

Impact of the Tri-State Dairy Nutrition Conference (2014)

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The success of the Tri-State Dairy Nutrition Conference is demonstrated by attendance (Figure 1) and citation or reprinting of proceedings manuscripts in the scientific, international, and popular press literature. The Conference has resulted in major impacts to the feed industry and dairy producers, and influenced students seeking careers in animal nutrition and the direction of some research programs. The results from the 2014 survey distributed to attendees revealed the following (number in parentheses indicates number of responses; std = standard deviation):

1. **Attended the Conference on average for 11.6 years** (std = 6.8; $n=42$)
2. **What percentage of the farms with which you work have regular or intermittent problems with ruminal acidosis?** ($n=38$)
0 - 2.6%, 10 - 29.0%, 20 - 18.4%, 30 - 36.9%, 40 - 2.6%, 50 - 7.9%, 60 - 0.0%, 70 - 0.0%, 80 - 0.0%, 90 - 0.0%,
100 - 2.6%
3. **What are the primary signs you look for in accessing the presence of ruminal acidosis?** ($n=40$)
Manure (quality, loose, bubbles, gray, inconsistent, diarrhea, mucous, corn washouts, score) (31); butterfat depression, fat: protein inversions, F:P ratio (24); cud chewing/rumen contractions decreased (20); feed intake depression or fluctuation (11); poor feet/laminitis, redness above the hoof, sore feet (3); sorting (2); displaced abomasum (2); low rumen pH (2); low amount of feed on top screen of Penn State shaker box (2); fecal starches (2); fluctuating production (2); MUN levels (2); sick cows (2); forage changes; reduced fiber digestion; decreased ear temperature and higher rectal temperature
4. **At what age or stage of development do your clients introduce forage into the diets for heifers?** ($n=39$)
Post weaning (9); 3 to 6 months (7); 2 to 3 months (6); 300 to 600 pounds (5); 6 to 8 weeks (4); at weaning (2); 4 to 6 weeks (2); pre-weaning (2); 1 to 3 weeks (2); 5 to 12 weeks
5. **What are the primary methods used by the farms you work with to mitigate heat stress?** ($n=40$)
Fans (37); sprinklers/soakers/misters (21); dietary changes: DCAD balancing rations, buffers, potassium carbonate, rehydration products, yeasts, sugars (10); extra waterers (7); shade (2); sand bedding; ventilation; higher barn heights; increased corn silage; no overcrowding
6. **What is the primary basis for your decision to include rumen protected amino acids in a diet?** ($n=37$)
Increase milk protein, butterfat, and/or milk (12); IOFC (8); increase milk protein, decrease CP in diet (5); management level (4); Lys:Met ratio predicted by ration balancing (3); producer requests/personality (2); milk protein price (2); health and production; source of glucose and energy; availability of AA; MUN
7. **On average, how many pen moves occur for cows after calving among the farms that you work with?** ($n=40$)
1 - 17.5%, 2 - 40.0%, 3 - 30.0%, 4 - 12.5%
8. **Relative to the feeding of distillers grains:**
 - a. **What percentage of your clients feed distillers grains?** ($n=37$)
0 - 0.0%, 10 - 8.1%, 20 - 5.4%, 30 - 8.1%, 40 - 10.8%, 50 - 8.1%, 60 - 2.7%, 70 - 13.5%, 80 - 24.3%, 90 - 8.1%,
100 - 10.8%
 - b. **What is the typical level of inclusion of distillers grains in diets?** ($n=37$)
5 - 46.0%, 10 - 32.4%, 15 - 10.8%, 20 - 5.4%, 25 - 5.4%
9. **What is the typical herd feed efficiency (milk/DMI) for the herds for which you work?** ($n=37$)
1.2 - 2.7%, 1.3 - 8.1%, 1.4 - 29.7%, 1.5 - 32.5%, 1.6 - 18.9%, 1.7 - 2.7%, 1.8 - 5.4%

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10. Changing what single factor on dairy farms would have the greatest impact on improving feed efficiency within a dairy herd? ($n = 38$)

Forages: quality, increase amount fed (15); improving management (4); feed consistency and delivery; and monitoring changes (4); environmental stress reduction (3); cow comfort (2); DIM (2); pushing up feed more frequently (2); stop selecting for large cows; TMR, OM digestibility; particle size; education of all feed personnel, delivery personnel, pen cleaners; grouping/feeding based on stage of lactation; appearance of TMR; feeding sugars to enhance diet energy; additives selected.

11. On what basis do you decide how much milk yield to use in formulating diets for a herd or groups?

Goals, management, and requests of dairy or owner (12); animal factors: DIM (5), DMI (3), age (2), size (1), reproduction status (1); lead factor over actual production: 7% over, 15% above group average, 20% over mean, 110% of group average if more than 2 groups, 120% group average if one group, 5 lb over actual production, tank average plus 10% or group average, 15% above ytd RHA, 1.25 to 1.3 group average, plus 20% and BCS, 10 lb above desired group average, milk shipped/cow*1.25; forage digestibility, forage quality (2); actual tank or pen weights (2); evaluate herd and forage available; quality of cows, forages, facilities, and management; target milk production; current dairy markets; 80 lb; one group: 90 pounds, multiple groups: 12 to 15% over pen average, then adjust to MUN tank level ($n=34$)

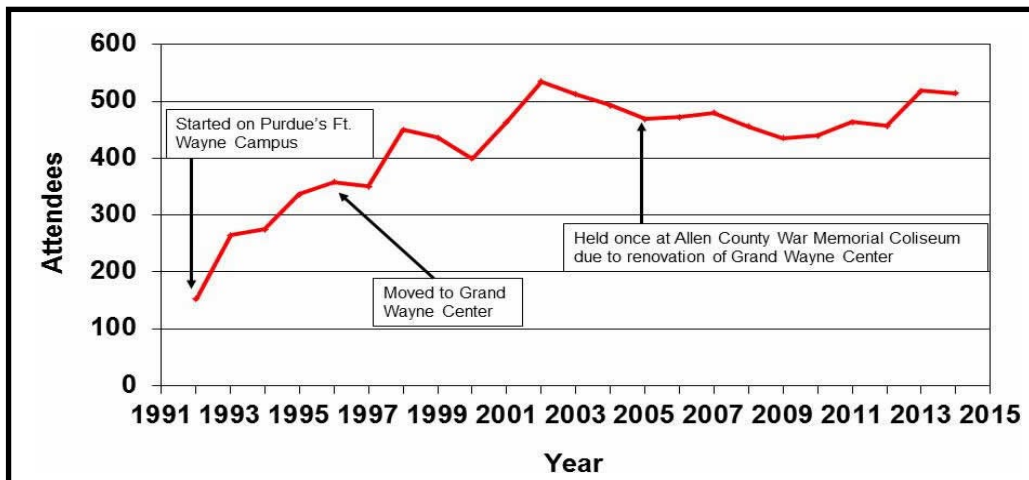


Figure 1. Attendance at the Tri-State Dairy Nutrition Conference

Abbreviations that may be found in this publication include:

AA = amino acids	FCM = fat-corrected milk	r = correlation coefficient
ADF = acid detergent fiber	ME = metabolizable energy	R ² = coefficient of determination
BCS = body condition score	MCP = microbial crude protein	RDP = rumen degradable protein
BW = body weight	MP = metabolizable protein	RFV = relative feed value
CP = crude protein	NEFA = non-esterified fatty acids	RMSE = root mean square error
CV = coefficient of variation	NE _g = net energy for gain	RUP = rumen undegradable protein
DE = digestible energy	NE _m = net energy for maintenance	SCC = somatic cell count
DIM = days in milk	NE _L = net energy for lactation	SD = standard deviation
DHI = dairy herd improvement	NDF = neutral detergent fiber	SE = standard error
DM = dry matter	NFC = nonfiber carbohydrates	SEM = standard error of the mean
DMI = dry matter intake	NRC = National Research Council	TDN = total digestible nutrients
ECM = energy corrected milk	NSC = nonstructural carbohydrates	TMR = total mixed ration
FA = fatty acids	OM = organic matter	VFA = volatile fatty acids

Note: Most of the units of measure in this publication are expressed in U.S. equivalents; however, in some cases, metric units are used.

Use the following to make conversions:

1.0 lb = 0.454 kg = 454 g

1.0 ft = 0.3 m = 30 cm

°F = (°C x 1.8) + 32

1 U.S. ton = 2000 lb = 909 kg

1 metric ton = 1000 kg = 1.1 U.S. ton (2200 lb)

1 acre = 0.4 hectare

Abbreviations for metric units are:

ppm = parts per million

mg = milligrams

g = grams

kg = kilograms

cm = centimeters

mm = millimeters

m = meters