Attitudes towards, and purchasing of, Scottish beef and beef products in Scotland – A short communication.

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#### **Abstract**

Attitudes and preferences of the main shopper in households (n = 203) across Scotland towards beef and beef products that were produced in Scotland were assessed by questionnaire. Consumer panel purchase data from the preceding six-months were collected for those households by Kantar Worldpanel. Beef products from Scotland accounted for 39% (by value) of all beef purchases, with an additional 46% from Great Britain and 9% from Ireland. Participants tended to report that being locally produced was an important factor when they bought beef and beef products, although this was not reflected in higher proportions of these products being purchased. Participants who rated local production of higher importance did not buy a higher proportion of beef from Scotland than did participants who rated it as less important (41% and 37% respectively, P = 0.448). Stated preferences for locally produced beef and beef products are not translated into higher amounts purchased.

Keywords: Consumer choice; local foods; preference; consumer panel.

#### Introduction

Consumers are unable to determine the true quality of an unfamiliar product at the point of purchase and rely instead on quality cues when choosing between similar products (Grunert, 2006). For products such as fresh meat these can include intrinsic cues, such as the colour of the meat, and extrinsic cues such as the size of the retailer or product brand (Grunert, 2006). One important extrinsic cue is country of origin from which inferences are made about food safety (Lobb & Mazzocchi, 2007) and quality (Loureiro & Umberger, 2007). It is often reported that meat of domestic origin is considered "better" than imported meat by consumers (Grunert, 2006), and region of origin has been reported as being the most important influence on consumers' attitudes towards beef meat (Mennecke, Townsend, Hayes, & Lonergan, 2007).

Attitudes towards meat are thought to be important in making purchasing decisions, but these do not always translate into purchasing behaviours (Font-i-Furnols & Guerrero, 2014). Routinely collected consumer purchase data, such as that collected by Kantar Worldpanel (KWP), offers insights into the relationships between consumers' attitudes and beliefs and their purchasing behaviours.

This study aimed to look at the relationship between attitudes, beliefs and intentions towards Scottish beef and purchases thereof in a sample of consumers across Scotland.

# 2. Methods

### 2.1 Study design and sampling

The study consisted of a survey of consumers' attitudes towards buying locally produced beef and beef products, which were linked to retrospective purchases of beef and beef products.

Purchase information was taken from continuous household consumer purchase data collected routinely by KWP. UK census data and the Broadcasters' Audience Research Panel Establishment Survey were used by KWP to define and predict demographic targets and to monitor the national representativeness of KWP. Respondents were recruited from the consumer panel of KWP, who routinely report food and drink purchases that are brought into the home for periods of months to many years. Approximately 75% of KWP's 3000 households in Scotland are available to complete additional questionnaires through KWP's LinkQ service. Inclusion criteria for this study were; households that had been active in the

panel for at least six months prior to the study, and that had made at least seven purchases of beef products during that time. The main shopper in all households that met the inclusion criteria was invited to participate in the study, and recruitment continued until at least 200 respondents had completed the questionnaire.

The study was approved by the Rowett Institute Ethics Panel. Participants had previously agreed to being contacted about participating in additional data collection. All data were anonymized by KWP.

Two hundred and three respondents completed the questionnaire. Mean age of the main shopper was 54.5 years (SD  $\pm$  12.1), and 81% were female.

## 2.2 Questionnaire

The survey was designed to obtain information about consumers' attitudes towards buying local beef, which was defined as any product that could be bought in a store and that had been produced in Scotland. Respondents were told that this included steaks, stewing steaks, roasting beef, mince, burgers and meatballs as well as all fresh, frozen and ready cooked products. The questionnaire was completed online during January 2017.

Questions were primarily themed around areas previously reported as important in consumers' purchasing decisions. These were, that the product was locally sourced (Realini et al., 2013), cost, quality (Davidson, Schröder, & Bower, 2003), animal welfare (DEFRA, 2011) and convenience. Participants were asked to rank, in order of importance to them when buying beef, whether the beef was; locally produced, on promotion, sold at a good price, a brand they knew and trusted, was a high quality product, had a high nutritional value, was ethically produced, and whether the pack size was suitable for the meal they had in mind.

Further questions considered the relative importance of local production for the purchasing of different types of beef product. Participants were then asked how important it was to them that fresh and frozen cuts of beef, beef mince, ready meals and other beef products were produced in Scotland. Response options were (1) not important at all, (2) somewhat important, (3) very important with a further option if they never bought a particular group of products.

Further questions relating to motivation for buying Scottish beef, and buying more Scottish beef, as well as cost and the economy, and health and environmental considerations were

included. A summary of the responses are available in the online supplementary information, but are not reported here.

### 2.3 Purchase data

KWP members scan till receipts and product bar codes of purchases of foods and drinks that are brought into the home. Other items (such as dining out) were not recorded for this study. Information on each purchase includes; a description of the item, weight or volume, price paid, any price or volume promotional discounts applied, date and place of purchase. Country of origin information is also included for many product groups, including meat and meat products. Any new product reported by households is linked by KWP through its barcode to the country of origin, which is obtained from the product's label. Retailers recycle barcodes, and in some cases the same barcode may be used for a product that has two different countries of origin. Country of origin information is checked and updated, by KWP, for the top selling 150 selling products at least every four-weeks.

Households report non-barcoded items, such as fresh foods including some raw meat products, by way of a booklet issued by KWP to their panel members containing generic barcodes with photographs and questions to help in identifying products (Leicester, 2015; Ni Mhurchu et al., 2011). Not all panel members are required by KWP to record non-barcoded items. Country of origin information may not be captured by KWP for some non-barcoded items, in which case it was coded as "other country/not stated".

Purchases that were reported during the six months prior to the questionnaire being completed were included in the analyses.

### 2.4 Statistical analysis

Tests for significance of differences were performed using t-tests and ANOVA, and were conducted using SPSS Version 24 (SPSS/IBM Corp, Armonk, New York, NY).

#### 3. Results

From the purchase data, households recorded a mean of 16.5 (SD  $\pm$  11.5) separate purchases of beef products over the preceding six-months. The mean expenditure was £1.21 (SD  $\pm$  1.04) and the mean amount bought was 149g (SD  $\pm$  124) per person per week. The greatest proportion of weekly spending on all beef and beef products was on fresh beef cuts (64%, £1.72 per household per week) followed by fresh beef mince (31%, £0.84), pre-cooked beef (5%, £0.13) with frozen beef cuts and frozen beef mince each making up less than 0.5%.

Purchases of beef and beef products were almost exclusively from Scotland (39%), Ireland (9%) and Great Britain (46%), with the latter possibly including some products originating in Scotland but only identified as British. Only 6% of recorded purchases originated in other, or not identified countries.

Quality of the product was important, with 47% of respondents ranking "knowing that it was a high quality product" first or second for importance (table 1).

That the beef was locally sourced / produced was also important, with 36% ranking this first or second. Respondents who rated this factor as being of higher importance (ranking 1, 2 or 3) did not, however, buy a higher proportion of Scottish beef over the preceding six-months than did people who rated it of lower importance (ranking 6, 7, or 8) 41% vs. 37% respectively (P = 0.448).

A more specific question, "it is important to me that the beef I buy is from Scotland" also showed a disparity between responses given in the questionnaire and purchases. Five percent of participants responded "strongly disagree", 7% "slightly disagree, 17% "neither agree nor disagree", 33% "slightly agree" and 38% "strongly agree", with no significant difference in the proportion of Scottish beef purchased (P=0.731).

Being on promotion was ranked sixth or lower by 61% of respondents, whereas being sold at a "good" price appeared to be more important, with 53% of respondents ranking this aspect three or higher. This appeared to be supported by the purchase data, with only 27% of purchases being on promotion. However, this is the proportion of purchases that included a promotion, not the proportion of products that were available that included a promotion. It is possible that beef products are rarely for sale on promotion.

Knowing the beef had been ethically produced tended to be ranked sixth or lower.

Two thirds of respondents (65.5%) rated the question "I know it is a high quality product" as being of higher importance (ranking 1, 2, or 3), but they bought a lower proportion of brand name beef products over the preceding six-months than did people who rated it of lower importance (ranking 6, 7 or 8) 85% and 93% respectively (P = 0.017).

< table 1 >

# Importance of Scottish beef for different types of product

Almost half of the respondents reported that they never bought frozen cuts of beef, or frozen mince (table 2), which is consistent with the purchase data where frozen produce made up less than one percent of spending on beef. Only 5 of the 203 households stated that they never bought fresh or frozen cuts of beef or beef mince, but did report at least one purchase during the preceding six-months.

< table 2 >

Of the respondents who bought each type of product, whether the beef was produced in Scotland was reported as being more important for fresh beef produce than it was for frozen beef produce. This was not reflected in the purchasing of fresh beef as the proportion of Scottish fresh cuts of beef and fresh beef mince was similar for the households who responded "not important", "somewhat important" and "very important" (33%, 38% and 42% respectively, P = 0.516 for the fresh cuts of beef and 34%, 37% and 37% respectively, P = 0.926 for the fresh beef mince). Being produced in Scotland was reported as being less important for ready meals that contained beef, and this was especially so for frozen ready meals.

#### 4. Discussion

Results of this study are consistent with the existing literature showing that consumers express a preference for domestically produced beef. Participants stated that it was important to them that the beef they bought was produced in Scotland, and that this was more important for fresh beef cuts and mince than it was for beef products and frozen beef. This study however demonstrates that stated preferences for domestic beef are not paralleled by greater purchases of domestically produced beef and beef products.

Mean recorded expenditure and amount bought for beef and beef products in the current study were similar to those of the Living Costs and Food Survey from households in Scotland for 2016-2017 (DEFRA, 2018a; DEFRA, 2018b), being £1.21 and 149g, and £1.21 and 158g per person per week respectively, excluding eating out of home. These reported weights are as purchased, not as available for consumption, as food waste is not accounted for and they are not comparable to dietary recommendations (The Scottish Government, 2016). The LCFS collects household purchase data (using a diary method) over two-weeks from a representative sample of UK households, but there are methodological differences between the two surveys - takeaway food is included in the values from the LCFS but not in the current study for example.

Attitudes do not always translate into consistent behaviours, especially when the strength of attitudes is measured under different conditions to those under which they might influence purchasing behaviour, for example questionnaires completed remotely from purchasing decisions. Clearly purchasing decisions about domestic, or imported beef is influenced by numerous factors in addition to country of origin.

The sample size of this study was relatively small, and amount of purchase data collected for only six-mounts prior to the questionnaire and it was not possible to look at the influence of other factors (such as price changes and different promotions) on the amount of Scottish beef purchased.

Purchase data as collected here gives no information on the availability of products in stores or butchers' shops. Thirty-nine percent of the beef bought by participants was from Scotland, and it is possible that the supply of Scottish beef was insufficient to meet demand, and participants were forced into buying beef that had come from elsewhere.

Generally, consumers express concerns about animal production (Schröder & McEachern, 2004), yet consumers are often aware that the negative image of production methods has little

effect on their purchasing behaviour (Holm & Møhl, 2000; Ngapo et al., 2004), at least for some products. Responses in the questionnaire used in the current study appears to support this weak association between animal welfare concerns and purchasing choices, as respondents tended to rate that the beef was ethically produced as relatively unimportant. Alternatively, it is possible that respondents believe that all beef is ethically produced; almost all of the beef purchased in this study was from Scotland, Great Britain or Ireland, which have similar animal welfare standards. Furthermore, consumers tend to rely on retailers to ensure that the products they sell meet high animal welfare standards (DEFRA, 2011).

Nutritional value was not rated as important, but people may consider beef products to be similar in nutritional quality, especially beef cuts /minces.

The KWP data used for these analyses do not include food and drinks that were consumed outside the home, or takeaway foods, even if the latter were brought into the home, and around 10% of energy intake is therefore not captured (DEFRA, 2013). Evidence from similar studies suggests that the types of foods eaten inside and outside the home differs, with red and processed meat consumed outside the home contributing around 7% of the total (DEFRA, 2014). There are additional limitations of the study and data collection that need to be considered when interpreting the results.

Around a quarter (27%) of respondents in a recent UK wide survey reported that they usually bought unbranded raw meat, for example from an independent butcher or market (Prior, Phillips, & O'Driscoll, 2014). Some of these purchases may not have included barcodes, and would be the type of product that would not be recorded by some Kantar panel members. Therefore, it appears that beef and beef products bought from smaller outlets may be more susceptible to under-recording than purchases from larger outlets, although this affects only some purchases in less than a quarter of households in Kantar's panel. There is evidence that not all food and drink purchases that are brought into the home are recorded, mainly affecting alcoholic drinks and soft drinks (Leicester, 2012). Under-reporting of foods when recording dietary intake is common, if not universal, across all methods of self-reported dietary assessment (Stubbs et al., 2014).

### 5. Conclusion

This study showed that consumers in Scotland report country of origin as being important to them when purchasing beef and beef products, with Scottish produce being preferred.

Preference for Scottish beef and beef products was not reflected in higher proportions of these products being purchased.

# Acknowledgements

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### **Declaration of interests**

None

**Table 1.** Responses to the question "Please rank the following in order of how important they are to you when buying beef."

	Rank							
	1	2	3	4	5	6	7	8
	42	31	22	26	19	25	29	9
It is locally sourced / produced	(20.7 %)	(15.3 %)	(10.8 %)	(12.8 %)	(9.4 %)	(12.3 %)	(14.3 %)	(4.4 %)
	10	10	19	21	19	28	36	60
It is on promotion	(4.9 %)	(4.9 %)	(9.4 %)	(10.3 %)	(9.4 %)	(13.8 %)	(17.7 %)	(29.6 %)
	32	48	27	32	25	24	12	3
It is being sold at a good price	(15.8 %)	(23.6 %)	(13.3 %)	(15.8 %)	(12.3 %)	(11.8 %)	(5.9 %)	(1.5 %)
	14	14	28	35	32	25	24	31
It is a brand I know and trust	(6.9 %)	(6.9 %)	(13.8 %)	(17.2 %)	(15.8 %)	(12.3 %)	(11.8 %)	(15.3 %)
	57	39	37	18	27	15	4	6
I know it is a high quality product	(28.1 %)	(19.2 %)	(18.2 %)	(8.9 %)	(13.3 %)	(7.4 %)	(2 %)	(3 %)
	9	12	25	30	26	41	40	20
It has high nutritional value	(4.4 %)	(5.9 %)	(12.3 %)	(14.8 %)	(12.8 %)	(20.2 %)	(19.7 %)	(9.9 %)
	8	11	13	17	30	27	43	54
It is ethically produced	(3.9 %)	(5.4 %)	(6.4 %)	(8.4 %)	(14.8 %)	(13.3 %)	(21.2 %)	(26.6 %)
	31	38	32	24	25	18	15	20
The pack size is suitable for the meal I have in mind	(15.3 %)	(18.7 %)	(15.8 %)	(11.8 %)	(12.3 %)	(8.9 %)	(7.4 %)	(9.9 %)

Values are the number and proportion (%) of respondents that rank each statement e.g. 42 (20.7%) respondents ranked "It is locally sourced / produced" as most important.

**Table 2.** Responses to the question "How important is it to you when you buy the following products that the beef is produced in Scotland?"

	Not	Somewhat	Very	Never
	important	important	important	buy
	22	80	97	4
Fresh cuts of beef	(10.8 %)	(39.4 %)	(47.8 %)	(2 %)
	20	85	95	3
Fresh beef mince	(9.9 %)	(41.9 %)	(46.8 %)	(1.5 %)
	34	84	62	23
Other fresh beef products	(16.7 %)	(41.4 %)	(30.5 %)	(11.3 %)
	51	75	33	44
Fresh ready meals containing beef	(25.1 %)	(36.9 %)	(16.3 %)	(21.7 %)
	29	50	22	102
Frozen cuts of beef	(14.3 %)	(24.6 %)	(10.8 %)	(50.2 %)
	24	50	17	112
Frozen beef mince	(11.8 %)	(24.6 %)	(8.4 %)	(55.2 %)
	52	62	23	66
Other frozen beef products	(25.6 %)	(30.5 %)	(11.3 %)	(32.5 %)
Frozen ready meals containing	56	58	18	71
beef	(27.6 %)	(28.6 %)	(8.9 %)	(35 %)

Values are the number and proportion (%) of respondents that rank each statement e.g. 22 (10.8%) respondents ranked buying fresh cuts of beef as not important that it was produced in Scotland.

#### References

Davidson, A., Schröder, M. J. A., & Bower, J. A. (2003). The importance of origin as a quality attribute for beef: Results from a Scottish consumer survey. *International Journal of Consumer Studies*, 27(2), 91-98. doi:10.1046/j.1470-6431.2003.00288.x

DEFRA. (2011). Attitudes and behaviours around sustainable food purchasing. report (SERP 1011/10). (). York: Department for Environment, Food and Rural Affairs.

DEFRA. (2013). Family food 2012. (). Department for Environment, Food and Rural Affairs.

DEFRA. (2014). Family food 2013. (). Department for Environment, Food and Rural Affairs.

DEFRA,. (2018a). Statistical data set. Family food datasets. Detailed annual statistics on family food and drink purchases. CR - expenditure. Retrieved from https://www.gov.uk/government/uploads/system/uploads/attachment\_data/file/701956/ExpG OR-26apr18.ods

DEFRA,. (2018b). Statistical data set. Family food datasets. Detailed annual statistics on family food and drink purchases. CR - household purchases. Retrieved from https://www.gov.uk/government/uploads/system/uploads/attachment\_data/file/701952/ConsG ORHH-26apr18.ods

Font-i-Furnols, M., & Guerrero, L. (2014). Consumer preference, behavior and perception about meat and meat products: An overview. *Meat Science*, 98(3), 361-371. doi:10.1016/j.meatsci.2014.06.025 [doi]

Grunert, K. G. (2006). Future trends and consumer lifestyles with regard to meat consumption. *Meat Science*, 74(1), 149-160.

Holm, L., & Møhl, M. (2000). The role of meat in everyday food culture: An analysis of an interview study in Copenhagen. *Appetite*, *34*(3), 277-283. doi:https://doi.org/10.1006/appe.2000.0324

Leicester, A. (2012). How might in-home scanner technology be used in budget surveys? (
No. IFS Working Paper (W12/01)). Institute for Fiscal Studies. doi:10.1920/wp.ifs.2012.1201

Leicester, A. (2015). The potential use if in-home scanner technology for budget surveys. In
C. D. Carroll, & T. F. S. Crossley J. (Eds.), Improving the measurement of consumer expenditures (pp. 441) University of Chicago Press.

Lobb, A. E., & Mazzocchi, M. (2007). Domestically produced food: Consumer perceptions of origin, safety and the issue of trust. *Acta Agriculturae Scandinavica, Section C — Food Economics*, *4*(1), 3-12.

Loureiro, M. L., & Umberger, W. J. (2007). A choice experiment model for beef: What US consumer responses tell us about relative preferences for food safety, country-of-origin labeling and traceability doi:http://dx.doi.org/10.1016/j.foodpol.2006.11.006

Mennecke, B. E., Townsend, A. M., Hayes, D. J., & Lonergan, S. M. (2007). A study of the factors that influence consumer attitudes toward beef products using the conjoint market analysis tool. *Journal of Animal Science*, 85(10), 2639-2659. doi:jas.2006-495 [pii]

Ngapo, T. M., Dransfield, E., Martin, J. F., Magnusson, M., Bredahl, L., & Nute, G. R. (2004). Consumer perceptions: Pork and pig production. insights from France, England, Sweden and Denmark. *Meat Science*, 66(1), 125-134. doi:10.1016/S0309-1740(03)00076-7 [doi]

Ni Mhurchu, C., Capelin, C., Dunford, E. K., Webster, J. L., Neal, B. C., & Jebb, S. A. (2011). Sodium content of processed foods in the United Kingdom: Analysis of 44,000 foods purchased by 21,000 households. *The American Journal of Clinical Nutrition*, 93(3), 594-600. doi:10.3945/ajcn.110.004481 [doi]

Prior, G., Phillips, R., & O'Driscoll, C. (2014). *The 2014 food and you survey: UK bulletin 1, eating cooking and shopping.* (). Food Standards Agency.

Realini, C., Font-i-Furnols, M., Sañudo, C., Montossi, F., Oliver, M., & Guerrero, L. (2013). Spanish, French and British consumers' acceptability of Uruguayan beef, and consumers' beef choice associated with country of origin, finishing diet and meat price. *Meat Science*, *95*(1), 14-21.

Schröder, M. J. A., & McEachern, M. G. (2004). Consumer value conflicts surrounding ethical food purchase decisions: A focus on animal welfare. *International Journal of Consumer Studies*, 28(2), 168-177. doi:10.1111/j.1470-6431.2003.00357.x

Stubbs, R. J., O'Reilly, L. M., Whybrow, S., Fuller, Z., Johnstone, A. M., Livingstone, M. B., . . . Horgan, G. W. (2014). Measuring the difference between actual and reported food intakes in the context of energy balance under laboratory conditions. *British Journal of Nutrition*, *111*(11), 2032-2043. doi:10.1017/S0007114514000154 [doi]

The Scottish Government. (2016). *Revised dietary goals for Scotland*. (). Scottish Government.

### Introduction

We would like to ask you some questions on your attitudes towards buying locally produced beef. By local we mean any product you can buy in a store which has been produced in Scotland. By beef we mean steaks, stewing steak, roasting beef, mince, burgers and meatballs, including fresh, frozen, ready cooked.

**Q1:** Please rank the following in order of how important they are to you when buying beef.

	Rank
It is locally sourced/ produced	
It is on promotion	
It is being sold at a good price	
It is a brand I know and trust	
I know it is a high quality product	
It has high nutritional value	
It is ethically produced	
The pack size is suitable for the meal I have in mind	

**Q2:** How important is it to you when you buy the following products that the beef is produced in Scotland?

	I never buy this	Not important at all	Somewhat important	Very important
Fresh cuts of beef (e.g. fresh diced beef, beef steaks, beef joints)				
Frozen cuts of beef (e.g. frozen diced beef, beef steaks, beef joints)				
Fresh beef mince				
Frozen beef mince				
Other fresh beef products (e.g. fresh burgers, meatballs)				
Other frozen beef products (e.g. frozen burgers, meatballs)				
Fresh Ready meals containing beef (e.g. fresh beef lasagne, beef casserole)				
Frozen ready meals containing beef (e.g. frozen beef lasagne, beef casserole)				

**Q3:** Which of the following, if any, motivate you to buy Scottish beef?

By beef we mean steaks, stewing steak, roasting beef, mince, burgers and meatballs, including fresh, frozen, ready cooked.

Rotate	Select all that apply
To support local butchers	
To support local farmers	
Buying local is better for the environment	
I trust beef produced in Scotland more	
Scottish beef is better quality than other beef	
Scottish beef is fresher than other beef	
Scottish beef is safer to eat than other beef	
None of the above	

**Q4:** Below are some statements people have made about buying beef in general. Please tell us how much you agree or disagree with them -

	1 – Strongly Disagree 5 – Strongly Agree
I'm not interested in the origin of the beef I buy	
It is important to me that the beef I buy is from Scotland	
I feel under pressure from friends & family to buy locally produced beef	
I feel under pressure from the media to buy locally produced beef	

**Q5:** Below are some statements people have made about Scottish Beef in relation to health & the environment. Please tell us how much you agree or disagree with them -

	1 – Strongly Disagree 5 – Strongly Agree
I try to keep the food-miles to a minimum when buying beef	
Scottish beef is more environmentally friendly than beef produced in other countries	
I believe that Scottish beef is healthier than other beef	
I believe that Scottish beef is safer to eat than other beef.	
All beef tastes the same, regardless of where it comes from	
I believe that Scottish beef is fresher than other beef.	

**Q6:** Below are some statements people have made about Scottish Beef in relation to cost & the economy. Please tell us how much you agree or disagree with them -

	1 – Strongly Disagree 5 – Strongly Agree
Buying Scottish beef helps local butchers	
Buying Scottish produced beef helps Scottish farmers to survive	
Scottish beef is too expensive for me to buy	
Price is more important to me than where beef comes from	
I'm happy to pay more to support Scottish farmers.	

# **Q7:** What, if anything, would make you buy more Scottish Beef?

Rotate	Select all that apply
If it was cheaper	
If I was more confident it was ethically produced	
If I was more confident it would help local farmers	
If I knew it was better quality than beef from other countries	
If I was more confident it was good for my health	
If I knew how to make more meals with it	
Nothing would make me buy more	

Online supplementary material. Question responses.

**Responses to question 1.** "Please rank the following in order of how important they are to you when buying beef." This table is reproduced from the paper.

	Rank							
	1	2	3	4	5	6	7	8
It is leadly sourced / produced	42	31	22	26	19	25	29	9
It is locally sourced / produced	(20.7 %)	(15.3 %)	(10.8 %)	(12.8 %)	(9.4 %)	(12.3 %)	(14.3 %)	(4.4 %)
It is an promotion	10	10	19	21	19	28	36	60
It is on promotion	(4.9 %)	(4.9 %)	(9.4 %)	(10.3 %)	(9.4 %)	(13.8 %)	(17.7 %)	(29.6 %)
It is being sold at a good price	32	48	27	32	25	24	12	3
it is being sold at a good price	(15.8 %)	(23.6 %)	(13.3 %)	(15.8 %)	(12.3 %)	(11.8 %)	(5.9 %)	(1.5 %)
It is a brand I know and trust	14	14	28	35	32	25	24	31
it is a brand i know and trust	(6.9 %)	(6.9 %)	(13.8 %)	(17.2 %)	(15.8 %)	(12.3 %)	(11.8 %)	(15.3 %)
I know it is a high quality product	57	39	37	18	27	15	4	6
I know it is a night quanty product	(28.1 %)	(19.2 %)	(18.2 %)	(8.9 %)	(13.3 %)	(7.4 %)	(2 %)	(3 %)
T(1 11 1 2 2 1 1 1	9	12	25	30	26	41	40	20
It has high nutritional value	(4.4 %)	(5.9 %)	(12.3 %)	(14.8 %)	(12.8 %)	(20.2 %)	(19.7 %)	(9.9 %)
It is athically produced	8	11	13	17	30	27	43	54
It is ethically produced	(3.9 %)	(5.4 %)	(6.4 %)	(8.4 %)	(14.8 %)	(13.3 %)	(21.2 %)	(26.6 %)
The pack size is suitable for the meal I have in mind	31	38	32	24	25	18	15	20
The pack size is suitable for the mear i have in filling	(15.3 %)	(18.7 %)	(15.8 %)	(11.8 %)	(12.3 %)	(8.9 %)	(7.4 %)	(9.9 %)

Values are the number and proportion (%) of respondents that rank each statement e.g. 42 (20.7%) respondents ranked "It is locally sourced / produced" as most important.

**Responses to question 2.** "How important is it to you when you buy the following products that the beef is produced in Scotland?" This table is reproduced from the paper.

	Not	Somewhat	Very	Never
	important	important	important	buy
Fresh cuts of beef	22	80	97	4
riesh cuts of beef	(10.8 %)	(39.4 %)	(47.8 %)	(2.0 %)
Fresh beef mince	20	85	95	3
riesii beei illince	(9.9 %)	(41.9 %)	(46.8 %)	(1.5 %)
Other fresh beef products	34	84	62	23
Other fresh beef products	(16.7 %)	(41.4 %)	(30.5 %)	(11.3 %)
Enoch woody mools containing hoof	51	75	33	44
Fresh ready meals containing beef	(25.1 %)	(36.9 %)	(16.3 %)	(21.7 %)
Frozen cuts of beef	29	50	22	102
Frozen cuts of beer	(14.3 %)	(24.6 %)	(10.8 %)	(50.2 %)
Frozen beef mince	24	50	17	112
Frozen beer minice	(11.8 %)	(24.6 %)	(8.4 %)	(55.2 %)
Other fregan harf meduate	52	62	23	66
Other frozen beef products	(25.6 %)	(30.5 %)	(11.3 %)	(32.5 %)
Erozon roady moals containing boof	56	58	18	71
Frozen ready meals containing beef	(27.6 %)	(28.6 %)	(8.9 %)	(35.0 %)

Values are the number and proportion (%) of respondents that rank each statement e.g. 22 (10.8%) respondents rated that it was not important to them that fresh cuts of beef were produced in Scotland.

**Responses to question 3.** "Which of the following, if any, motivate you to buy Scottish beef? By beef we mean steaks, stewing steak, roasting beef, mince, burgers and meatballs, including fresh, frozen and ready cooked." Values are the numbers of participants (out of 203) that selected each option. Participants could select more than one option.

To support local farmers	142
I trust beef produced in Scotland more	125
To support local butchers	124
Scottish beef is better quality than other beef	111
Buying local is better for the environment	106
Scottish beef is fresher than other beef	61
Scottish beef is safer to eat than other beef	50
None of the above	14

**Responses to question 4.** "Below are some statements people have made about buying beef in general. Please tell us how much you agree or disagree with them."

	Strongly				Strongly
	disagree				agree
I'm not interested in the origin of the beef	91	56	33	18	5
I buy	(44.8 %)	(27.6 %)	(16.3 %)	(8.9 %)	(2.5 %)
It is important to me that the beef I buy is	10	14	34	68	77
from Scotland	(4.9 %)	(6.9 %)	(16.7 %)	(33.5 %)	(37.9 %)
I feel under pressure from friends &	111	35	50	3	4
family to buy locally produced beef	(54.7 %)	(17.2 %)	(24.6 %)	(1.5 %)	(2.0 %)
I feel under pressure from the media to	95	25	59	19	5
buy locally produced beef	(46.8 %)	(12.3 %)	(29.1 %)	(9.4 %)	(2.5 %)

Values are the number and proportion (%) of respondents that rank each statement e.g. 91 (44.8 %) respondents rated "I'm not interested in the origin of the beef I buy" as strongly agree.

**Responses to question 5.** "Below are some statements people have made about Scottish Beef in relation to health & the environment. Please tell us how much you agree or disagree with them."

	Strongly	Strongly			
	disagree	agree			
I try to keep the food-miles to a minimum	15	25	80	55	28
when buying beef	(7.4 %)	(12.3 %)	(39.4 %)	(27.1 %)	(13.8 %)
Scottish beef is more environmentally friendly	4	11	82	67	39
than beef produced in other countries	(2.0 %)	(5.4 %)	(40.4 %)	(33.0 %)	(19.2 %)
I believe that Scottish beef is healthier than	5	12	101	50	35
other beef	(2.5 %)	(5.9 %)	(49.8 %)	(24.6 %)	(17.2 %)
I believe that Scottish beef is safer to eat than	6	11	85	60	41
other beef.	(3.0 %)	(5.4 %)	(41.9 %)	(29.6 %)	(20.2 %)
All beef tastes the same, regardless of where it	67	71	48	14	3
comes from	(33.0 %)	(35.0 %)	(23.6 %)	(6.9 %)	(1.5 %)
I believe that Scottish beef is fresher than other	6	12	76	67	42
beef	(3.0 %)	(5.9 %)	(37.4 %)	(33.0 %)	(20.7 %)

Values are the number and proportion (%) of respondents that rank each statement e.g. 15 (7.4 %) respondents rated "I try to keep the food-miles to a minimum when buying beef" as strongly agree.

**Responses to question 6.** "Below are some statements people have made about Scottish Beef in relation to cost & the economy. Please tell us how much you agree or disagree with them."

	Strongly				Strongly
	disagree				agree
Buying Scottish beef helps local butchers	2	3	26	85	87
	(1.0 %)	(1.5 %)	(12.8 %)	(41.9 %)	(42.9 %)
Buying Scottish produced beef helps	2	2	17	77	105
Scottish farmers to survive	(1.0 %)	(1.0 %)	(8.4 %)	(37.9 %)	(51.7 %)
Scottish beef is too expensive for me to	52	58	75	17	1
buy	(25.6 %)	(28.6 %)	(36.9 %)	(8.4 %)	(0.5 %)
Price is more important to me than where	38	54	52	45	14
beef comes from	(18.7 %)	(26.6 %)	(25.6 %)	(22.2 %)	(6.9 %)
I'm happy to pay more to support Scottish	8	18	57	76	44
farmers	(3.9 %)	(8.9 %)	(28.1 %)	(37.4 %)	(21.7 %)

Values are the number and proportion (%) of respondents that rank each statement e.g. 2 (1.0 %) respondents rated "Buying Scottish beef helps local butchers" as strongly agree.

# **Responses to question 7.** "What, if anything, would make you buy more Scottish Beef?" If it was cheaper 95 79 If I was more confident it would help local farmers If I knew it was better quality than beef from other countries 61 Nothing would make me buy more 55 40 If I was more confident it was ethically produced If I was more confident it was good for my health 33 If I knew how to make more meals with it 23