Investigations of meat quality of M. pectoralis superficialis in selected and unselected lines of Japanese Quails (Corturnix japonica)

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Keywords: Japanese quail, carcass quality, meat quality, muscle fibre

Abstract

In the economically important poultry species turkey and chicken, meat quality alterations occurred during the intensive selection on high end-weights. It is therefore of interest, whether and to what extent other poultry species could be negatively influenced by a similar selection strategy. On this background, a line of Japanese Quails was selected over 15 generations for the parameter body weight. 40 Japanese Quails (n=20 unselected line (C)/n=20 selected line (S) were examinated on possible differences in meat quality. One half of every line was male, the other half was female. At the age of 170 days, the quails were slaughtered and early post mortem characteristics of meat quality were measured. To investigate the different fibre-types and their structure parameters with histological-histochemical methods, a probe of the left M. pectoralis superficialis of every quail was taken. All investigated traits were analysed for sex differences within and between each line and for the influence of the selection between both lines. The relationships between the traits (Carcass composition, breast muscle weight, meat quality) were estimated by correlation analysis for each line and each sex.

The results were discussed in comparison with other selection experiments with quails and other poultry.