Patterns of change in flock *Salmonella* prevalence in broiler production and processing

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The objective of the study was to assess patterns of *Salmonella* prevalence within broiler flocks as they progressed through the production continuum. Presence of *Salmonella* was evaluated in 76 broiler flocks from 38 farms in four states in the southeastern United States. *Salmonella* flock status was determined by sampling a flock upon arrival at the grow-out farm (30 transport tray pads (D1TP) and a gastrointestinal tract (D1GI) sample from a chick from each of the corresponding trays); one-week before processing (whole carcass rinse (GOWC), ceca (GOCA) and crop (GOCP) samples from each of 30 birds); upon arrival at processing plant (PAWC, PACA and PACP samples from each of 30 birds); prior to the chill tank (rinses (PPPR) from 30 carcasses); and post-chill tank (rinses (PPPO) from 30 carcasses). The median flock prevalence varied across sample types and points: D1TP(56.7%), D1GI(0.0%), GOWC(13.3%), GOCA(3.3%), GOCP(0.0%), PAWC(53.3%), PACA(10.0%), PACP(11.7%), PPPR(33.3%), and PPPO(13.3%). The direction and magnitude of changes in prevalence between various sample types and points within each flock were determined. While slightly less than half of the flocks had increased prevalences from grow-out to plant arrival for ceca samples, over 70% of the flocks had increased prevalences from grow-out to plant arrival for crop samples and whole carcass rinses. The prevalence of *Salmonella* decreased from PPPR to PPPO for the majority of the flocks (78.1%). The results of the study provide insight on where to focus interventions to facilitate the control of *Salmonella* in the broiler production continuum.