

Effect of Optigen® on milk yield, composition, and component yields in commercial Wisconsin dairy herds. J. F. Inostroza*, R. D. Shaver*, V. E. Cabrera*, and J. M. Tricarico#. Department of Dairy Science, University of Wisconsin, Madison, WI, USA*. Alltech Inc., Brookings, SD, USA#.

The objective of this field trial was to determine the effect of Optigen® (blended, controlled-release urea), as a source of dietary nitrogen, on milk yield, composition and component yields in commercial Wisconsin dairy herds. The number of lactating cows within herd averaged 148 cows ranging from 58 to 550 cows across the 16 trial herds. Within herd, cows were fed a single-diet TMR. Control TMR (CON) for each herd was formulated by the herd nutritionist according to production level. The treatment TMR (OPT) for each herd contained 114 g/cow/d Optigen® replacing an equivalent amount of supplemental CP, primarily from soybean meal, to provide iso-nitrogenous control and treatment TMR. Diet formulation space created by the use of Optigen® was filled with DM from either corn grain or corn silage at the discretion of the herd nutritionist in the treatment TMR. Across the 16 trial herds, TMR contained 56±3% forage comprised of 43±9% corn silage and were formulated for 17.1±0.4% CP and 30.5±1.7% NDF (DM basis). Herds were randomly assigned to either OPT-CON or CON-OPT treatment sequence in a cross-over design with two 30-d feeding periods. Records of weight and composition (fat, protein and MUN) of bulk tank milk shipments were obtained for each herd over the 60-d trial. The numbers of cows with milk in the bulk tank for each shipment were recorded for each herd over the 60-d trial. Average per cow daily milk yield and component yields were then calculated. Data were analyzed using the mixed model procedure of SAS with period, sequence and treatment as fixed effects and herd as a random effect. Least squares mean results are presented in the table. Milk yield was 0.5 kg/d/cow greater ($P < 0.01$) for OPT than for CON.

	<i>CON</i>	<i>OPT</i>	<i>SEM</i>	<i>P-Value</i>
Milk Yield, kg/d	35.4	35.9	0.2	0.01
Fat, %	3.72	3.69	0.02	0.07
Yield, g/d	1317	1322	8	NS
Protein, %	2.98	2.97	0.01	NS
Yield, g/d	1055	1065	6	0.13
MUN, mg/dl	12.4	13.2	0.3	0.01

Key Words: Milk yield, dairy cows, controlled-release urea