Worthwhile Operational Guidelines & Suggestions

CROPPER: AN IMPORTANT CONTROL POINT FOR SALMONELLA

Control of *Salmonella* has been a difficult challenge because of their ability to colonize the digestive tract of poultry. Highest populations of *Salmonella* are found in cecum, cloaca, ileum and the crop. Hence, focus has typically been the elimination of contamination with cecal and intestinal contents during processing. Crop serves as a storage organ for feed in birds. Lactobacilli are the predominant bacteria colonizing the crop, producing lactic acid to create the bacteriostatic (low pH) conditions. The level of salmonellae in the crop may increase with pre-slaughter fasting, especially if the litter is contaminated. During feed withdrawal, broilers progressively consume litter, feathers and droppings. If the litter is devoid of *Salmonella*, then there is no chance of its recovery from the crop contents. However, if the litter is positive for *Salmonella*, then there is a high likelihood of carriage in the crop.

Compared to other sections of the digestive tract, crops are more likely to rupture or leak during evisceration. Croppers are mechanical devices used extensively to remove crops in most processing plants. Croppers are equipped with rotating drills that enter the carcass from the abdominal opening and exit through the neck opening, capturing and crop and other soft tissues (esophagus, trachea etc.) with rotation along the way. Each machine is also equipped with a high speed cleaning brush to remove the extracted tissues while the drill is at its lowest and most exposed position. The drill is then rinsed with water as the rotation is reversed and the drill withdraws from the carcass. The location and proper adjustment of the cleaning brush and spray nozzles is extremely important for *Salmonella* control. It is highly probable that the crop will be damaged and the contents leaked/squeezed during the cropping process. Process controls should be in place to assure that the drills are devoid of visible tissue fragments and effectively cleaned/sanitized (chlorine) prior to withdrawal from the abdomen to reduce potential *Salmonella* contamination.