

**USE OF WHEAT MEAL AND WHEAT GRAIN SUPPLEMENTS  
IN FEEDING HEAVY CHICKENS****D. Klecker, J. Putschögllová, L. Zeman****Summary**

In searching for the most effective method of chicken feeding from the economic viewpoint, the best solution is to supplement a complete mixture with wheat in such a manner that it will not cause any marked decrease in performance (Rose et al. 1980, Knudsen, Sorensen cit., Anonymous, 1987 and others). But it must be said that decisive for this method of chicken feeding is the difference between the price of feed mixture and the wheat used. The objective of our experiment was to verify the effect of wheat meal and wheat gran supplements in feeding of chickens from week 4 of age until they become heavy roasters.

In feeding chickens to heavier liveweights (till week 8) the possibility of supplementing a complete mixture after week 4 with a 30% wheat grain supplement without any negative effects on liveweight and feed consumption per kg liveweight gain was determined. A 30% wheat meal supplement incorporated starting from week 4 produced an insignificant, slight increase in liveweight and significantly ( $P < 0.01$ ) lower feed consumption per kg liveweight gain.

**Introduction**

In searching for the most effective method of chicken feeding from the economic viewpoint, the best solution is to supplement a complete mixture with wheat in such a manner that it will not cause any marked decrease in performance (Rose et al. 1980, Knudsen, Sorensen cit., Anonymous, 1987 and others). But it must be said that decisive for this method of chicken feeding is the difference between the price of feed mixture and the wheat used. The objective of our experiment was to verify the effect of wheat meal and wheat gran supplements in feeding of chickens from week 4 of age until they become heavy roasters.

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### Material and method

The experiment was conducted on 120 meat-type chickens (60 cockerels and 60 pullets as shown in Diagram 1) kept in three-tier cages in a house with strictly controlled environmental conditions.

In the experiment the following basic indices of feeding were regularly observed each week:

liveweight (in g)

feed consumption

health and mortality

Diagram 1

Group	Age of chickens			
	Day 1-21	Day 22-28	Day 29-42	Day 43-56
Control	BR-1	BR-2	BR-2	Br-3
	100%	100%	100%	100%
Treatment 1	BR-1	BR-2	BR-2	BR-3
	100%	85%	70%	70%
		+15%	+30%	+30%
		wheat meal	wheat meal	wheat meal
Treatment 2	BR-1	BR-2	BR-2	BR-3
	100%	85%	70%	70%
		+15%	+30%	+30%
		wheat grains	wheat grains	wheat grains

BR-1 = starter, BR-2 = grower, BR-3 = finisher

### Results

As for liveweight of chicks, interesting results were obtained during feeding. Starting from week 4 when wheat supplements were started to be incorporated into the diet, the dietary treatments showed a slightly higher growth rate compared with the control. At the end of week 8 control chickens achieved 2510.3 g, chickens of Treatment 1 (wheat meal supplement) 2612.2 g and chickens of Treatment 2 (wheat grain supplement) 2538.8 g. Inter-group differences were not confirmed as statistically significant. A similar trend was found in liveweight gains in chickens from 4 to 8 weeks of age.

The lowest gains were in the control (1954.2 g) and in Treatment 2 with a wheat grain supplement (1983). The highest gain was in Treatment 1 with a wheat meal supplement (2055.5 g).

Feed consumption in kg per kg liveweight gain throughout the whole feeding period was highest in control chickens (2.427 kg/kg), in Treatment 1 (2.345 kg/kg), in Treatment 2 (2.394 kg/kg). The difference between the control and the dietary treatments was statistically highly significant ( $P < 0.01$ ):

### Conclusion

In feeding chickens to heavier liveweights (till week 8) the possibility of supplementing a complete mixture after week 4 with a 30% wheat grain supplement without any negative effects on liveweight and feed consumption per kg liveweight gain was determined. A 30% wheat meal supplement incorporated starting from week 4 produced an insignificant, slight increase in liveweight and significantly ( $P < 0.01$ ) lower feed consumption per kg liveweight gain.

Table 1. - RESULTS OF PERFORMANCE IN CHICKENS

Age	Control	Treatment 1	Treatment 2
Liveweight (in g)			
Week 3	558.3	556.7	556.3
Week 4	918.5	971.8	934.8
Week 5	1361.5	1440.5	1379.5
Week 6	1747.5	1822.0	1762.8
Week 7	2188.5	2265.5	2205.0
Week 8	2510.3	2612.2	2538.8
Liveweight gain in chickens (in g)			
Week 4	360.2	415.1	378.5
Week 5	446.0	468.7	444.7
Week 6	386.0	381.5	383.3
Week 7	441.0	443.5	442.7
Week 8	321.8	346.7	333.8
Week 4-8	1954.2	2055.5	1983.0
Feed consumption in kg per kg liveweight gain in chickens			
Week 4	2.092	1.962	1.893
Week 5	2.121	2.072	2.072
Week 6	2.771	2.842	2.735
Week 7	2.681	2.734	2.651
Week 8	3.924	3.714	4.122
Week 1-8	2.427 <sup>b</sup>	2.345 <sup>a</sup>	2.394 <sup>ab</sup>

\* means denoted by different letters are significantly different ( $P < 0.05$ )

**LITERATURE:**

1. Anonymous: Feeding wheat to broilers. Poultry International, 26, 1987, 7, 12-16.
2. Rose, S.P., Burnett, A., Elmajeed (1986): Factors affecting the diet selection of choice-feed broilers. British Poultry Science, 27, 2, 215-224

**PRIMJENA PŠENIČNOG BRAŠNA I PŠENIČNOG ZRNA KAO DODATAK U HRANJENJU PILIĆA TEŠKIH PASMINA**

**Sažetak**

U traženju najdjelotvornije metode hranjenja pilića s ekonomskog stajališta najbolje je rješenje nadopuniti kompletnu smjesu pšenicom na takav način da ne dođe do izrazitog smanjenja proizvodnje. No potrebno je reći da je u ovoj metodi hranjenja pilića odlučujuća razlika između cijene smjese i potrebne pšenice.

Cilj pokusa bio je provjeriti djelovanje dodatka pšeničnog brašna i pšeničnog zrna u prehrani pilića od 4 tjedna starosti do postignute težine za pečenje.

U hranjenju pilića do veće težine žive vage (do 8 tjedana) ustanovljena je mogućnost dodavanja kompletne smjese nakon 4 tjedna 30% pšeničnog zrna bez ikakvog negativnog učinka na živu vagu i utrošak hrane po kg prirasta žive vage.

Dodatak od 30% pšeničnog brašna počevši od 4. tjedna dao je beznačajan, neznatan porast žive vage i značajno ( $P < 0.01$ ) niži utrošak hrane po kg prirasta žive vage.

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