FREE CHOICE FEEDING FOR LAYING HENS

Desmayati, Z*, Juju Wahju**, Sawan Sugandi** and I Putu Kompiang*

One of several feeding methods for raising chickens is free choice feeding. Leeson and Summers (1978) found that free choice feeding decreased feed intake and increased production efficiency. When birds were provided with a free-choice diet, each bird selected a diet closer to dietary needs, the response of laying hens to free choice feeding was influenced by the type of cereal offered (Karunajeewa 1978). Another advantage of free choice was a reduction in feed cost, as milling of cereal grains was not necessary. In this experiment the effect of mixed and free choice feeding using corn, rice bran and wheat pollard as energy sources on productivity was determined in laying hens.

Five hundred and seventy six laying hens of the Shaver Starcross strain aged six months were studied using factorial design of four energy sources, two feeding methods; all hens were housed in single cages, but fed in blocks of four. There were eight treatments. Mixed diets: (A) 30% concentrate, 70% corn, (B) 30% concentrate, 70% rice bran, (C) 30% concentrate, 70% wheat pollard, (D) 30% concentrate, 35% corn + 35% rice bran. Free choice diets: (a) concentrate and corn, (b) concentrate and rice bran, (c) concentrate and wheat pollard, (d) concentrate and corn + rice bran (1:1). Diets and water were provided ad libitum, while shell grit was offered in a separate feeder. The experiment was carried out for 24 weeks.

Table 1. Egg production (%), average feed consumption, feed conversion and egg weight of laying hens when fed mixed diets and free choice diets for 24 weeks. HH and HD are hens housed and hen day.

	Diet							
	A	B	C	D	a	b	c	d
Egg production								
HH(%)	86.6^{a}	73.2^{e}	73.6^{e}	82.4^{c}	84.5^{b}	66.6^{f}	67.3^{f}	76.4^{d}
HD(%)	87.8^{a}	75.5^{e}	76.8^{e}	83.9^{c}	85.7^{b}	68.4^{f}	69.8^{f}	78.9^{d}
Daily feed consumption (g/bird)	125^{e}	134^{c}	141^{a}	137^{b}	126^{de}	124^{e}	139^{ab}	128^{d}
Feed conversion (g feed/g egg)	2.07^{e}	2.50^{c}	2.58^{b}	2.50^{c}	2.10^{e}	2.54^{bc}	2.79^{a}	2.28^{d}
Egg weight (g)	59.5^{d}	61.8^{a}	61.2^{bc}	61.7^{a}	61.4^{ab}	61.0^{c}	60.9^{c}	61.8^{a}

Within each treatment values with the same superscript do not differ significantly ($P < 0.05$). A,B,C & D=mixed diets; a,b,c & d=free choice diets,

The results showed that egg production was significantly higher ($P < 0.05$) on mixed diets than on the free choice diets. Daily feed consumption was significantly lower ($P < 0.05$) on free choice than on mixed diets. The average concentrate consumption as a percentage of the total feed consumption on the free choice diets was different for corn, rice bran, wheat pollard and corn/rice bran (20.2; 32.5; 21.8 and 24.7 respectively); where as the mixed diets all contained 30% concentrate.

There was no significant difference in feed conversion, egg weight, Haugh Unit (HU) between the mixed and the free choice diets. The highest income over feed cost was for diet "d".

KARUNAJEEWA, H. (1978). In "Recent Advances in Animal Nutrition" p 57. Ed. D.J. Farrell. (The Unversity of New England Publishing Unit.)
LEESON, S. and J.D. SUMMERS (1978). Brit. Poult. Sci. 19:417

* Centre for Animal Research and Development, Ciawi, Indonesia.
** Faculty of Animal Husbandry, Bogor Agriculture1 Institute, Bogor, Indonesia.