2018 Virginia FFA Dairy Cattle Evaluation and Management Career Development Event Team Activity

Scenario: Penny Pincher is a dairy farmer located in the western part of Virginia. She calls you for assistance in evaluating housing and facilities for her herd. She has provided you with a DHI-202 Herd Summary to help with your analysis and also supplied the following background information.

The herd consists of 134 milking and dry cows plus 137 replacement heifers.

The herd is milked twice a day in an aging, but serviceable double-5 herringbone parlor.

Penny has a new 300' pack barn with two 125' x 60' pens on either end and manure storage in the middle. One of the pens is occupied by 61 of the highest producers in the herd. It is deep bedded with kiln-dried sawdust and has 8 fans installed. The second pen is still under construction.

The remaining cows are housed in an old 80-stall freestall barn that has a low ceiling and is mostly closed on the sides. Dirt is used as bedding. Alleyways in the barn are grooved, but the grooving is getting shallow.

Dry cows are kept on pasture.

Calves are housed in calf hutches until 2 months of age when they move into a calf barn. Heifers are grouped in pens inside the calf barn. The pens have headlocks and are bedded with straw. Heifers over one year of age are kept on pasture. Breeding age heifers are housed with the milking herd until confirmed pregnant.

Assignment: Briefly discuss the strengths and weaknesses you detect in herd management related to housing and facilities. Support this by citing specific items to support your conclusions. List in order of priority (influence on production and potential herd profit) the problems and your recommendations for management approaches to correct these problems. In addition, the farmer has a few specific questions for you:

Should she be concerned with heat stress in the herd? Are there any signs of heat stress evident in the records?

Are there changes in facilities that could be made that could help her achieve her goal of lowering age at first calving?

What should be taken into consideration before she makes any changes to housing and facilities?

HERD SUMMARY

DHI-202

Test Date	Samples at Lab	Processed
05-17-2018	05-18-2018	05-18-2018

Breed	HO	Type Test	DHIR-AP	Assoc.		Supv.		String	

Production, Income & Feed Cost Summary

	Daily Average per Cow on Test Day			Rolling Yearly Herd Averages		
Total Cows	134			139.4		
Cows in Milk	Number	%		Number	%	
	120	90		124.1	89	
Milk Lbs (All Cows)	66.3			21619		
Fat Lbs (All Cows)	2.30			811		
Fat %	3.5			3.8		
Protein Lbs (All Cows)	1.97			662		
Protein %	3.0			3.1		
Milk Lbs (Milking Cows)	74.1					
	Milking Cows	All Cows				
Silage	Lbs Consumed			Lbs Consumed	%ENE	
Other Succulents or Blended Rations	Lbs Consumed			Lbs Consumed	%ENE	
Dry Forage	Lbs Consumed			Lbs Consumed	%ENE	
Other Feeds	Lbs Consumed			Lbs Consumed	%ENE	
Pasture				Days	%ENE	
Concentrates	Lbs Consumed			Lbs Consumed	%ENE	
Value of Product $	10.92	9.61		3768		
Cost of Concentrates $						
Total Feed Cost $						
Income Over Feed Cost $						
Feed Cost per CWT Milk $						
Milk Blend Price	Per CWT	% Fat	% Pro	Per CWT	% Fat	% Pro
	15.29	3.7	3.0	17.46	3.8	3.1

Reproductive Summary Of Current Breeding Herd

Total Cows Breeding Herd	Voluntary Waiting Period (VWP)	Days to 1st Service
52	60	108

Cows With No Service Dates or Diag. Open				Cows Bred But Not Diag. Preg.			
				Days Open at Last Service			
Open VWP to 100 Days	Open Over 100 Days	Number Diag. Open		Under VWP	VWP to 100 Days	101 to 130 Days	Over 130 Days
8	18	2	Number Cows	1	5	5	15
15	35	4	% of Breeding Herd	2	10	10	29

Reproductive Summary Of Total Herd

	Days Open at 1st Service			Avg. Days to 1st Service	Services per Pregnancy		Projected Minimum	
	Number Under VWP	Number VWP to 100	Number Over 100		Preg. Cows	All Cows	Calving Interval	Days Open
1st Lact	5	17	17	116	1.7	2.1	14.9	172
2nd Lact	2	13	12	102	2.4	2.7	14.4	158
3+ Lacts	4	9	7	99	1.8	2.7	14.6	162
All Lacts	11	39	36	107	2.0	2.5	14.6	165
% of All 1st Services	13	45	42		Current Actual Calving Interval		15.0	

Service or Heat Interval	
Interval Length	Number Intervals
< 18	2
18 - 24	27
36 - 48	12
Other	39

Services for Past 12 Months			
Service Number	Number Services	Conception Rate	Service Sire Merit $
1st	107	41	+599
2nd	58	41	+613
3rd +	49	41	+614
Total	214	41	+605

Abortions	This Test	Past Year
Actual	1	1
Apparent	1	5

Birth Summary

Dam's Lact Num	Offspring Born								
	Males		Females		Calving Difficulty Score				
	Alive	Dead	Alive	Dead	1	2	3	4-5	%4-5
1	18		29	3	45	4	1		
2+	47	2	40	5	88				
Total	65	2	69	8	133	4	1		

Cows To Be Milking, Dry, Calving By Month

	Jun	Jul	Aug	Sep	Oct	Nov
* Milking	125	109	88	97	112	113
Dry	9	21	39	29	15	12
Cows to Calve	3	4	5	18	21	8
Heifers to Calve	5		1	3	5	2

* Assumes 3.5% per month culling rate.

Yearly Reproductive Summary

Test Date	% Heats Obs.	Conception Rate	Preg Rate	Number Services	Number Confirm Preg	Number Calving	Total Preg Cows
Test Dropped	39	35	13	26		8	57
7-06-17	33	39	10	23		13	47
8-08-17	34	21	7	19	18	11	56
9-05-17	24	43	11	14		23	40
10-03-17	24	30	6	10	9	10	45
10-31-17	20	46	9	13		17	33
12-09-17	25	35	8	23		16	24
1-15-18	42	52	26	52	15	6	38
2-15-18	23	44	12	18	8	8	38
3-16-18	23	36	8	11	14	6	45
4-20-18	23			10	16	15	52
5-17-18	23			10	13	15	58
Averages	27	38	12	18	8	13	43
Totals				203		140	

Miscellaneous Herd Information

	Shipped-Test Day Comparison	
	Test Day	Yearly Avg.
Sum of Test Day Wts	8780	8018
Reported Avg. Daily Bulk Tank Wts	8605	7834
% Deviation	+2.0	+2.3

	Milking Times	Wgh	Spl
1st	4:00pm	N	N
2nd	5:40am	Y	Y
3rd			

Remarks:

2018 Virginia FFA Dairy Cattle Evaluation and Management CDE - Team Activity Herd

Herd Code		Test Date	05-17-2018	Breed	HO	String	

Stage Of Lactation Profile

		Stage of Lactation (Days)					
		1 - 40	41 - 100	101 - 199	200 - 305	306 +	Total or Average
Number Milking	1st Lact	10	4	6	19	10	49
	2nd Lact	1	6	8	11	5	31
	3+ Lacts	6	6	6	16	4	38
	All Lacts	17	16	20	46	19	118
Average Daily Milk	1st Lact	72	73	73	66	62	68
	2nd Lact	102	96	91	63	69	79
	3+ Lacts	84	104	94	67	54	78
	All Lacts	78	93	87	66	62	74
% Fat & Pro	1st Lact % Fat	3.6	3.4	3.6	3.7	3.8	3.7
	1st Lact % Pro	3.0	2.7	3.0	3.1	3.3	3.1
	2nd Lact % Fat	4.1	3.2	3.6	3.7	3.8	3.6
	2nd Lact % Pro	2.6	2.7	2.9	3.2	3.3	3.0
	3+ Lacts % Fat	3.6	2.8	3.5	3.2	3.6	3.3
	3+ Lacts % Pro	3.1	2.6	2.9	3.0	3.2	3.0
	All Lacts % Fat	3.6	3.1	3.6	3.5	3.8	3.5
	All Lacts % Pro	3.0	2.7	2.9	3.1	3.3	3.0
SCC SCR	1st Lact	3.2	2.4	1.4	1.1	1.8	1.8
	2nd Lact	6.2	3.0	2.5	2.1	2.5	2.6
	3+ Lacts	2.4	2.4	2.4	3.1	3.7	2.8
	All Lacts	3.1	2.6	2.1	2.0	2.4	2.3
SCC Score >= 4.0	Number	5	5	3	5	2	20
	Percent	29	31	15	11	11	17

Identification And Genetics (Genetic Data Source: CDCB)

Age Group	Number Animals	Avg. Age (Yr-Mo)	Num. Ident. By Sire	Num. Ident. By Dam	Number ID Changes	No. Animals with Merit $	Average Merit $ Animal	Average Merit $ Sire
0 - 12	65	0-06	65	65		65	+279	+486
13+	72	1-09	72	72		72	+202	+342
Replacements	137	1-01	137	137		137	+238	+410
1st Lact	56	2-06	56	56		41	+146	+286
2nd Lact	38	3-09	38	38	1	38	+91	+228
3+ Lacts	40	5-11	40	40	2	40	+67	+164
All Lacts	134	3-11	134	134	3	119	+102	+233
% Identified (Producing Females)			100	100	No. Heifers Age Over 30 Months			5

Herd Merit $ Option
NM

Genetic Profile of Service Sires	A.I. Progeny Tested	A.I. Genomic Tested	All Other A.I. Bulls	Non A.I. Bulls
% of Herd Bred to	35	53		12
Number of Bulls Used	11	8		
Average Merit $	+565	+746	+0	
Avg. Percentile Rank (Net Merit)	68	94		

DCR Milk
98

Production By Lactation Summary

	Number of Cows	Avg. Age (Mo)	Peak Milk	Summit Milk	Proj 305 Day ME Milk	Proj 305 Day ME Fat	Proj 305 Day ME Pro	Difference From Herdmates Milk	Difference From Herdmates Fat	Difference From Herdmates Pro	Avg. Body Wt.
1st Lact	56	30	76	69	23661	892	710	+534	+34	+20	1210
2nd Lact	38	45	95	89	24681	903	727	+1481	+38	+35	1320
3+ Lacts	40	71	99	90	23854	856	695	+542	-8	+1	1450
All Lacts	134	47	89	82	24037	885	711	+834	+23	+19	1320

Somatic Cell Summary

% Cows SCC Score	0,1,2,3	4	5	6	7,8,9
	Below 142,000	142,000 283,000	284,000 565,000	566,000 1.13 M	Over 1.13 M
	88	2	8		2
	71	13		13	3
	73	11	3		14
	79	8	4	3	6

Herd Production Lost From SCC This Test Period			
Milk	1458	Dollars ($)	223

Dry Cow Profile

Lact.	Number Dry Periods	Avg. Days Dry	Number Dry by Days < 40	Number Dry by Days 40-70	Number Dry by Days > 70
1					
2	38	65	7	18	13
3+	39	66	4	26	9
All	77	65	11	44	22

Yearly Summary Of Cows Entered And Left The Herd

	Cows Entered Num.	Cows Entered %	Cows Left Num.	Cows Left %	Number of Cows Left the Herd: Dairy	Low Prod	Repro	Mast	Udder	Feet & Legs	Injury Other	Disease	Died	Not Rptd
	50	36	10	7			5		5					
			15	11		1	3	2	3	3	1	1	1	
			33	24	1	1	8	3	7	4	3	1	5	
	50	36	58	42	1	2	16	5	15	7	4	2	6	

% Left Herd For Involuntary Reasons
39

Yearly Production And Mastitis Summary

Test Date	Days In Test Period	Number Cows In Herd On Test Day	Test Day Averages (Milking Cows) DIM	Test Day Averages (Milking Cows) Milk	150 Day Milk	Test Period Persist. Index	Test Day Averages (All Cows) % In Milk	Test Day Averages (All Cows) Milk	Test Day Averages (All Cows) %Fat	Test Day Averages (All Cows) %Pro	Rolling Yearly Herd Average Milk	Rolling Yearly Herd Average Fat	Rolling Yearly Herd Average Pro	Somatic Cell Count Summary % Cows SCC Score 0,1,2,3 Below 142,000	4 142,000 283,000	5 284,000 565,000	6 566,000 1.13 M	7,8,9 Over 1.13 M	Avg. SCC Linear Score	Wt. Avg. Actual SCC	MUN	Number Left Herd Died	Sold
Test Dropped	34	142	232	63.4	73.1	111	90	57.0	3.4	3.1	20101	753	613	69	15	7	5	4	2.6	262			3
7-06-17	42	142	234	65.5	76.7	103	86	56.2	3.5	2.9	19992	751	611	70	14	7	3	5	2.5	173		1	4
8-08-17	33	136	219	60.8	70.4	92	82	49.9	3.8	3.1	20109	761	615	57	19	10	6	8	3.3	318		1	7
9-05-17	28	140	195	67.4	77.3	116	90	60.5	3.7	3.1	20249	768	621	64	15	8	6	8	2.9	310			3
10-03-17	28	144	186	59.8	67.1	91	86	51.2	4.1	3.2	20305	773	624	56	18	14	6	6	3.4	433		1	
10-31-17	28	144	165	67.0	72.0	114	88	58.4	3.7	3.2	20374	778	628	71	11	9	4	4	2.6	270		1	6
12-09-17	39	144	167	66.4	71.7	101	90	59.4	3.6	3.0	20655	787	637	78	9	3	6	3	2.4	303			6
1-15-18	37	143	185	71.9	77.6	110	88	63.3	3.9	3.1	21029	793	646	77	8	7	4	3	2.5	243			3
2-15-18	31	137	187	66.8	71.2	94	87	58.0	4.1	3.1	21120	796	648	71	10	11	1	8	2.9	348			7
3-16-18	29	130	199	74.2	79.2	112	88	65.1	3.7	3.1	21152	795	648	74	4	6	7	9	2.8	389			7
4-20-18	35	128	205	73.1	79.6	102	93	67.8	3.8	3.1	21360	799	654	68	9	9	7	8	3.1	433		2	6
5-17-18	27	134	195	74.1	79.8	104	90	66.3	3.5	3.0	21619	811	662	79	8	4	3	6	2.3	280			3
Averages	32	138	194	67.9	74.8	104	88	59.6	3.8	3.0				70	11	8	5	6	2.8	318		6	52

Test Period Avg. Milk Lbs	Added	66.9	Dropped	56.9