

EFFECT OF RACTOPAMINE ON PERFORMANCE IN FINISHING PIGS

F.R. DUNSHEA*, R.H. KING*, R.G. CAMPBELL** and R.D. SAINZ***

The β -adrenergic agonist, ractopamine, increases growth and lean tissue deposition rates in female and castrate pigs (Hancock et al. 1987) but there is limited information on the effects in boars. The aim of this study was to examine the effects of sex (S) and ractopamine (R) in a fast-growing genotype.

Twenty each of male, female and castrates pigs were housed in individual pens and fed a grower diet. Four pigs from each of the sex groups were slaughtered at 60 kg liveweight. From 60 kg the remaining pigs were offered ad libitum a wheat-based diet (14.5 MJ DE/kg, 0.65 g available lysine/MJ DE) containing 0 or 20 ppm ractopamine. Liveweight and feed intake were recorded weekly until slaughter at 90 kg.

Ractopamine (ppm)	Male		Female		Castrate		sed	significance ¹		
	0	20	0	20	0	20		R	S	RxS
ADG (kg/d)	1.28	1.27	1.03	1.20	1.16	1.40	0.071	***	***	*
Feed (kg/d)	3.26	3.09	3.20	3.28	3.62	3.68	0.151	ns	*	ns
F/G	2.55	2.43	3.11	2.73	3.12	2.63	0.113	***	***	+
PD (g/d)	193	219	130	176	130	194	16.0	***	***	ns
FD (g/d)	413	323	432	473	531	507	51.8	ns	***	ns
Carcass fat (%)	26.8	23.8	31.6	30.6	34.5	30.4	1.41	**	***	ns

¹ ns P>0.10, + P<0.10, * P<0.05, ** P<0.01, *** P<0.001

Whole body protein deposition (PD) was increased by ractopamine in all sex groups. Ractopamine improved average daily gain (ADG) and feed to gain (F/G) in females and castrates but not in males. As ractopamine had no effect on feed intake, improvements in ADG were achieved through increased feed efficiency. Although carcass fat was decreased in all sexes, daily fat deposition (FD) was only decreased in the males receiving ractopamine. Ractopamine had no effect on meat colour, drip loss or ultimate pH.

Ractopamine improved PD in the fast-growing boar as well as in females and castrates. Although improvements in PD were not necessarily at the expense of FD, carcass fat was decreased by ractopamine. These data suggest that ractopamine does not act as a repartitioning agent in females and castrates. Males responded differently to the other sex groups suggesting an interaction between ractopamine and testosterone.

HANCOCK, J.D., PEO, Jr., E.R., LEWIS, A.J. and PARROTT, J.C. (1987). *J. Anim. Sci.* 65(Suppl. 1): 309.

* Animal Research Institute, Werribee, Victoria 3030

** Bunge Meat Industries, Corowa, NSW 2646

*** School of Agriculture and Forestry, University of Melbourne, Parkville, Victoria 3052