EFFECT OF HEN'S EGGS COMPOSITION ON THE SLAUGHTER CHARACTERISTICS OF HATCHED CHICKS

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AIMS OF THE STUDY

Examination of the effect of egg composition on the slaughter characteristics of the hatched chicks in a meat-type genotype

MATERIAL AND METHODS

TOBEC (Total Body Electrical Conductivity) measurement of 1.500 hen's eggs originated from a 36 weeks old ROSS-308 hybrid parent stock

Separation of the 10-10% of the eggs with the highest, average and lowest electrical conductivity values (E-value / egg weight ratio)

Chemical composition analysis of 15-15 eggs per groups

Incubation of remaining eggs and rearing of the animals

Slaughter at 42 days of age

RESULTS

Eggs with extreme low and extreme high electrical conductivity differ significantly from each other also in their chemical composition

	Eggs with low electrical conductivity	Eggs with average electrical conductivity	Eggs with high electrical conductivity
Albumen/yolk ratio	2.34^{a}±0.33	2.44^{ab}±0.24	2.65^{b}±0.41
Dry matter (g/kg)	23.5^{a}±1.3	23.3^{a}±0.8	21.8^{b}±1.2
Crude protein (g/kg)	12.0^{a}±0.3	11.9^{a}±0.4	10.9^{b}±0.6
Crude fat (g/kg)	9.5±0.8	9.3±0.7	8.9±1.0

^{a,b} Different letters in the same row indicate significant differences (P<0.05)

The composition of eggs of origin had a significant effect on the most of the slaughter traits of the hatched chicks

The weight of all of the examined traits showed highest values in the case of chicks hatched from eggs with low electrical conductivity, while the lowest values could be observed in the case of chicks hatched from eggs with high electrical conductivity

Similar tendencies were observed also in the case of the ratio of the examined slaughter traits to the slaughter weight, but the differences were not statistically proven (P>0.05) in this case

Slaughter traits	Eggs' electrical conductivity			S. E.	Level of significance
	Low	Average	High		
Slaughter weight (g)	3264^{a}	3228^{a}	3125^{b}	30.36	0.001
Grill-ready weight (g)	2297^{a}	2267^{a}	2164^{b}	24.47	<0.001
Breast with skin and bones (g)	847^{a}	832^{a}	785^{b}	9.65	0.001
Thigh with skin and bones (g)	694^{a}	689^{ab}	665^{b}	8.92	0.059
Breast fillet (g)	652^{a}	640^{a}	604^{b}	7.94	0.003
Abdominal fat (g)	46.8	44.0	41.1	1.69	0.370
Grill-ready weight (%)	70.4	70.2	69.2	0.229	0.080
Breast with skin and bones (%)	26.0	25.8	25.1	0.162	0.078
Thigh with skin and bones (%)	21.2	21.3	21.3	0.121	0.932
Breast fillet (%)	20.0	19.8	19.3	0.152	0.198
Abdominal fat (%)	1.45	1.37	1.32	0.056	0.594

^{a,b} Different letters in the same row indicate significant differences (P<0.05)

CONCLUSIONS

TOBEC method seems to be useful for separating eggs with different composition.

The egg composition has a significant effect on the slaughter weight and slaughter characteristics of the hatched chicks.

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