

Analyze the Chosen Production Criteria of Carrier Pigeons

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Abstract

The aim of this work was to analyze the chosen production criteria of carrier pigeons. We observed the weight of the squabs on the 28th day and their weight before the slaughtering. The slaughtering was carried out before and after the young pigeons left the nest. We recorded the squabs' growing intensity and weekly weight gain in the nest (1st – 35th day), live weight before the birds were slaughtered, the weight after the birds were slaughtered (defeathered and decapitated birds), the carcass weight (defeathered, decapitated and with internal organs retracted birds) and dressed weight (%). The pigeons' average weight was 396.85 g (min. 292.00 g, max. 489.00 g) when they were 4 weeks old. The average pigeons' weight recorded before leaving the nest and slaughtering was 427.42 g (min. 335.00 g, max. 502.00 g). The average pigeons' weight recorded before leaving the nest, but after the slaughtering (defeathered, decapitated birds after bleeding) was 369.46 g (min. 308.00 g, max. 441.00 g). The average pigeons' weight recorded after leaving the nest, but before slaughtering was 482.88 g (min. 413.00 g, max. 560.00 g). The average pigeons' weight recorded after leaving the nest and slaughtering (defeathered, decapitated birds after bleeding) was 407.75 g (min. 321.00 g, max. 503.00 g). The average weight on hatch day was 19.63 g (min. 18.00 g, max. 20.00 g). After 7 days, the pigeons' average weight was 101.38 g (min. 89.00 g, max. 104.00 g). The average weight of 14 days old pigeons was 213.38 g (min. 163.00 g, max. 261.00 g). The average weight of 21 days old pigeons was 295.63 g (min. 234.00 g, max. 347.00 g) and the average weight of 28 days old pigeons was 358.13 g (min. 292.00 g, max. 412.00 g). The last weighting was recorded on the 35th day and the average pigeons' weight was 397.13 g (min. 350.00 g a max. 426.00 g). Before the pigeons left the nest the carcass weight was 275.42 g (min. 182.00 g, max. 335.00 g). After the pigeons left the nest the carcass weight was 316.56 g, (min. 260.00 g, max. 359.00 g). Before leaving the nest pigeons' dressed weight presented 64.09 %, (min. 54.33 %, max. 70.40 %) of the observed criterion and after leaving the nest pigeons' dressed weight presented 65.51 %, (min. 54.87 %, max. 68.13 %) of the observed criterion.

Keywords: carrier pigeon, pigeon's meat, pigeons' dressed weight.

1. Introduction

The initial meaning pigeon breeding was unpretentious recovered meat. Nowadays more and more growing consumer interest in alternative types of meat, which is also important dietary and tasty pigeon meat. Growth pigeon is intense, within four weeks of the mature pig. With the rapid growth of the meat is soft and easy to digest. Pigeons are slaughtered at the age of 28 to 35 days. Carcase assessment could also be used

pigeons after fledging, their meat is mature and characterized by a better taste [1,2]. [3] compared the biochemical and biological evaluation of pigeon meats : effect of type, age and sex. [4] published meat composition of indigenous pigeons as influenced by sex, age and seasons. [5] published utilization of pigeon of meat for nutrition people. [6] published the effect of probiotics with *Lactobacillus fermentum* the growth ability of pigeons.

The goal was to analyze selected production criteria of carrier pigeons.

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2. Materials and methods

For analysis of selected production indicators were used carrier pigeons of standard type. Pigeons bred in the loft at home (4.5 meters x 2.4 meters x 2.28 meters). The holding has been 20 breeding pairs. Fertility career was at a very good level. Monitoring was carried out during the peak reproductive season (March to August). The pigeons were fed a mixture of grain (wheat 20%, 20% maize, 20% barley, 20% sunflower, peas 10%, 10% rape).

Chicks were slaughtered before fledging stage in regrown feathers under the wing or after fledging (min. 30 days after leaving the nest). The defeat was carried out by cutting off the head. We pigeon weighed at weekly intervals from the day of hatching until day 35 of age. Monitored parameters: weight of pups on day of hatch, weight of pups at 7, 14, 21, 28 and 35 day, live pup weight before slaughter, before fledging (stage grown feathers under the wings), weight of pups after slaughter before fledging (after bleeding, without the head and feathers), weight of pups before slaughter after fledging, weight of pups after defeat after fledging (after bleeding, without the head and feathers), weight carcass in pigeons before fledging from the nest, weight carcass in pigeons after fledging from the nest and carcass yield in pigeons before and after fledging.

3. Results and discussion

At the age of four weeks we have seen the average weight of 396.85 grams of pigeons. The lowest weight of pups at age four weeks was 292.00 grams, and the highest recorded weight was 489.00 grams. Before fledging pigeons from the nest, we recorded an average live weight before slaughter pigeons 427.42 g, the lowest individual weight was 335.00 g and the maximum weight of the individual was recorded 502.00 grams.

The pigeons before fledging, but after the defeat (without the head, after bleeding, without feathers), we recorded an average weight of 369.46 grams of pigeons, the lowest value in this group was 308.00 g and vice versa highest value amounted to 441.00 g.

The pigeons after fledging, we recorded before slaughter average weight of 482.88 g, which represented the lowest weight of 413.00 g and the

maximum weight of the individual was 560.00 grams.

The pigeons after fledging, after the defeat (without the head, after bleeding, without feathers), we recorded an average weight of 407.75 grams of pigeons, the lowest value in this group was 321.00 g and vice versa highest value amounted to 503.00 grams.

Pigeons after fledging are characterized by pronounced taste characteristics compared to meat slaughtered pigeons before fledging. More problematic, however, it is them slaughter adjustment, because pigeons after fledging grows feathers and so clean pigeons often becomes more problematic than cleaning young pigeons slaughtered recovered still in the nest.

Summary of results achieved weight pigeons are presented in the Table 1.

We found the average weight of pigeons on the day of hatching 19.63 g. According to [7] weight of hatching squeaker depends on the weight of the eggs and forms 70-74% of the weight of the egg. [8] states that the weight of carrier pigeons on the day of hatching reached 16 to 18 grams. [9] reported in carrier pigeons weight after hatching from 19.2 to 21.2 grams. [10] show the weight 21.4 grams. [11] states that the pigeon after hatching double their weight in 34 hours after hatching.

At the age of 7 days, the average weight of 101.38 grams of pigeons value. [8] reported the average weight at 7 days, 57.91 g. [12] argues that the seven-day chicks are eleven times heavier than the weight at hatching. [9] states that the first five days of life is a daily increase twice the previous pup weight. [8] reports that young pigeons can during the first week increase four times their weight.

The average weight of pigeons at the age of 14 days amounted to the value of 213.38 g. [8] states that the strongest growth recorded in age from 7 to 12 days in peak gain on the 10th day after hatching.

At the age of 21 days was the average weight of the pigeon the value of 295.63 g. [9] states that the length of the breeding season for the mail carrier pigeon was on average 21 days, with a weight of pups 400 g at the end of the breeding.

The average weight of the pigeons at the age of 28 days amounted to the value of the 358.13 g. At the age of 35 days, the average weight of the pigeons was the value of the 397.13 g.

Summary of the results of the growth indicators of carrier pigeons is shown in Table 2.

Before fledging from the nest, we recorded the average weight of slaughtered wroughted body 275.42 g.

According to [14] after bleeding, plucking, rinsing of struma and knitting of live weight (in non-fed state) loses about 15 %, after drawing still about 10% more, so the net weight of drawing squeakers is about 25 % lower than the weight of the living squeakers.

Table 1. Summary of selected production indicators of carrier pigeons

Weight (g)																				
4 weeks of age				Before fledging from the nest						After fledging from the nest										
n		live weight		n		Before slaughtering			After slaughtering			n		Before slaughtering			After slaughtering			
40		x	x _{min}	x _{max}	24		x	x _{min}	x _{max}	x	x _{min}	x _{max}	16		x	x _{min}	x _{max}	x	x _{min}	x _{max}
		396.85	292	489			427.42	335	502	369.46	308	441			482.88	413	560	407.75	321	503

Table 2. Evaluation of the growth indicators of carrier pigeons

Age in days	1				7				14				21				28				35			
Indicator	n	x	x _{min}	x _{max}	n	x	x _{min}	x _{max}	n	x	x _{min}	x _{max}	n	x	x _{min}	x _{max}	n	x	x _{min}	x _{max}	n	x	x _{min}	x _{max}
Weight	38	19.63	18	20	36	101.38	89	104	35	213.38	163	261	33	295	234	347	33	358.13	292	412	33	397.13	350	426

Table 3. Evaluation of selected indicators of slaughtered carrier pigeons

Weight (g)															
Before fledging from the nest						After fledging from the nest									
Slaughtered body						Slaughtered body									
n		x		x _{min}		x _{max}		n		x		x _{min}		x _{max}	
24		275,42		182,00		335,00		16		316,56		260,00		359,00	

[13] states that the live weight of the pigeon body was 498 g, the dripping blood of 11 g, the legs 13 g, feathers 30 g, intestines 23 g, heart 9 g, liver 15 g, lung 5g, the stomach 11 g, bones 48 g, muscle and skin 260 g. Weight pigeon heart, liver and stomach 343 g.

During our research we found in squeakers before fledging before slaughter, we recorded an average weight of 427.42 g, i. e. 100% and the weight of slaughtered (after bleeding, plucking, evisceration, without feet) 275.42 g, i. e. 64.44%. Weight gutted by squeakers is 35.56% lower than bodyweight squeakers. The pigeons after fledging before slaughter, we recorded an average weight of 482.88 g, i.e. 100% and the weight of the carcass (after bleeding, plucking, evisceration, without feet) 316.56 g, i.e. 65.56%. Weight gutted by squeakers is 34.44% lower than bodyweight squeakers.

Summary of results achieved weight for carcasses pigeons are presented in Table 3.

4. Conclusions

When we compared the weight of the carcass of carrier pigeons before and after fledging, we found that before to fledging was reported the average weight of the carcass 275.42 grams and after fledging, the value was 316.56 g. Carcass yield pigeons after fledging, represents a value of 65.51%, i.e. 1.42% higher than the carcass yield pigeons before fledging, which represents a value of 64.09%.

When we compared the average weights of carrier pigeons before slaughter (live weight), i. e. 427.42 g and after slaughtering (headless, after bleeding, plucking, no legs and offal), i. e. 275.42 grams was found in pigeons before fledging difference 152 g, which is a weight loss of 35.56% of the total body weight. The pigeons after fledging, the average weight before slaughter (live weight) 482.88 g and after slaughtering weight (carcass weight) was 316.56 grams based on these values was observed difference 166.32 g, i. e. weight loss of 34.44% of the total live weight of pigeons.

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References

1. Malík, V. Získavanie holubacieho mäsa pre vlastnú potrebu (Obtaining of pigeon meat for own use). In Slovenský chov, 2000, 5, 38.
2. Malík, V. Holúbacie mäso z holubích fariem. (Pigeon's meat from pigeon farms). In Slovenský chov, 2000, 5, 38.
3. Elsayed, W. A., Shehab, A. H., Mourad, F. E., El-Nahry F. I., Said, A. K. Biochemical and biological evaluation of pigeon meats: Effect of type, age and sex. In Molecular Nutrition food research, 1980, 24, 821-828.
4. Hossain, M.J., Uddin, S. M., Jalil, M.A., Yasmin, T., Paul, D.C., Chanda, G.C.. Meat composition of indigenous pigeons as influenced by sex, age and seasons. In Asian-Australasian Journal of Animal Sciences, 1994, 7, 321-324.
5. Čuboň, J., Kulíšek, V., Makovický, P. Využitie netradičných zdrojov mäsa pre výživu ľudí (Utiliation of unconventional sources of meat for nutrition people). In Aktuální otázky produkce jatečných zvířat – Actual questions of production slaughter animals. Brno: Mendelova zemědělská a lesnická univerzita v Brně, 2004, 180-184.
6. Malíková, L., Weis, J., Trusinová, M. Vplyv probiotického preparátu s kmeňom *Lactobacillus fermentum* na rastové schopnosti holúbät (Effect of probiotic preparation with the strain of *Lactobacillus fermentum* on the pigeons growth ability). In Drúbežárske dny, 2012. 138-141.
7. Rous, J., Chov drúbeže. Praha: Státní zemědělské nakladatelství, 1971, 378.
8. Malíková, L., Vyhodnotenie úžitkových a chovateľských parametrov poštových holubov u vybraného chovateľa, Diploma thesis, 2010, 32.
9. Tokár, T., Porovnanie intenzity rastu holubovitých (*Columbidae*) počas odchovu na hniezde, Diploma thesis, 2006, 41.
10. Sales, J., Janssens. G.P.J., Nutrition of the domestic pigeon (*Columba livia domestica*). In World's Poultry Science Journal, 2003. 59. 221-232.
11. Bauer, W., Chováme holuby. Líbeznice: Vydavatelství Víkend, 2010, 96 s.
12. Decha, V. Chov úžitkových holubov na jatočné účely. Chovateľ, 2001, 37, 195.
13. Mackrott, H. Tauben halten. Stuttgart: Eugen Ulmer, 1997, 175
14. Havlín, J. Chov holubov pre úžitok a zisk. Povoda, 1997, 105.