A Case Study Farm; Visiting Ralph Rumen

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Take Home Message

- Developing a plan when evaluating a feed program allows individuals to find weak areas in the dairy operation.
- Evaluating the milk production records (yield, components, and trends) provides an "early look" at potential problems.
- Observing cow behavior will rule in and out key problems.
- Obtaining input from other sources on the farm including the veterinarian, feed dealer/consultant, and foot trimmer will add to the plan and strategies.

Introduction

"Ralph Rumen" is a virtual farm located in Acidville, Illinois. The case study allows participants to visit Ralph's farm and to identify potential problems and corrections he should consider. Before "visiting" Ralph's farm, participants will need to review tables and guidelines listed in the other paper in this proceedings, "Benching Your Feeding Program".

Virtual Farm Data and Video

Participants will have the opportunity to review and evaluate five different resources and sets of data on Ralph's farm.

- DHI Herd summary data (Table 1)

Table 1. DHI lactation profile for Ralph Rumen's milking herd.

STAGE OF LACTATION PROFILE

			STAGE OF LACTATION (DAYS)					
			1 THRU 40	41 THRU 100	101 THRU 199	200 THRU 305	306 +	TOTAL OR AVERAGE
NUMBER MILKING		1ST LACT	2	4	4	6	6	22
		2ND LACT	2	5	3	9	1	20
		3+ LACTS	6	5	6	19	2	38
		ALL LACTS	10	14	13	34	9	80
AVERAGE DAILY MILK PROD-UCTION		1ST LACT	56	57	59	49	42	53
		2ND LACT	74	70	66	50	38	60
		3+ LACTS	76	83	69	52	35	63
		ALL LACTS	69	70	65	50	38	59
% FAT & PROT.	1ST LACT	FAT %	3.8	3.1	3.3	3.5	3.6	3.5
		PROT %	3.0	3.0	2.9	3.0	3.1	3.0
	2ND LACT	FAT %	4.1	3.4	3.5	3.7	3.7	3.7
		PROT %	3.1	3.0	3.0	3.1	3.1	3.1
	3+ LACTS	FAT %	4.3	3.7	3.6	3.7	3.8	3.8
		PROT %	3.2	3.1	3.0	3.0	3.1	3.1
	ALL LACTS	FAT %	4.1	3.4	3.5	3.6	3.7	3.7
		PROT %	3.1	3.0	3.0	3.0	3.1	3.0
SCC SCR		1ST LACT	2.6	2.3	1.6	1.7	4.5	2.1
		2ND LACT	2.6	2.1	2.4	2.2	3.6	2.4
		3+ LACTS	3.0	2.3	1.8	2.3	4.1	2.2
		ALL LACTS	2.8	2.2	1.9	2.0	4.0	2.3
SCCS >3.9		NUMBER	3	3		2	3	11
		PERCENT	30	21	0	6	38	11

- Summary of feeding information (Table 2) with additional feed measurements listed in Table 3 (Penn State Separator Box results) and corn particle size (Table 4).

Table 2. Ration profile of Ralph Rumen's one group TMR (all values expressed on a 100% dry matter basis).

Ration Nutrient Specifications	
DMI	50.0 lb
CP	17.4 %
RUP	6.0 %
ADF	19.7 %
NDF	29.5 %
Forage NDF	22.0 %
NFC	35.9 %
Starch	28.0 %
Fat	6.2 %
Sodium Bicarb	1.0 %

Table 3. Results of the forage and TMR particle size based on the Penn State Shaker box results on Ralph Rumen's feed.

	Top	**Middle**	**Bottom**
	----------% in each box----------		
TMR	8	37	55
Corn Silage	5	35	60
Haylage	20	30	50

Table 4. Grain particle size of the shelled corn in Ralph Rumen's grain mix using the five Illinois grain screens.

Screen	**Screen No.**	**Size (microns)**	**Percent**
Top Screen:	#4	>4400 micron	1
2nd Screen:	#8	2200 micron	3
3rd Screen:	#16	1100 micron	26
4th Screen:	#30	500 micron	60
Pan:		<500 micron	10

- Video clips of cow movement, manure scores, and cow comfort
- Summary of information and results from Dr. Vic Veterinarian (Table 5).

Table 5: Observations from Dr. Vic Veterinarian on Ralph Rumen's cows.

- Three DA surgeries (all heifers) in the last month
- During farm visits noticed the following:
  - Reproductive tracts feel "good"
  - Fecal material seems looser than normal
  - No temperatures on four cows checked
- Rumen pH results using rumenocentesis

  5 cows; 10 days in milk (DIM)
  - One heifer: 5.4
  - Four cows: 5.6, 5.7, 5.7 and 5.8
  - Average pH : 5.7

  5 cows; 70 DIM
  - Three heifers: 5.1, 5.2 and 5.2
  - Two cows: 5.2 and 5.9
  - Average pH: 5.3

- Summary from the hoof trimmer

Case Study Information

Ralph Rumen milks 80 Holstein cows and is averaging 26.8 kilograms of milk (this amount has increased 2.3 kilograms). He does not use BST, complains about more sore feet on some of his cows, and likes the extra milk, but milk fat test was dropping. As milk prices drop, Ralph "challenged" his nutritionist to get more milk from his cows or he would purchase his feed from someone else. His nutritionist increased nutrient concentration of Ralph's ration (Table 2) primarily through the grain mixture (feeding more grain and adding more roasted soybeans). Ralph also replaced his tumble TMR mixer with a used four auger mixer. It takes 20 minutes for Ralph to mix his TMR feed and deliver it to the feed bunk. Additional information will be presented during the talk for participants to evaluate and consider.

Evaluating the Case Study

After presenting the material and "seeing" the dairy farm, participants will be asked to rank 3 to 5 key concerns and recommendations to be discussed with Ralph. "Experts" will also present their evaluation and recommendations ranked in order for Ralph's consideration and implementation (both long term and short term), and report what Ralph did do and responses during the following three months. Participants will find the case study virtual farm challenging, controversial, and educational. The virtual case study farm, "Ralph Rumen", is available for purchase from the University of Illinois ($25 U.S.) at the following ways.

- E-mail: kspear@talon.outreach.uiuc.edu
- Fax: 217-333-0972
- Phone: Christen Geis, 217-244-9058