

Title: Effects of egg yolk antibodies and antibiotic regimens on carriage and shedding of *Salmonella* Typhimurium - **NPB #03-120**

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Abstract: In two experiments, egg yolk antibodies with specific activity against salmonella were tested to determine if inclusion in feeds decreased carriage and shedding of salmonella in pigs. In Experiment 1, dried egg yolk containing anti-salmonella antibodies (EYA) was included in the diet of weaned pigs and tested against other diets containing either apramycin followed by carbadox, or oxytetracycline, or dried egg yolk without anti-salmonella antibodies, or spray dried porcine plasma, or no additives (control). One week following initiation of feed treatments, pigs were challenged with *Salmonella* Typhimurium. Fecal samples were obtained prior to initiation of treatments and at various intervals over 118 days for recovery of salmonella and non pathogenic *E. coli* to determine shedding patterns and for antibiotic resistance analysis. In Experiment 2, market-age hogs were fed diets containing EYA, or dried egg yolk without anti-salmonella antibodies, or no additives (control), or were subjected to ceftiofur injections. Two days following initiation of treatments, pigs were transported to another facility, challenged with salmonella, and mixed to simulate shipment and lairage prior to slaughter. Fecal samples were recovered prior to initiation of treatments and transport, and 24 and 48 hours following shipping for recovery of the challenge organism. In Experiment 1, antibiotic regimens decreased the percentage of pigs shedding salmonella, however the other diets, including that containing EYA, did not affect salmonella shedding in young pigs. Resistance to some test antibiotics was increased in *E. coli* from pigs consuming diets containing antimicrobial products, whereas other treatments did not appear to affect resistance patterns. In Experiment 2, EYA inclusion in feeds did not affect shedding of the challenge organism compared to the control diet. These studies indicate that in-feed use of dried egg yolk containing anti-salmonella antibodies is not effective in controlling salmonella shedding in either young or market-age pigs.

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