

THE NUTRITIVE VALUE OF NAKED OATS: PRELIMINARY RESULTS

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High-yielding cultivars of naked oats (*avena nuda*) with high resistance to crown rust are being selected in South Australia (A. Barr, pers. comm.). Some cultivars have oil contents of up to 14%, others have crude protein contents of over 18% with lysine up to 0.8%. We report here preliminary results of experiments with chickens and layers.

Shown in Table 1 are four cultivars of naked oats with metabolizable energy (ME) and fat digestibility values determined with chicks (7-20d) and adult cockerels.

Table 1. Composition, fat digestibility (% DM) and metabolizable energy (MJ/kg DM) of naked oats and a hulled-oat cultivar

Cultivar	Fat (%)	Protein (%)	Fat digestibility		Metabolizable energy	
			chicks	cockerels	chicks	cockerels
A (naked)	8.4	15.3	77.4	86.4	15.04	15.96
B (naked)	9.6	14.7	65.5	88.4	14.71	16.15
C (naked)	8.7	14.1	77.2	88.3	15.19	15.78
D (naked)	8.4	15.6	55.1	80.6	14.77	15.59
Echidna (hulled)	5.9	12.8	78.5	91.6	12.06	12.79

It is clear that there is variation in fat digestibility and ME values within cultivars and between young and old birds. ME is high and consistently higher for cockerels compared to chicks.

In a second experiment, least-cost diets were formulated to broiler chick specifications using naked oats (74%) as the sole grain for four cultivars (1-4) each bulked across different growing sites. Four replicates of 8 male broiler chicks were offered each of the 4 diets in mash form from 1 to 16 days. Another diet (5) contained whole oats and a sixth was a commercial crumbled starter diet (6). Results in Table 2 show that feed intake was the same on the oat-based diets but growth rate and FCR varied. The commercial diet was superior ($p < 0.05$) to other diets for the three parameters examined. Physical form of the oat-based diets may have limited intake.

Table 2. Feed intakes, feed efficiency (FCR) and weight gain of broiler chicks on naked oat-based diets (1-4), whole oat-based diet (5) and a commercial starter diet (6)

	1	2	3	4	5	6	RSD
Intake (g/bird/per d)	29.5	28.0	29.2	28.3	28.8	35.7	9.9
FCR	1.71	1.49	1.43	1.34	2.02	1.31	0.06
Gain (g/bird per 16d)	276	304	282	295	172	394	9.9

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