ADH ± SD of calves were 0.73 ± 0.11 kg and 0.21 ± 0.05 cm. Mean ± SD serum total protein levels were 5.80 ± 1.04 g/dl. According to treatment and mortality records, mean ± SD morbidity and mortality rates were 61.05 ± 18.48 and 3.14 ± 2.67%. All farms fed milk replacer and utilized a feeding plan with a mean starting allotment of 5.4 L/d, ranging from 4.0 to 6.0 L/d, and a mean peak allotment of 9.0 L/d, ranging from 7.0 to 16.0 L/d. Mean milk replacer concentration was 150 g powder/L water, with a range of 140 to 160 g powder/L water. Mean length of enrollment on the feeder system was 54.3 d, ranging from 48 to 63 d. The information from this study may provide insight to producers using or considering using automated feeders in their calf programs.

Key Words: dairy calves, management, automated calf feeder

M297 Calculation method alters the ratio of milk true protein production to milk urea nitrogen production in late-lactation cows fed four levels of dietary crude protein. Margaret A. Quaassdorff* and Michel A. Wattiaux, *University of Wisconsin-Madison, Madison, WI.*

Our preliminary data suggested that, using DHIA data only, the ratio of milk protein production (MPP, g/d) to milk urea nitrogen production (MUNP, g/d) might be a reliable and inexpensive indicator of nitrogen (N) use efficiency of dairy cows on commercial dairy farms. Although milk urea N (MUN, mg/dL) is an indicator of N intake and urinary urea-N excretion, it does not reflect milk protein synthesis. Our main objective was to compare 5 methods of calculation of MPP:MUNP ratio with the hypotheses that the ratio would be altered neither by calculation methods that use fewer DHIA variables nor by dietary CP level. Data were from samplings collected from 2 consecutive milkings (pm and am) in wk 12 of a study with 122 Holstein cows (mean ± SD: 303 ± 55 DIM; 761 ± 77 kg BW) fed a 16.2, 14.4, 13.1 or 11.8% CP (DM basis) TMR for 12 weeks. Methods of calculation were as follows: A) daily MPP divided by daily MUNP, where daily values were calculated using 6 DHIA values (milk production, milk protein %, and MUN for am and pm sampling, respectively); B) milk protein % divided by MUN (averages of am and pm for both); C) method B using am values only; D) method B using pm values only; and E) average of methods C and D. Ratios were analyzed in SAS 9.3 with PROC MIXED and single df orthogonal contrasts to compare methods B, C, D and E to method A. Overall, there was no difference between methods A and B, or A and E, but method C overestimated, and method D underestimated the MPP:MUNP ratio relative to method A (see Table 1.). These differences, however, were associated with high MPP:MUNP ratios observed when dietary CP were 13.1 and 11.8%. In this study, the MPP:MUNP ratios remained similar when calculated with average concentrations alone or average concentrations weighted for am and pm milk production.

Contd.

Table 1 (Abstr. M297). Comparison of 5 methods of calculation of MPP:MUNP ratio

Dietary CP	Method					Contrast *P*-value			
	A	B	C	D	E	A vs. B	A vs. C	A vs. D	A vs. E
16.2% of DM	291	289	309	274	291	0.906	0.222	0.239	0.982
14.4% of DM	333	329	364	304	334	0.838	0.119	0.150	0.946
13.1% of DM	494	480	627	397	512	0.760	0.009	0.043	0.686
11.8% of DM	763	744	1042	647	844	0.884	0.048	0.383	0.536
Overall	470	461	585	405	495	0.596	<0.001	<0.001	0.164

Key Words: nitrogen use efficiency, MUN, DHIA

M298 Seasonality distributions of number of breedings and conception rate of Florida dairy farms. Fernanda Ferreira*[1,2] and Albert De Vries[1], [1]*University of Florida, Gainesville, FL,* [2]*Embrapa Gado de Leite, Juiz de Fora, MG, Brazil.*

Florida dairy farms are seasonal in their reproductive performance due to the hot summers. The amount of seasonality across farms has not been quantified, however. The objective was to describe the distribution of seasonality in the number of breedings (NB) and the average conception rate (CR) of dairy farms in Florida. We used reproductive data from USDA-AGIL, collected through DHIA, from the year 2010. Farms with annual NB < 100 and annual average CR > 0.75 were not used. We calculated the ratio of breedings (BR) as the NB in a calendar month divided by the average monthly NB. We also calculated the CR per calendar month for each farm. A sigmoidal function was fitted per farm to measure seasonality as is common in economic studies. The final data set had 36 (BR) and 33 (CR) farms. Goodness of fit of the sigmoidal function was measured by the mean square of errors (MSE). Measures of seasonality were the range (max – min) and minmax ratio (min/max) from the sigmoidal functions. Means and 5th, 25th, 50th, 75th and 95th percentiles are reported as well as Pearson correlations. For the BR, the mean ± SD of MSE were 0.31 ± 0.73. In the fitted model, the mean ± SD of BR were 1.21 ± 1.08. The 5 percentiles were 0.94, 0.98, 0.99, 1.04 and 1.46, respectively. The mean BR range was 1.261 and the 5 percentiles were 0.10, 0.35, 0.695, 1.32 and 2.46, respectively. The mean minmax ratio of BR was 0.45 and 5 percentiles were −0.03, 0.27, 0.49, 0.70 and 0.90. For CR, the mean ± SD of MSE were 0.01 ± 0.01. The mean ± SD of CR were 0.40 ± 0.13. The 5 percentiles were 0.26, 0.30, 0.38, 0.43 and 0.63, respectively. The mean CR range was 0.30 and 5 percentiles were 0.09, 0.21, 0.27, 0.36 and 0.71 respectively. The mean minmax ratio of CR was 0.46 and the corresponding 5 percentiles were 0.05, 0.33, 0.46, 0.58 and 0.80, respectively. Correlations between the ranges and minmax ratios were −0.96 for BR and −0.72 for CR. Maximum values were typically observed around March and minimum values around August for both BR and CR. The sigmoidal function did not necessarily describe the seasonal pattern well. In conclusion, many farms were very seasonal but different measures of seasonality may be needed.

Key Words: seasonality, reproduction, dairy farm

JOINT ANNUAL MEETING

CONFERENCE INFORMATION AND SCIENTIFIC PROGRAM

2015 JAM
JOINT ANNUAL MEETING

ADSA®–ASAS

July 12–16 • Orlando, Florida

www.jtmtg.org/2015