

VARIOUS DRINKER TYPES IN BROILER CHICKEN REARING¹

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Three types of waterers were installed in three identical houses for broiler chickens: A -hand-filled trough-type waterers, B -bell drinker, and C -nipple drinker. At 49 days of age chickens A had the lowest body weight (2130 g), followed by C (2230 g) and B (2300 g) chickens, with the same feed conversion of 2.4 kg in all the groups. Mortality ranged from 4.6 to 7.4%, the difference being non significant. During rearing chickens in house A consumed the most water for drinking (10.6 l/head) and hygiene (4.4 l/head). Chickens B drank 11% less water with a 68% lower consumption of water for hygiene. Chickens C saved 39% drinking water and 78% hygienic water, and their use of litter straw was smaller by 60% than in group A.

Table 1. - REARING RESULTS OF BROILER CHICKENS

Item	Various drinker types		
	A hand-filled trough	B bell drinker	C nipple drinker
Body weight of broiler chickens in 49 days of growth (g)	2130	2300	2230
Feed consumption per 1 kg body weight growth (g)	2410	2380	2360
Mortality of chickens (%)	4.6	7.4	7.0
The environment parameters:			
· temperature (°C)	19.70	20.89	20.08
· cooling (m h/m ²)	28.67	31.06	33.16
· relative humidity (%)	62.08	62.50	63.08
· humidity litter:			
- in 21 days of growth	37.73	34.40	29.94
- in 49 days of growth	37.49	32.55	18.78
Water consumption for hygienic purposes by broiler chickens (l/unit)	4.396	1.384	0.968
Water drinken by broiler chickens (l/unit)	10.643	9.447	6.515
Total water consumption (l/unit)	15.040	10.831	7.484
Straw for litter (kg)	880	880	352
Labour consumption of broiler rearing (min/person/day)	327	288	197
Labour consumption of broiler rearing (%)	100	88	60

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RAZLIČITI TIPOVI POSUDA ZA VODU (POJILICA) U UZGOJU PILIĆA BROJLERA

Tri su tipa posuda za vodu (pojilica) postavljena u tri jednaka objekta za piliće brojlere: A – ručno punjena posuda tipa valova, B – zvonasta posuda i C – posuda poput bradavice. U dobi od 49 dana brojleri A imali su najmanju tjelesnu težinu (2130 g), zatim su slijedili brojleri C (2230 g) i B (2300 g) uz istu konverziju hrane od 2,4 kg u svim skupinama. Smrtnost se kretala od od 4,6 do 7,4%, dakle razlika je bila neznačajna. Tijekom uzgoja pilići u objektu A trošili su najviše vode za piće (10,6 l/glavi) i higijenu (4,4 l/glavi). Pilići B su pili 1% manje vode te trošili 65% vode manje za higijenu. Pilići C uštedili su 39% vode za piće i 78% vode za higijenu i trebali su 60% manje slame za stelju od skupine A

Tablica 1. - UZGOJNI REZULTATI BROJLERA

Predmet	Razni tipovi pojilica		
	A Ručno punjena pojilica	B Zvonasta pojilica	C Pojilica poput bradavice
Tjelesna težina brojlera u 40 dana rasta (g)	2130	2300	2230
Utrošak hrane na 1 kg tjelesne težine rasta (g)	2410	2380	2360
Smrtnost pilića (%)	4.6	7.4	7.0
Okolišni parametri:			
· temperatura (°C)	19.70	20.89	20.08
· hlađenje (m h/m ²)	28.67	31.06	33.16
· relativna vlaga (%)	62.08	62.50	63.08
· vlaga stelje:			
- u 21 dan rasta	37.73	34.40	29.94
- u 49 dana rasta	37.49	32.55	18.78
Utrošak vode za potrebe higijene brojlera (1/jedinicu)	4.396	1.384	0.968
Voda koju su popili pilići (1/jedinicu)	10.643	9.447	6.515
Ukupna potrošnja vode (1/jedinicu)	15.040	10.831	7.484
Slama za stelju (kg)	880	880	352
Utrošak rada za uzgoj brojlera (min/person/day)	327	288	197
Utrošak rada za uzgoj brojlera (%)	100	88	60

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**BY EVAPORATIVE COOLING IN SUMMER SESSION IS
POSSIBLE TO IMPROVE GROWTH AND FEED CONVERSION
IN PIG FATTENING**

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Objective

The influence of evaporative cooling in pig fattening on the growth, feed consumption and meat quality.

Abstract

One experiment with fattening pigs LWxL breed from 27 to 110 kg living weight in summer 1996 was carried out. Group (n=7) of pigs (4 castrates and 3 gilts) with water evaporative cooling had daily gain 800g (control group 762g). Gain consumption (ad libitum) was 3.37 resp. 3.57 kg/kg. Meat proportion was 50.3 resp. 46.8%. All differences were not significant. Time of evaporation was one minute after automatic contact in temperature 23°C (quiet interval was 20 min.). In the period of cool summer session from 14.6.96 to 5.9.96 there were a whole number of evaporations -53 in 24 days from 84 days of fattening. Average temperatures inside were 17.5 - 20.4°C, outside 14.5 -18.0°C.

Table 1. - THE CONSUMPTION OF FEED MIXTURES AND DAILY WEIGHT GAIN

Criterion	n=7	Control group	Group with evaporation
Feed consumption per 1 kg in the 1 st half of fattening	kg	3.00	3.10
Feed consumption per 1 kg in the 2 nd half of fattening	kg	3.91	3.82
Feed consumption per 1 kg for the whole time	kg	3.57	3.37
Daily weight gains in the 1 st half of fattening	g	785	803
	s	37.6	12.9
Daily weight gain in 2 nd half of fattening	g	739	748
	s	300.1	211
Daily weight gain	g	762	800
	s	159.5	97.6
Whole weight gain	kg	80.0	83.9
	s	16.7	10.2
Slaughter weigh	kg	107.7	111.1
	s	19.8	13.0

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A fotoexposition in infrared spectrum one time there was made. Decrease of body temperatures was to average 4.7°C and settlement was to 30 minutes. Exchanges of temperature were different on body parties and also individually according to the disposition of pigs. Pigs were getting up with pleasure below the evaporative zone.

HLAĐENJE ISPARIVANJEM U LJETNOM RAZDOBLJU MOŽE SE POBOLJŠATI RAST I KONVERZIJA HRANE U TOVU SVINJA

Cilj: Utjecaj hlađenja isparivanjem u tovu svinja na rast, utrošak hrane i kakvoću mesa

Izvadak

Pokus sa svinjama u tovu pasmine LWxL od 27 do 110 kg žive vage obavljen je u ljetu 1996. godine. Skupina (n=7) svinja (4 uškopljenika i 3 nazimice) uz primjenu hlađenja isparivanjem vode imala je dnevni prirast od 800 g (kontrolna skupina 762 g). Utrošak hrane (ad libidum) po prirastu bio je 3,37 odnosno 3,57 kg/kg. Omjer mesa je 50,3 odnosno 46,8%. Razlike nisu bile značajne. Vrijeme isparivanja bilo je jedna minuta nakon automatskog kontakta na temperaturi od 23°C (vrijeme mirovanja bilo je 20 min). U ljetnom razdoblju hlađenja od 16.6.96. do 5.9.96. odvijao se čitav niz isparivanja –53 u 24 dana od 84 dana tovljenja. Prosječne temperature u objektu bile su od 17,5 – 20,4°C.

Tablica 1. - UTROŠAK KRMNE SMJESE I DNEVNI PRIRAST TEŽINE

Kriterij	n=7	Kontrolna skupina	Skupina s isparivanjem
Utrošak hrane za 1 kg u prvoj polovici tovljenja	kg	3.00	3.10
Utrošak hrane za 1 kg u drugoj polovici tovljenja	kg	3.91	3.82
Utrošak hrane za kg u čitavom razdoblju	kg	3.57	3.37
Dnevni prirast težine u prvoj polovici tovljenja	g	785	803
	s	37.6	12.9
Dnevni prirast težine u drugoj polovici tovljenja	g	739	748
	s	300.1	211
Dnevni prirast težine	g	762	800
	s	159.5	97.6
Ukupni prirast težine	kg	80.0	83.9
	s	16.7	10.2
Klaonička težina	kg	107.7	111.1
	s	19.8	13.0

Fotoekspozicija u crvenom spektru učinjena je jedanput. Pad tjelesne temperature bio je u prosjeku 4,7°C, do 30 minuta. Promjene temperature bile su različite prema dijelovima tijela i pojedinačno prema raspoloženju svinja. Svinje su rado dolazile u područje isparivanja.