T71 Crisis communications: The dairy plan. K. E. Olson*[1], S. L. Stevens[2], and D. Pelzer[2], [1]*KEO Consulting*, *Schaumburg, IL*, [2]*Dairy Management, Inc*, *Rosemont, IL*.

Animal health or food safety emergencies whether the result of natural causes or terrorist introduction put producer markets at risk. The dairy industry "Crisis Readiness Program" has been developed to provide quick, accurate and appropriate responses to consumer concerns so market impacts can be minimized. The program is a collaborative effort of four national dairy organizations, each targeting a specific audience. Dairy Management, Inc. - consumers, International Dairy Foods Association - processors, National Milk Producers Federation - producers and U.S. Dairy Export Council - exporters and importers. The American Dairy Science Association (ADSA) provides a science link for the public. Local, state and regional entities, associated with the national organizations extend the program reach to all areas of the nation. The plan is designed to help the industry speak with "One Voice"; however, to be most effective it must be more than just industry. A broad network has been developed to facilitate this. Scientific experts are used to assure that messages are accurate, communications experts assure messages are communicated in a manner easily understood by target audiences. Working relationships with ADSA, federal, state and local government agencies and animal health officials familiarize them with industry plans and help assure that consistent messages are delivered by all parties. Three websites are utilized. www.Dairyreponse.com (producer section) is an open resource on animal health topics. During a crisis it will provide news updates and links to government information on the operational response. A password protected site is provided for industry communicators and a "dark site" is ready to be activated for media and consumers if an emergency strikes. Other tools include a quarterly newsletter with preparedness updates, annual crisis drills, media training and participation in government workshops. Efforts are ongoing to expand the network involved in the plan assuring that all producer and consumers receive accurate, easily understood information about the safety of dairy products in a timely manner in an emergency.

Key Words: Food Safety, Animal Health, Communications

T72 Determination of antibiotic residues in farm hens eggs. H. F. Ahmed*[1], I. M. Aman[1], and S. E. Zahran[2], [1]*Kafr El-Sheikh University*, *Kafr El-Sheikh, Egypt*, [2]*Animal Health Research Institute*, *Tanta, Egypt*.

A High Performance Liquid Chromatography (HPLC) was used for the determination of antibiotic residues in farm hens eggs collected from EL-Gharbia Governorate, Tanta City, Egypt. 26.7% , 36% and 44% of the examined samples contained amoxicillin, oxytetracycline and tetracycline with mean values of 1.67+0.51 , 44.8+21.6 and 17.5+4.6 ppm, respectively. The highest distribution of amoxicillin (50%) lies within the range of 0.5 - < 1 ppm , of oxytetracycline (33.34%) lies within the range of 10 - < 20 ppm , while that of oxytetracycline (55.2%) lies within the range of 4 - < 12 ppm.The drugs were identified as the parent drug after the application of replicate injection of matrix standard of pure (0 to 100 µg/ml). The illustration calibration graphs showed acceptal linearity in this range for the purpose of measuring with correlation coefficient (r2) values of 0.9998 for amoxicillin, 0.9828 for oxytetracycline and 0.9951 for tetracycline.The average recovery rates from egg samples spiked with 50, 20, 10 and 1 ppm ranged from 84 to 90.1% (SD 0.6 to 2.0) for amoxicillin, from 98.4 to 99.5% (SD 1.0 to 1.2) for oxytetracycline and from 82 to 99.8% (SD 0.5 to 1.0) for tetracycline.

Key Words: Antibiotic, Eggs, HPLC

T73 Intestinal microbial affects of yeast products on weaned and transport stressed pigs. S. Weedman*[1,2], M. Rostagno[2], J. Patterson[1], A. Kiess[1], and S. Eicher[2], [1]*Purdue University*, *West Lafayette, IN*, [2]*USDA-ARS*, *West Lafayette, IN*.

Study objectives were to determine effects of a commercially available yeast product (XPC, Diamond-V Mills) and stress of transportation on *Escherichia coli*, coliforms, and *Lactobacilli* populations in the intestine of weaning pigs. In a RCB design with a 2 x 2 factorial arrangement of yeast (Y) and transport (T), 54 pigs were used (n=12 per treatment and 6 baseline pigs). XPC was delivered orally in milk to provide 0.1g/kg of BW and controls (C) received milk only from d 4 to 21 (weaning). Pigs were transported (n=24) or moved (n=24) to nursery housing then supplemented with 0.2% XPC or a grain blank in wk 1 and 2 diets. Samples collected on d1 pre- and d 1, 4, 7, and 14 post-transport included mesenteric lymph node (MLN) and jejunal (Jj), ileal, and cecal contents. Data in parentheses are for YT, Y, CT, and C, treatments respectively. Jejunal coliforms; ileal *Lactobacilli*, coliforms, and *E. coli*; and cecal *Lactobacilli*, coliforms, and *E. coli* were affected (*P<0.05) by sampling day (Table 1). Transport by d (P=0.01) and transport by yeast (P=0.10) interactions were detected such that pigs had more *E. coli* in the cecum on d 1 post-transport (7.6^{ab}, 6.11^{b}, 7.9^{a}, 6.6^{ab}) than on d 7 (5.9^{b}, 7.5^{a}, 5.2^{b}, 6.0^{ab}). Yeast treatment stabilized coliform counts. Day 1 jejunal coliform counts were greatest (P<0.01) in CT (8.4^{b}, 7.8^{b}, 9.8^{a}, 8.1^{b}). Only one Y pig had *Salmonella* recovered from MLN on d 7 compared to 3 in all other treatments (P=0.07). Data show transport effects on intestinal microbial concentrations and modulation by the yeast product.

Table 1. Mean bacterial counts (cfu/g of sample) by d across treatments

	Lactobacilli			Coliforms			*E. coli*		
d	Jj	Ileum*	Cecum*	Jj*	Ileum*	Cecum*	Jj	Ileum*	Cecum*
1	8.0	8.3	8.4	8.5	8.5	8.0	6.3	7.5	7.1
4	8.8	8.8	9.2	9.3	9.8	9.2	5.0	6.2	6.7
7	8.8	9.1	8.9	9.8	9.8	9.5	5.4	6.4	6.1
14	7.6	8.1	8.2	9.8	9.8	9.8	5.0	5.2	5.6

Key Words: Intestinal Bacteria, Swine, Yeast

T74 Identification of risk factors associated with increased coliform counts in bulk milk. J. Pantoja*, C. Hulland, D. Reinemann, and P. Ruegg, *University of Wisconsin*, *Madison*.

The objective was to identify risk factors associated with increased coliform counts of raw bulk tank milk. Data were collected from 16 dairy between July, 2006 and July, 2007. Cows were milked in parallel parlors (n = 10), herringbone parlors (n = 5) or a rotary parlor (n =1). Most farms (n = 11) had direct loading of milk. Herd size ranged from 200 to 2350 lactating cows. The 13-month average SCC by herd ranged from 89,500

to 316,770 cells/mL. Cows were housed in freestalls with sand (n = 11), shavings (n = 2) or biosolids (n = 3 herds). Farms were visited monthly and daily somatic cell (SCC), standard plate count (SPC), coliform count (COLI) and laboratory pasteurized count (LPC) were downloaded from the processor website. Increased bacterial counts were defined as: 1) COLI > 50; 2) LPC > 200 and 3) SPC > 30.000 CFU/mL. The monthly proportion (MP) of increased COLI was used as a response variable in a generalized mixed model as a function of season (spring, summer, fall and winter), bedding type, udder cleanliness (clean, slightly dirty, dirty and very dirty) teat end condition (no ring, smooth ring, rough and very rough), liner cleanliness (clean, slightly dirty, dirty and very dirty), SCC and MP of increased LPC and SPC. The 13-month proportion of increased COLI counts varied widely among farms (17 to 87%). The MP of increased SPC and LPC were positively associated with the MP of COLI counts ($P < 0.01$). There was a significant seasonal variation in the MP of COLI ($P < 0.01$). The greatest MP of COLI was observed during winter, as compared to the other seasons. Farms that used biosolids as bedding were 1.4 times more likely to have increased MP of COLI counts as compared to farms that used sand or shavings, with the greatest effect observed during summer ($P < 0.01$ for the interaction term between bedding and season). Herds with greater proportions of very rough teat ends were more likely to have increased COLI counts than herds with smaller proportions of very rough teat ends.

Key Words: Coliforms, Bacteria, Milk Quality

T75 Effects of distiller's grains and dry-rolled corn supplementation in steam-flaked corn grain-based diets on fecal shedding of *Escherichia coli* O157:H7 and *Salmonella*. M. E. Jacob*, J. S. Drouillard, D. G. Renter, J. T. Fox, and T. G. Nagaraja, *Kansas State University*, *Manhattan*.

Escherichia coli O157, a food-borne pathogen normally residing in the gut of cattle, causes illness in thousands of people each year. Previous work indicated a positive association between feeding cattle distiller's grains (DG), an ethanol fermentation byproduct, and fecal prevalence of *E. coli* O157. It is not known whether DG supplementation has any effect on fecal shedding of *Salmonella*, another major food-borne pathogen. Previously, feeding dry-rolled corn (DRC) compared to steam-flaked corn (SFC) diets was shown to reduce fecal prevalence of *E. coli* O157. Our objectives were to determine the effects and interactions of DG and DRC supplementation of SFC-based finishing diets on fecal shedding of *E. coli* O157 and *Salmonella* spp. Approximately 720 cattle were blocked by BW and assigned randomly to one of 28 feedlot pens. Pens were randomly assigned one of four dietary treatments. A 2×2 factorial arrangement of treatments was used; 0 or 25% dried-DG with solubles (DDGS) and 0 or 25% DRC added to finishing diets containing steam-flaked corn and alfalfa hay. Ten fecal samples were collected from the surface of each pen before cattle began treatment diets, and at least once every two weeks after final finishing diets were initiated. Fecal samples were cultured for *E. coli* O157 and *Salmonella*. The overall prevalence of *E. coli* O157 and *Salmonella*, regardless of treatment diets, in fecal samples were 5.1 and 23.7%, respectively. Prevalence of fecal *E. coli* O157 was not different for cattle fed diets with and without DG ($P > 0.2$). Prevalence also was not affected by the addition of DRC ($P > 0.7$), week of sampling ($P > 0.7$) or the DDG × DRC interaction ($P > 0.4$). Fecal *Salmonella* prevalence was not affected by supplementation of DG ($P = 0.9$) or DRC ($P = 0.7$). Sampling week impacted *Salmonella* prevalence ($P < 0.01$), which ranged from < 1% (week 1) to 77.5% (week 17). In conclusion, DG, with or without DRC supplementation, had no effect on fecal *E. coli* O157 or *Salmonella* prevalence in cattle.

Key Words: *E. coli* O157, Distiller's Grains, Dry-Rolled Corn

T76 Effects of the dicarboxylic acids malate and fumarate on *E. coli* O157:H7 and *Salmonella* Typhimurium populations in pure culture and mixed ruminal culture in in vitro fermentations. T. R. Callaway*, T. S. Edrington, R. C. Anderson, N. Krueger, and D. J. Nisbet, *ARS, Food and Feed Safety Research Unit*, *College Station, TX*.

The dicarboxylic acids malate and fumarate increase ruminal pH, reduce methane production, increase propionate and total VFA production, and reduce lactic acid accumulation in a manner similar to ionophores. The mechanism by which these acids affect the ruminal environment is reported to be through stimulation of the ruminal bacterium *Selenomonas ruminantium* to utilize lactate to form propionate via the succinate-propionate pathway. Therefore dicarboxylic acids have been suggested for use as non-antibiotic modifiers of the ruminal fermentation, but their impact on the overall microbial ecology of the rumen and gut remains unknown. Therefore this study was prepared to determine if the addition of dicarboxylic acids to ruminal fermentations affected populations of the human pathogens, *Escherichia coli* O157:H7 and *Salmonella* Typhimurium. Pure cultures of *E. coli* O157:H7 strain 933 and *S.* Typhimurium were grown with malate and fumarate added at 0, 1, 5, 10 and 20 mM (v/v; n=3 of each acid concentration) at 39 C for 24 h. Neither dicarboxylic acid inhibited ($P > 0.1$) the growth rate or final populations of *E. coli* O157:H7 or *S.* Typhimurium. Ruminal fluid was collected from concentrate fed cows (n=2) and *E. coli* O157:H7 and *S.* Typhimurium were added to separate ruminal fermentations. Fumarate and malate were added to these in vitro pathogen fermentations at concentrations of 0, 5, 10 and 20 mM (v/v; n=2 of each acid concentration) and were incubated at 39 C for 24 h. Again, the addition of malate or fumarate did not affect ($P > 0.1$) populations of *E. coli* O157:H7 or *S.* Typhimurium. However, final pH was increased ($P < 0.05$), the acetate:propionate ratio was decreased ($P < 0.05$), and total VFA production was increased ($P < 0.05$) by > 10 mM dicarboxylic acid addition. These results confirm that dicarboxylic acids can modify the ruminal fermentation, but they do not directly or indirectly influence populations of *E. coli* O157:H7 or *S.* Typhimurium in pure or mixed ruminal fluid fermentations.

Key Words: Organic Acids, *E. coli* O157:H7, *Salmonella*