

Carcass composition and edibility yield of two heavy broiler strains

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In Germany, consumers increasingly prefer convenience-cut chicken parts to entire carcasses. Therefore, an increasing demand for heavier chickens can be observed as they are better suited for dissection. So far, only few data on the composition of heavy chicken carcasses exist, in particular with respect to the proportion of edible tissue. These data are relevant for the evaluation of population-wide poultry meat consumption, or in the context of human dietary plans with respect to food nutrition facts.

A sample of 100 carcasses from two fast-growing strains was selected from a representative German slaughterhouse. Carcasses (without giblets) were separated into parts according to Working Group V of WPSA, where breast, leg (separated into thigh and drumstick) and wing form the valuable parts. For each valuable part, we determined the edible fraction (muscles with tendons, skin and fat) by separating bones and cartilage. For entire carcasses, we calculated the respective percentage of edible and non-edible tissues.

The two strains differed in carcass weight, with mean values of 2285g and 2032g, respectively. In consequence, also the weight of most parts differed significantly between strains. The heavier strain had also higher percentages of thigh and wing, while the lighter strain was balanced by a higher breast percentage. The average carcass had 77.4% of valuable parts, which did not differ between strains. These parts of both strains had comparable percentages of edible tissue, except for the breast. The lighter strain (i.e. with the lighter breast) had slightly more edible breast tissue than the heavier strain (86.8% vs. 86.1%). Thigh, drumstick and wing had overall 86.0%, 72.3% and 75.7% of edible tissue, respectively. Such close percentages of edible tissue had not been expected.

The influence of carcass weight irrespective of strain was controlled by separating two classes above or below 2100g. Apart from the absolute weight differences, only the edible percentage of wings was slightly higher in the heavier group (76.0% vs. 75.3%).

The total percentage of edible tissue in broiler carcasses was not affected by strain or weight class. Based on our results, on average 64% of a commercial broiler carcass is edible tissue suited for human consumption. A proportion of 36% leftovers for broiler carcasses appear to be rather high.

Keywords: chicken - carcass composition – dissection - valuable cuts - edible portions