

VARIATION IN LIVEWEIGHT GAIN OF FEEDLOT STEERS IN SOUTHERN QUEENSLAND

P.J.S. HASKER^{ac}, R.G. HOLROYD^{ac}, V.J. DOOGAN^{ac} and K.J. ROWAN^b

^A Dept of Primary Industries, Animal Research Institute, Yeerongpilly, Qld 4105

^B Dept of Animal Production, The University of Queensland, Gatton, Qld 4343

^C CRC Cattle and Beef Industry (Meat Quality), University New England, Armidale, N.S.W. 2351

The rise in demand by domestic and export markets for a high quality uniform beef carcass has led to more steers being finished in feedlots. However, the profitability of feedlotting is small and economic survival hinges on efficiency (Ryan 1990). Lack of published data prevents conclusions being drawn about the level of efficiency of Australian feedlotting operations but the few studies reported show considerable variation in liveweight performance and carcass characteristics such as fat depth and marbling (Baud *et al.* 1990).

We analysed data from 3 feedlots within 150 km radius of Toowoomba in Queensland. Our results (Table 1) highlight the marked variability in average daily gain (ADG) between steers from different sources and between steers from the same source under feedlot conditions.

Table 1 Average daily gain (kg/day) for steers from different sources in 3 feedlots in southern Queensland

Feed lot	Source of steers		Initial liveweight kg	date	Days ^A	ADG (SD) ^B	n ^C , breed
1	Winton	Lot 1	387	27 Nov 1992	78	2.46 (.44) ^a	208, D'master
		2	335	13 Feb 1993	105	2.23 (.35) ^b	113, D'master
		3	323	15 Feb 1993	103	2.18 (.34) ^b	119, D'master
		4	336	22 Jun 1993	67	2.06 (.35) ^c	119, D'master
		5	385	29 Jun 1993	60	1.95 (.43) ^c	111, D'master
		6	387	6 July 1993	53	1.99 (.51) ^{cd}	103, D'master
		7	276	9 Nov 1993	103	2.01 (.32) ^{cd}	135, D'master
		8	288	15 Nov 1993	97	2.14 (.36) ^b	136, D'master
2	Gatton (home bred)		286	4 Jun 1984	84	1.36 (.30)	107, BrahXH'ford
			372	13 July 1992	77	1.89 (.31)	17, BrahX
			276	13 July 1992	77	1.80 (.29)	8, H'ford
3	Jandowae, Killarney, Scone Boggabri, Narrabri Dalby, Tambo, Wandoan Moree Julia Creek		454	22 Jun 1992	163	1.28	171, H'ford
			428	28 Jun 1992	132	1.79	129, H'ford
			272	28 Jun 1992	81	1.60	250, Unknown
			150	27 July 1992	133	1.62	208, SimmXH'ford
			271	6 Jun 1992	75	2.03	144, BrahX

^A Number of days on feed used to calculate ADG

^B ADG followed by a different letter differ significantly ($P < 0.05$).

^C n = number of steers measured.

Within a feedlot, for cattle sourced from the same property, analysis of variance showed differences ($P < 0.05$) in ADG between the Winton steers but not with the 1992 Gatton steers. These results suggest that cattle from the same source do not always perform consistently. For Feedlot 3, it was not possible to determine whether the differences between steers from different sources were significant because the liveweights recorded were consignment means rather than individual animal liveweights.

The level of feedlot performance in Australia, especially for larger operations (>3000 head) that are relatively new and would be using up-to-date technology (feed mills, bunk designs, rations), is probably high. However, the extent of the variation between the steers indicates that there are opportunities to improve the economic performance of the feedlot by identifying the probable causes of the variability. This will require the analysis of large data sets to determine the relative contribution to the variability of various factors, such as steer age, body condition, genotype, entry liveweight, number of days on feed and time of the year. The likely benefits from such analyses will be improved if we can access data based on standardised procedures for assembly, trucking and feedlot induction.

We thank the various cattle producers and feedlots for supplying data.

BAUD, S., HYGATE, L. and GODDARD, M. (1993). Performance of Queensland steers grain finished for the Japanese market. Meat Research Corporation Project No. M 112, Sydney.

RYAN, T.F. (1990). Economic analysis of feedlotting in Queensland. Information Series Q190033, (Queensland Department of Primary Industries: Brisbane).