= 0.0100; SEM = 0.108), time (P = 0.0020; SEM = 0.065) and their interaction (P = 0.0145; SEM = 0.160) were observed on generic *E. coli* concentrations. Main effects of treatment were observed on rates of ammonia accumulation and the residual uric acid concentrations. Urea concentrations were below the limit of detection which under conditions of use was 1 µmol/ml. Results indicate that these environmentally sustainable and safe nitrocompounds negatively impacted potential enteropathogens contained in poultry litter. Additionally, litter treated with these compounds maintained appreciable levels of nutritionally available nitrogen in the form of uric acid, enhancing the value of used poultry litter as a ruminant feed supplement.

Key Words: *E. coli*, poultry excreta, *Salmonella*, uric acid

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0183 Effect of protected sodium butyrate on *Salmonella* spp. excretion in a pig fattening unit.

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This study was conducted to evaluate if the addition of protected sodium butyrate (SB) to a pig diet affected the level of *Salmonella* shedding in feces. The study was performed in a commercial *Salmonella*-infected fattening unit (8 pens, 110 pigs). Feed with 70% SB protected with vegetable fat (3 kg/t) was administrated to animals from 4 randomly selected pens during the fattening period (4 mo) (BUT). Pigs from the remaining 4 pens were fed the same diet without additive (CON). Individual serum and fecal samples were collected at 30, 60, and 90 d of fattening and at slaughter, where mesenteric lymph nodes (MLN) were also collected. Bacteriology on fecal and MLN samples were performed following the ISO 6579:2002 protocol. Serum samples were analyzed by means of an indirect ELISA using 3 cut-off values (OD% $\geq$ 10, $\geq$ 20 and $\geq$ 40). Chi-squared analyses were performed to compare microbiological and serological results between groups at different time periods, and a repeated measures analysis was used to estimate differences in mean OD% after taking into account sampling times and the interaction treatment × time. Although a lower proportion of positive animals in BUT was observed for samplings at 60d (4 vs. 0%), 90d (8 vs. 4%), and at slaughter (9.3 vs. 6.2%), no significant differences were detected, which was likely associated to the overall low prevalence of infection/shedding in both groups. In addition, the proportion of dead/withdrawn pigs in CON was significantly higher than in BUT (13.7 vs. 1.9%; P = 0.03). A higher (P < 0.05) seroprevalence was observed in CON compared with BUT for the sampling just before slaughter and for all cut-off values used (82.2 vs. 64.7%; 53.3 *vs*. 33.3% and 31.1 vs. 13.7%, at OD% $\geq$ 10, $\geq$ 20 and $\geq$ 40, respectively). Also, an overall significant positive relationship was observed between serology before slaughter (cut-off OD% $\geq$ 40) and shedding at slaughter (P < 0.01). The withdrawn of sick pigs in CON may have contributed to its low prevalence of infection/shedding, despite of which a higher seroprevalence was detected in this group at slaughter which, in general, appeared to be positively related to shedding. Thus, overall results suggested that the addition of protected SB at 3 kg/t may reduce the shedding of *Salmonella* spp. under farm conditions. The lowest number of pigs removed from pens in BUT also indicated an overall positive effect on health status of pigs in this group.

Key Words: *Salmonella*, protected butyrate, fattening pigs

0184 Study of genetic basis of immune response in gilts vaccinated with a modified live PRRS virus in a swine farm from southern Sonora Mexico.

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Porcine respiratory and reproductive syndrome (PRRS) is a disease of high negative impact on Mexican porcine production; one of the main reasons is the highly-variable response to vaccination. The objective of this study was to validate the favorable relationship among genotypes and immune response after PRRS vaccination for SNP previously associated with serum antibody response (SAR) and rectal temperature (RT). This study included 6-mo-old 3/4-Landrace × 1/4-Yorkshire replacement gilts (n = 100). After a 7-d acclimation period, all gilts were vaccinated with a modified live PRRS virus (d 0). The antibody response was measured from blood serum samples collected the d 7, 21, and 35 after vaccination using a commercial antibody ELISA kit (IDEXX Laboratories, Inc.). Rectal temperature data were collected the d 7, 14, 21, 28, and 35 using a digital GLA M750 thermometer (GLA Agricultural Electronics). A blood sample was also collected from each gilt approximately 40 d after vaccination and spotted onto FTA cards. All cards were processed for genomic analyses using a low-density chip to obtain genotypes from 8826 SNP (Infinium BeadChip, Illumina, San Diego, CA). In a previous analysis of these data, multi-locus mixed models performed in SNP Variation Suite 7 identified nineteen SNP associated with immune response (P < 0.001). The associative relationship between these SNP and the phenotypes SAR and RT was validated using a mixed effects model; this model included SNP genotype and age of