AGE-RELATED CHANGES IN THE DISTRIBUTION OF LEAN MEAT, FAT WITH SKIN, AND BONES IN TURKEY CARCASSES

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The growth rate of poultry is an important consideration for both researchers and producers. Age-related changes in the body weight of birds are closely correlated with changes in the proportions of body parts and tissue components (Bochno et al., 2003). A review of the available scientific literature provides scant information on the distribution of tissue components in turkey carcasses. In view of the above, the objective of this study was to determine age-related changes in the distribution of lean meat, fat with skin, and bones in carcass parts in growing turkeys.

The experimental materials comprised 600 BIG-6 turkeys (360 ♂ and 240 ♀). Females were reared to 16 weeks of age, and males to 22 weeks of age, in accordance with universally accepted technological standards. Day-old poults were weighed, marked with wing tags, sexed and randomly allocated to 16 pens (eight pens of males and eight pens of females, 45 males per pen and 30 females per pen). Starting from one day of age, the turkeys were weighed at two-week intervals, and starting from two weeks of age, three birds selected randomly of each pen (24 ♂ and 24 ♀) were slaughtered at two-week intervals. Chilled carcasses (approx. 24 h at 4^0 C) were divided into parts (neck, legs, wings, breast and back) which were dissected to separate lean meat, skin with subcutaneous fat, intermuscular fat, and bones. The results were processed statistically. The percentage content of tissue components in the carcass was calculated. Age-related changes in the content of lean meat, skin with subcutaneous fat, and bones in carcass parts, as a percentage of the total weight of respective components in the whole carcass, were also determined. The total weight of each tissue component in the carcass was assumed to be 100%.

At two weeks of age, in both males and females, over 76% of the total muscle content was found in the breast and legs, and the remaining meat was located in the wings, back and neck. Until 16 weeks of age in males and until approximately 12 weeks of age in females, the rate of muscle deposition in the legs and wings was relatively slow (a decrease by around 2%), while a faster rate of muscle deposition was observed in the breast and back (an increase by around 3% and 2.5% in males and females, respectively). Age-related changes in the distribution of skin with fat in turkey carcasses were greater than changes in muscle distribution. The content of skin with fat increased considerably in the breast (approx. 13%) in males and in the legs (approx. 9%) in females, while it decreased in the wings (from over 25% in males and females aged two weeks to 12.52% in females and 10.4% in males at slaughter). The bone content of carcass parts changed to the lowest degree in growing turkeys.