Broiler chicken welfare. New development of transport container and vehicle design and meat quality

1Rafael Sanches Spurio, 1Adriana Lourenço Soares, 2Rafael Carvalho, 3Vivaldo Silveira, 4Alessandro Rossa, 4Moisés Grespan, 1,2Massami Shimokomaki


Our previous reports have indicated stressful conditions the chickens are routinely transported from the farm to the centralized processing commercial plant. The intensity of the bad management conditions was measured by applying the PSE (Pale, Soft, Exudative) incidence as a model for measurement of the birds welfare. It was found out the middle and at rear of the vehicle container were the worse locations for transportation. The objective of this work was to determine the improvement of this transport conditions by developing a new design of the truck container. It consisted of four vertical flaps which were placed on the side of regular transport trucks in order to increase internal ventilation reducing humidity and temperature within the container. The experiment was conducted under two treatments using the new design prototype truck comparing to the regular vehicle in four repetitions each measuring the PSE meat in chickens. These birds were slaughtered and the breast meat samples (n=2102) were obtained following the routine practices in the commercial plant. PSE and normal meats were classified according to the methodology developed by our lab. Student t-test was used to determine significant difference (p≤0.05) between samples. The results showed the conditions of broiler regular truck transport presented 33.36% incidence of PSE meat while the new prototype vehicle container 16.7%. In conclusion, these results clearly
demonstrated the improvement of animal welfare at least half of the birds were under a better management improving the meat quality.