

ABSTRACTS
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SYMPOSIA AND ORAL SESSIONS

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3, 6 (12.2%) had 4, and 1 (2%) had 5 different serotypes. Therefore, over 85% of the *Salmonella* positive broiler carcasses had multiple serotypes and more than likely many other serotypes went undetected. S. Kentucky was the most frequently detected serotype, accounting for approximately 30% of the isolates. Six serotypes (Kentucky, Berta, Kiambu, Mbandaka, Heidelberg, Senftenberg) accounted for 92.7% of the 124 isolates. On only 11/49 samples (22.4%) did both plating media yield the same serotypes, for the other 38 positive samples there were differences between the plating media. This limited study demonstrates the variability of detecting individual serotypes even when only 2 plating media are used.

Key Words: *Salmonella*, serovars, plating media, broilers

259P Carcass enrichment detects *Salmonella* from broiler carcasses found to be negative by other sampling methods. N. A. Cox,* R. J. Buhr, P. J. Fedorka-Cray, J. A. Cason, D. E. Cosby, L. L. Rigsby, and D. V. Bourassa, *USDA/ARS Russell Research Center, Athens, GA USA.*

The most frequently used methods to recover *Salmonella* from processed broiler chicken carcasses involve carcass rinsing or neck skin maceration. These methods are nondestructive and practical, but have limited sensitivity. The standard carcass rinse method uses only 7.5% of the residual rinsate and the standard neck skin method samples approximately 4% of the skin by weight. Should it be necessary to detect the presence of low numbers or firmly attached *Salmonella*, the rinse and neck skin methods may result in many false negatives. The objective of this study was to compare the sensitivity of a carcass enrichment method to the most commonly used procedures in the United States (rinse) and the European Union (neck skin) for the detection of naturally occurring *Salmonella* on broiler carcasses. In the first experiment, 80 broilers grown for 6 wk on *Salmonella*-contaminated litter were processed and rinsed with 400 mL of 1% buffered peptone water. After 30 mL were removed and incubated separately, the remaining rinsate and carcass were incubated together at 37°C for 24 h. The carcass rinse method recovered *Salmonella* from 7/80 (8.8%) while the carcass enrichment procedure detected *Salmonella* on 24/80 (30%). In a second experiment broiler carcasses were obtained from a commercial processing plant and each carcass was sampled by 3 methods (carcass rinse, neck skin, carcass enrichment). From the 40 carcasses analyzed by 3 methods, *Salmonella* were detected on 10, 17 and 39 from the carcass rinse, neck skin, and carcass enrichment, respectively. Only one *Salmonella* serogroup was isolated from the carcass rinse method (C3), 2 from the neck skin (B, C2) and 5 from the carcass enrichment (B, C2, C3, D, E). Carcass enrichment finds more *Salmonella*-positive carcasses and a greater number of serotypes.

Key Words: sampling, carcasses, neck skin, *Salmonella*, enrichment

260P Meat characteristics of ducks commonly found in Nigerian markets. A. B. Omojola* and D. O. Oshibanjo, *University of Ibadan, Ibadan, Oyo-State, Nigeria.*

The consumption of duck meat if encouraged can be employed as a tool to alleviate poverty and ensure food security among the economically disadvantaged peasant farmers. The continued decline in duck industry and duck meat consumption in Nigeria is a matter of great concern. Yield and meat quality traits of 3 strains of duck which include Rouen, Perkins and Muscovy were investigated. A total of 30 6 matured male ducks with 12 ducks from each strain were used for the study in a completely randomized design. The ducks were slaughtered in batches of 3 under a commercial condition after they have been starved of feed for 12 h. They were properly bled, defeathered and dressed. The carcasses were chilled

at 20°C for 24 h immediately after dressing before cutting up into primal cuts. Samples for cooking loss, shear force and organoleptic evaluations were taken from the breast muscle. The dressing out percent was highest in Muscovy with a value of 71.18% followed by Rouen (68.90%) and least in Perkin ducks with a value of 66.67%. Muscovy duck gave the highest values ($P < 0.05$) in the wing, breast and back with values of 15.27, 20.03 and 18.34% respectively, while Perkin ducks gave the least values of 14.65 and 13.38% for breast and back respectively. The water holding capacity (WHC) was highest in the Perkin ducks (71.06%) while Muscovy and Rouen gave 66.10 and 64.65% respectively. The percent chilling and cooking losses were similar ($P > 0.05$) in the 3 strains. Tenderness, juiciness texture and overall acceptability (OA) were rated highest ($P < 0.05$) in meat from Rouen ducks while the panellist gave the least score to meat from Muscovy in juiciness and OA. The high proportion of lean meat in the breast and wing showed that duck meat can be packaged and marketed successfully as one of the meat alternatives especially in the rural areas.

Key Words: duck, Rouen, Perkins, Muscovy, MEAT

261P Canonical correlation analysis between slaughter and performance traits in a commercial broiler line. J. L. B. M. Grosso*¹, J. C. C. Balieiro¹, J. P. Eler¹, J. B. S. Ferraz¹, and T. Michelan Filho², ¹*College of Animal Science and Food Engineering, University of Sao Paulo, Pirassununga, SP, Brazil,* ²*Aviagen do Brasil, Rio Claro, SP, Brazil.*

In the poultry industry, market changes are very common, requiring continuous improvement in the scheme and tools of breeding programs. Consequently, it is necessary to conduct a detailed study of the needs of the food industry and an analysis of market trends, so that the targets of genetic progress are established. As a result of this entire process, the focus for the selection of commercial broiler lines has been much more intense for the carcass traits, as a consequence of a world trend of the largest consumption of chicken meat being in parts. Data of 13,234 broiler pure line birds of a commercial breeding program were used to evaluate the association between slaughter and performance traits using canonical correlation analysis. The slaughter traits analyzed were: slaughter body weight at 43 d of age, recorded after 10 h of feed and water withdrawal; warm eviscerated carcass weight; boneless and skinless breast meat weight; leg weight, corresponding to the thigh plus drumstick weight with skin and bones; yields of carcass, breast meat and leg, calculated as the ratio between the absolute weight of each trait and the body weight at slaughter. The performance traits evaluated were: body weight at 7 and 38 d of age; visual score breast muscle and real-time ultrasound of breast muscle thickness at 38 d of age; visual score for legs defect and tibial dyschondroplasia by lixiscopy. The canonical correlations were used to evaluate the relations among all slaughter variables and all performance traits. The estimates of canonical correlations were 0.85 ($P < 0.0001$) and 0.57 ($P < 0.0001$), and the retained variation proportions in the first and second eigenvalues were 76.92% and 13.60%, respectively. The standardized canonical coefficients between slaughter and performance traits showed that: (i) higher leg weights and lower leg yields were associated to higher body weights at 38 d of age; (ii) lower leg weights and higher breast meat yields were associated to higher real-time ultrasound values of breast muscle thickness and lower body weights at 38 d of age.

Key Words: carcass weight, carcass yield, multivariate analysis, poultry, ultrasound measurement

262P Testing of duplicate rinse aliquots for presence of *Salmonella*. J. A. Cason*¹, D. P. Smith², R. J. Buhr¹, A. Hinton, Jr.¹, and N. A. Cox¹, ¹*USDA/ARS, Russell Research Center, Athens, GA,* ²*North Carolina State University, Raleigh.*