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Consumer demographics and willingness to pay for quality graded sheep meat

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The Meat Standards Australia (MSA) scheme has recently been developed to describe and guarantee the eating quality of sheep meat products, and to set benchmarks for consumer expectations of sheep meat quality (Russell *et al.* 2005). The MSA sheep meat scheme was developed using over 90,000 consumer taste test responses to lamb and sheep meat, including palatability scores for eating quality attributes, respondent demographic information, and willingness to pay (WTP) for four quality grades of sheep meat. This study utilises a subset of the MSA sheep meat database by examining tasting panel responses that were conducted in Australia between 2010 and 2014. A number of economic studies of potential demand for meat products, predominantly beef, have examined which demographic factors influence consumers' WTP for objective and perceived quality attributes (Evans *et al.* 2011; Feuz *et al.* 2004; Lyford *et al.* 2010; Platter *et al.* 2005). Results of these tests have been mixed and have often found that income level, and demographic factors in general, did not significantly affect the amount respondents were willing to pay. The primary objective of this study was to test for the effects of demographic information on consumer WTP for defined levels of sheep meat eating quality. Quality is a grade assigned by the MSA tasting panel participants comprising 2-star (unsatisfactory), 3-star (good every day), 4-star (better than everyday) and 5-star (premium) quality.

The sample population valued 2-star graded product at approximately half the value they assigned to the 3-star eating quality product. Respondents indicated they would be willing to pay an increasing premium for higher quality, valuing 4 and 5-star graded product at 1.47 and 2.02 times the value assigned to 3-star product, respectively.

Table. Means, variance and range for WTP estimates expressed in AU\$/kg and as a ratio of the 3 star value

MSA Grade	WTP* (AU\$/kg)			WTP as a ratio of 3 star**		
	Mean	Std. deviation	Range	Mean	Std. deviation	Range
2 star	7.81	4.83	0-45	0.49	0.21	0-1.00
3 star	15.68	6.37	1-77	1.00		
4 star	22.52	8.25	1-70	1.47	0.31	0.64-5.00
5 star	29.82	11.28	1-80	2.02	0.61	0.99-8.17

*N=36,280, **N = 20,770

A linear mixed model was used to estimate the association between WTP, grade and demographic information. Individual respondent was nested in tasting session as a random effect. Willingness to pay data was expressed as a ratio of dollar change against the benchmark category of 3 star graded meat. The model found that the respondent's assessment of grade was the primary determinant of WTP, ($P < 0.0001$), with all other demographic information collected having non-significant associations with WTP, with the exception of age ($P = 0.0003$). These trends indicated that respondents were primarily prepared to pay more for sheep meat that was perceived as being a higher grade, but there was also some indication that respondents were prepared to pay less as age category increased. These results demonstrate the economic benefits retailers could gain through price discriminating between graded sheep meat products.

Evans, J. *et al* (2011). *Agricultural and Resource Economics Review* **40**, 233-250.

Feuz, D. *et al* (2004). *Journal of Agricultural and Resource Economics* **53**, 501-516.

Lyford *et al.* (2010). *Australasian Agribusiness Review* **18**, 1-17.

Platter, W. *et al* (2005). *Journal of animal science* **83**, 890-899.