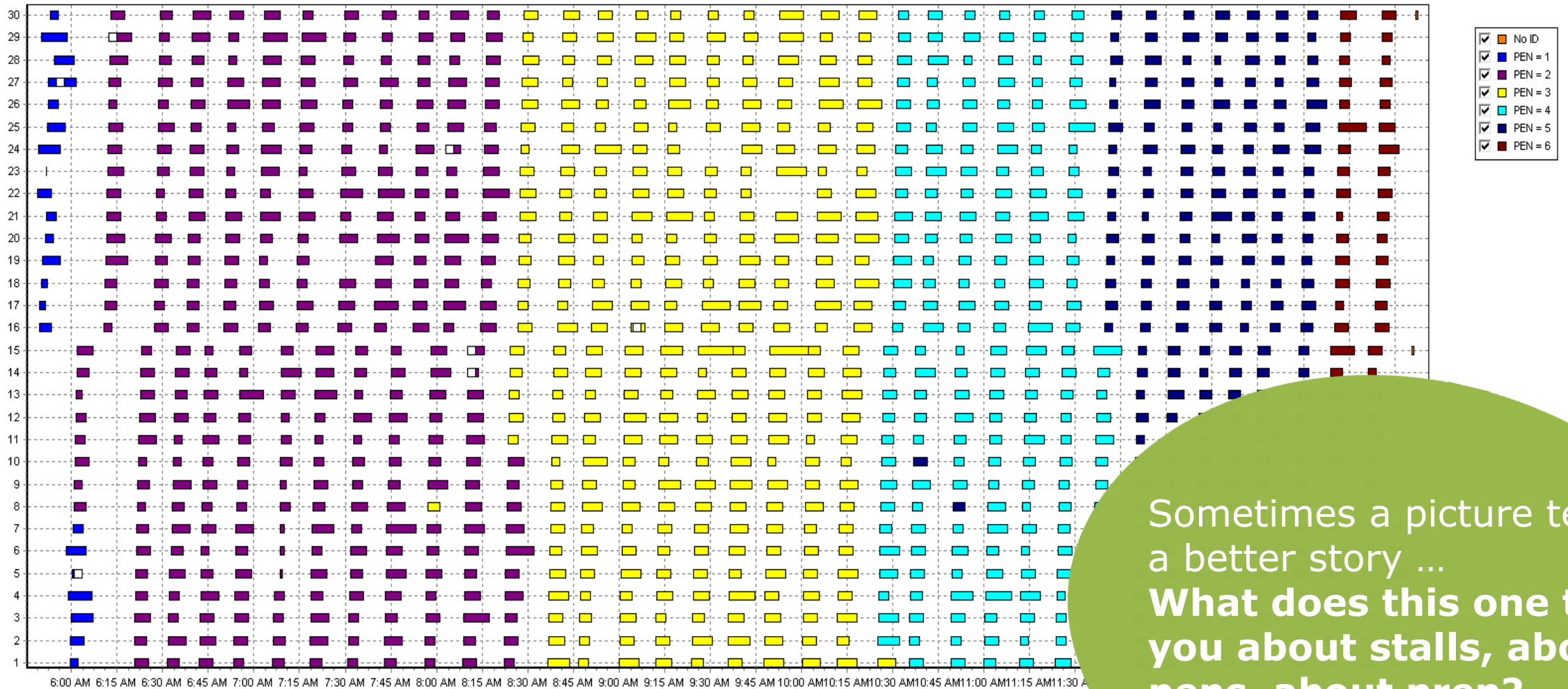
 Error Summary: Pen 3 4 2 1 8 9 5 6

System Home Commands CowCard Grid Report **Graph** Activity

(7/ 2/20) Prt Off Tasks: Disabled C:\HERDS\@DEMO\COWFILE1.DAT VAS Testing Herd

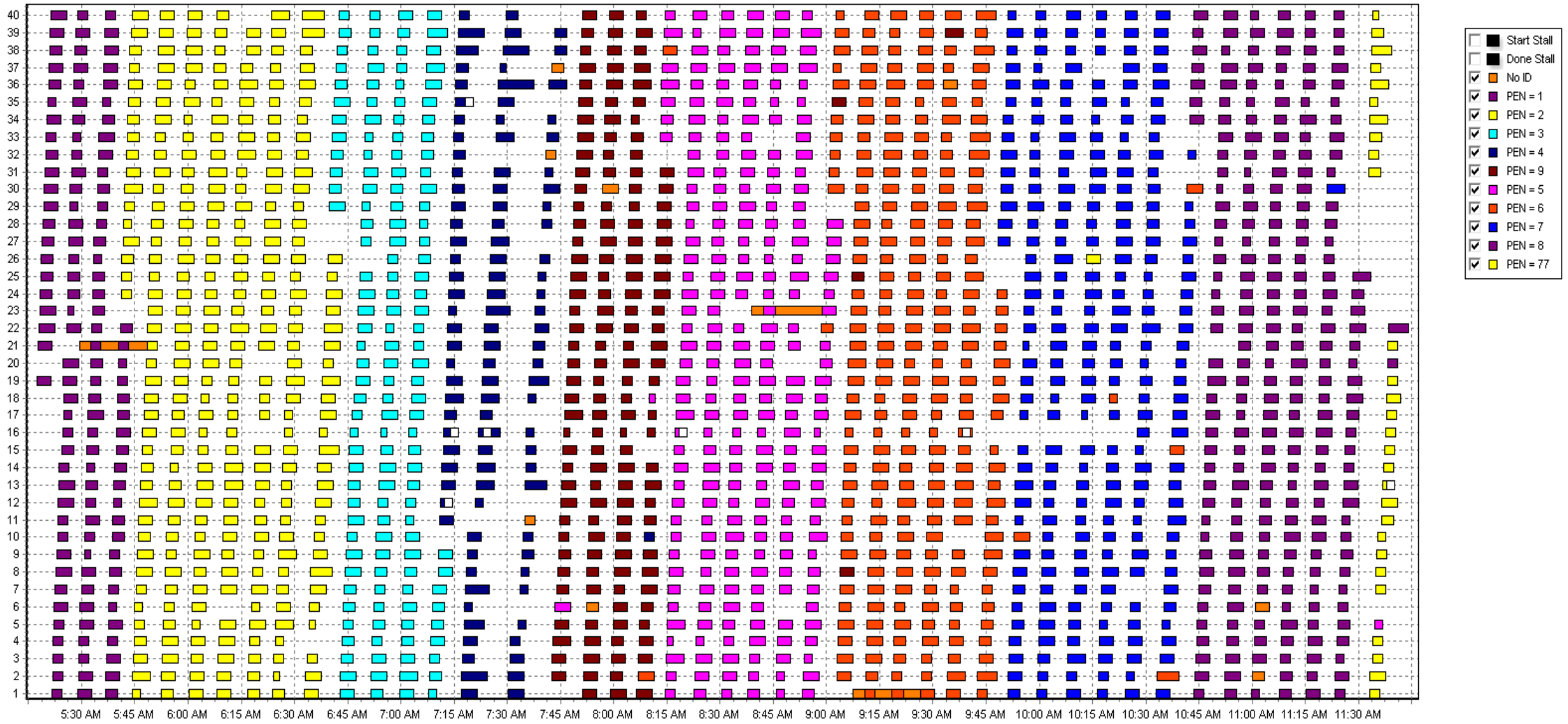
Graph Tab in DairyComp

Parlor Report Graph - Linear



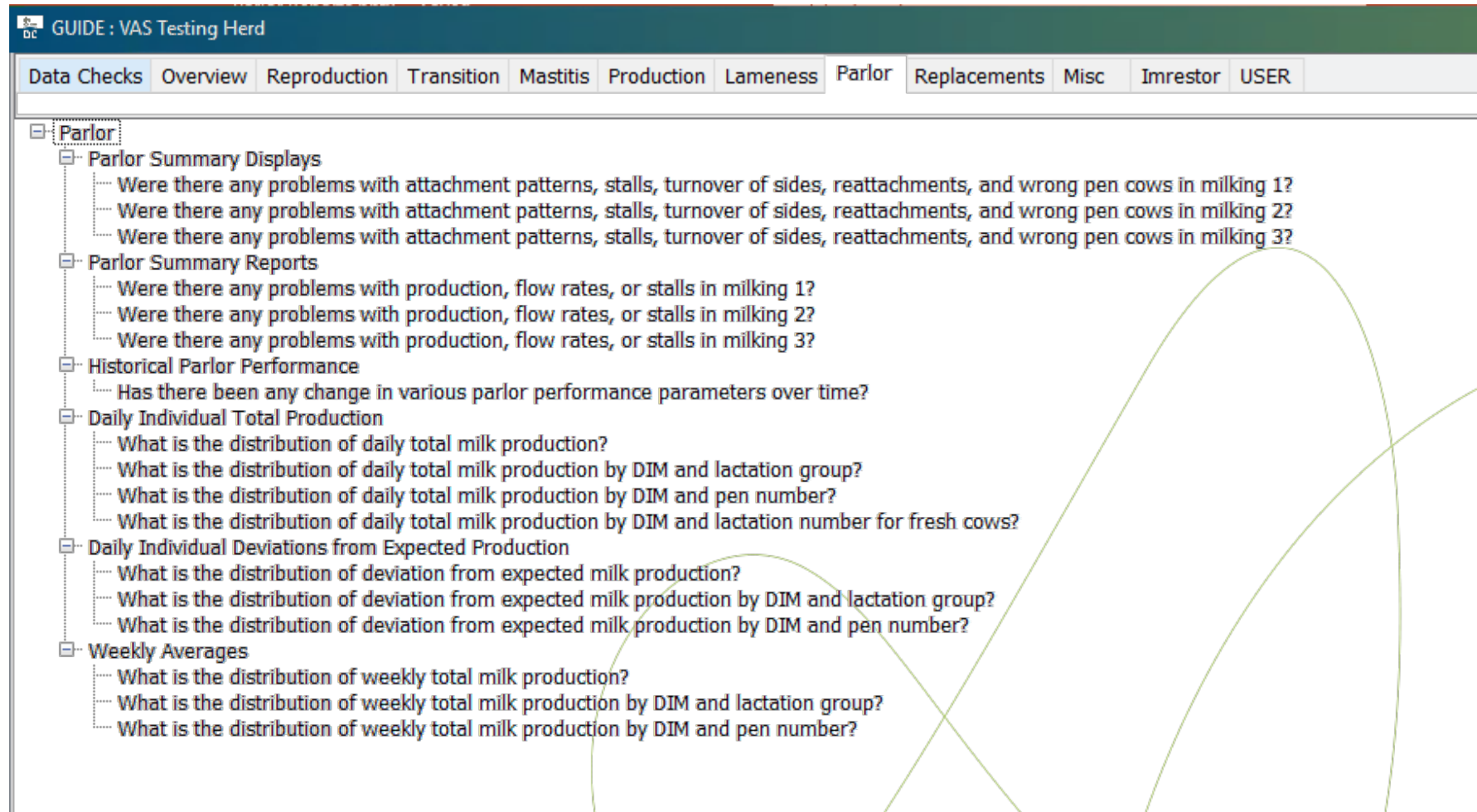
Sometimes a picture tells a better story ...
What does this one tell you about stalls, about pens, about prep?

Parlor Report Graph – Rotary



Parlor Report Summary

- Access in GUIDE, Parlor Tab also



The screenshot displays the GUIDE software interface for a 'VAS Testing Herd'. The top navigation bar includes tabs for Data Checks, Overview, Reproduction, Transition, Mastitis, Production, Lameness, Parlor, Replacements, Misc, Imrester, and USER. The 'Parlor' tab is selected, and the left sidebar shows a tree view with the following categories and sub-items:

- Parlor
 - Parlor Summary Displays
 - Were there any problems with attachment patterns, stalls, turnover of sides, reattachments, and wrong pen cows in milking 1?
 - Were there any problems with attachment patterns, stalls, turnover of sides, reattachments, and wrong pen cows in milking 2?
 - Were there any problems with attachment patterns, stalls, turnover of sides, reattachments, and wrong pen cows in milking 3?
 - Parlor Summary Reports
 - Were there any problems with production, flow rates, or stalls in milking 1?
 - Were there any problems with production, flow rates, or stalls in milking 2?
 - Were there any problems with production, flow rates, or stalls in milking 3?
 - Historical Parlor Performance
 - Has there been any change in various parlor performance parameters over time?
 - Daily Individual Total Production
 - What is the distribution of daily total milk production?
 - What is the distribution of daily total milk production by DIM and lactation group?
 - What is the distribution of daily total milk production by DIM and pen number?
 - What is the distribution of daily total milk production by DIM and lactation number for fresh cows?
 - Daily Individual Deviations from Expected Production
 - What is the distribution of deviation from expected milk production?
 - What is the distribution of deviation from expected milk production by DIM and lactation group?
 - What is the distribution of deviation from expected milk production by DIM and pen number?
 - Weekly Averages
 - What is the distribution of weekly total milk production?
 - What is the distribution of weekly total milk production by DIM and lactation group?
 - What is the distribution of weekly total milk production by DIM and pen number?



Contacts

- Interested in having Dr. Reid look at your parlor data?
 - Email - dreiddvm@gmail.com
 - Cell - 612.963.1457
- Accessing parlor data:
 - VAS Support – support@vas.com
 - Office – 559.686.9496

