

Retailer Innovation: Co-op Glass project final report – March 2007

---

# Container Lite – Opportunities for the Co-op to lightweight glass packaging

Research and development findings on lightweighting whisky bottles and food containers within the Co-op.



---

**WRAP works in partnership to encourage and enable businesses and consumers to be more efficient in their use of materials and recycle more things more often. This helps to minimise landfill, reduce carbon emissions and improve our environment.**

## **Contents**

---

<b>1 Introduction</b>	<b>5</b>
<b>2 Project methodology</b>	<b>6</b>
<b>3 Results</b>	<b>12</b>
<b>4 Conclusions</b>	<b>19</b>
<b>Appendix A</b>	<b>20</b>
<b>Results of the store audit</b>	
<b>Appendix B</b>	<b>28</b>
<b>Consumer perception studies</b>	

While steps have been taken to ensure its accuracy, WRAP cannot accept responsibility or be held liable to any person for any loss or damage arising out of or in connection with this information being accurate, incomplete or misleading. For more detail, please refer to our Terms & Conditions on our website - [www.wrap.org.uk](http://www.wrap.org.uk)

# 1 Executive summary

This report details the findings of a WRAP-funded extension to the Container Lite project, to work with the Co-op to look at lightweighting opportunities for a range of their own label glass products. As with the Container Lite project, work was completed through a partnership between Faraday Packaging Partnership and British Glass/Glass Technology Services, supported by the Co-op and UK container glass manufacturers. The aim of the project extension was to build on the findings of the initial project and work with the Co-op to:

- investigate the potential for bottling Co-op branded 70cl whisky in the lightest bottles manufactured in the UK; and
- carry out preliminary research into methods of lightweighting a range of food containers.

The methodology used echoed that developed during the main Container Lite project whereby proposed amended container designs were subject to consumer perception testing and filling line acceptance to determine market suitability prior to any changes being made to the manufacturing process. In addition, an audit process was developed by which information on the full range of products using glass packaging belonging to a project partner was gathered in order to determine the most suitable containers for inclusion in the lightweighting process. It is proposed that this process is used in any future lightweighting projects carried out by the consortium.

Consumer studies on the acceptability of using lighter bottles for Co-op brand whisky have determined the suitability for market and the Co-op intend to specify this with their packer-filler. This switch is expected to save 46 tonnes of glass waste.

In terms of food containers, preliminary research was done on the potential for reducing glass weight by a process of consolidation. This would involve reducing the number of containers that are produced at the same volume but at different weights and filling products currently using the heavier container in the lighter container. The issues around this primarily relate to consumer and filling line acceptability rather than from a technical perspective. The results of the consumer research have shown the complexity of the issue as acceptability may be influenced by a range of factors including household size, product type and purpose of purchase. Due to the complexity involved in determining appropriate product to container transfer, the Co-op has decided to schedule any implementation of results at a later date. Results will be published when available and as part of future glass lightweighting work undertaken by the project consortium under GlassRite Food.

# Contents

<b>1</b>	<b>Introduction</b>	<b>5</b>
<b>2</b>	<b>Project methodology</b>	<b>6</b>
2.1	Analysis and audits	6
2.2	Consumer perception studies	6
2.2.1	Whisky	7
2.2.1.1	Method	8
2.2.2	Food jars	9
2.2.2.1	Method	9
2.3	Manufacturing trials	11
<b>3</b>	<b>Results</b>	<b>12</b>
3.1	Analysis and audits	12
3.2	Consumer perception studies	15
3.2.1	Whisky	15
3.2.2	Food jars	16
3.2.3	Some marketing issues	17
3.2.4	Some limitations	18
3.3	Manufacturing trials bottle	18
3.3.1	70cl spirits bottle	18
3.3.2	1 litre spirits bottle	18
<b>4</b>	<b>Conclusions</b>	<b>19</b>
<b>Appendix A</b>		<b>20</b>
	Results of the store audit	
<b>Appendix B</b>		<b>28</b>
	Consumer perception studies	

# 1 Introduction

The Co-op submitted a proposal to WRAP's fourth round of Retail Innovation funding to look at lightweighting a range of Co-op branded glass containers. Due to the links with work already undertaken in the Container Lite project, WRAP recommended that the Co-op work with the Container Lite consortium on this project.

In discussion with Rockware, one of the Co-op's biggest glass providers, it was established that there was potential for savings across two main product areas:

- whisky; and
- food containers.

The Co-op sells whisky in two own brands: Arden House and Co-op Scotch Whisky. The feasibility of lightweighting across this product area was investigated, following on from work completed on generic spirits bottles during the main Container Lite project.

With food products, a considerable number of containers used for a range of different product lines are notionally similar designs of the same capacity and often just a slight variation on an original theme. These variations have now proliferated to dozens of jars with essentially the same common ancestry that could possibly be rationalised. Hence with a little careful comparison and some market research and customer perception exercises, it should be possible to create a single new 'best in class' container for weight and performance and do away with a number of existing variations that are heavier than they need to be for functional purposes. By reducing the hundreds of current variations to a few dozen new generic standards, it would be possible to make substantial weight savings for the new 'best in class' ranges.

Packer-fillers, not directly involved in this work, would gain a positive advantage in that they would spend less on new equipment and save a great deal of time in resetting filling lines if common containers were used for a wider variety of products. An appropriate level of rationalisation would benefit all parties involved, and substantial glass savings could be made.

Due to the limited timeframe and in order to maximise resources, it was decided to sharpen the focus by dealing directly with the Co-op and Rockware, and targeting a small range/high impact series of containers currently popular on the Co-op shelves, but also with a much wider market impact through other outlets where their adoption would also be inevitable.

Further more extensive work would initially require a more detailed stock/shelf audit would be conducted of Co-op 'own-label' products in glass containers. This information would be used to analyse the common capacities and interchangeable product types. A paper exercise would then be carried out to establish the range of consolidation possible, and hence determine how many individual generic types would be selected. Once this has been established, the target containers would be redesigned to minimise weight.

Resulting designs would then undergo consumer survey and market preference testing. If no detriment to market share is evident, then production trials and product testing would commence as is normal in new container development. A dialogue with appropriate packer-fillers would also be maintained to ensure smooth transition to market. Filling, labelling and transportation/storage issues would form part of the ongoing dialogue.

This report begins with a description of the project methodology for each of store audit, consumer perception studies and manufacturing trials. A summary of the results for each of these stages follows, and then conclusions are drawn. Finally, the appendices contain full details of both the store audit and consumer perception studies.

## 2 Project methodology

A three-part methodology was used comprising:

- audit of Co-op glass-based products to determine appropriate containers for trial;
- consumer perception studies to determine likely impact of proposed changes; and
- manufacturing trials of nominated containers.

Details of the methodology used for each phase of the research are given below.

### 2.1

#### **Analysis and audits**

An audit of the Co-op's own-brand foodstuffs was undertaken. The purpose was to determine the range, weight, volume and origin of the glassware used to package the Co-op's own-brand merchandise. The information was then used to identify containers that might be good candidates for lightweighting, as well as instances where product rationalisation could be employed to reduce the range of glass packaging used by the retailer.

The audit was carried out at the Co-op's Holmfirth Store.

The Holmfirth store was nominated by Co-op management as an outlet that stocked a wide range of own-brand foods. The audit was performed by Glass Technology Services personnel, who visited the store and removed two examples of each own-brand food product that was packaged in a glass container. In instances where several varieties of a particular brand were stocked, eg varieties of herbs and spices, a single example was obtained. Wine and spirits were not included in the survey.

A full set of the portfolio was generated from one of the two samples taken from each foodstuff. This collection of jars was despatched to the Psychology of Design Group in the Institute of Psychology at the University of Leeds for consumer perception studies. The remaining samples were opened and emptied. Details of the contents of jars were recorded from data printed on the label. The glass containers were photographed, weighed and their brim-filled volume measured (the data on the label gave a mix of information including product volume, weight and drained weight and were thus not ideal for comparative purposes). Details of the type and weight of the closure were also noted.

### 2.2

#### **Consumer perception studies**

The Co-op identified two areas where lighter weight glass containers might be used to package their food and drink products. The first of these concerns two of their whisky products (Arden House and Scotch Whisky). It is thought that a lighter weight bottle will soon be available for sale; such bottles are currently being developed and tested for structural and commercial integrity. However, prior to committing to the use of such a bottle, the Co-op wants to consider possible consumer reactions. This is particularly important given that glass weight is often thought to be associated with product quality. Such effects may be strengthened by the fact that whisky can be regarded as a premium product.

Lightweighting could also be done by rationalising the food jars that the Co-op uses so that, in the short term, more efficient jars (weight/volume) are selected, and in the longer term it becomes easier to develop still more efficient jars. Again, obtaining some information on consumer perceptions of such changes was regarded as an important part of the Co-op's decision-making process. Rationalising jars will tend to mean a reduction in the complexity of jar shapes. It may have implications for the visual identity of packaging and this, in turn, may influence consumer perceptions.

### 2.2.1

#### Whisky

Co-op whisky (Arden House and their own label Scotch Whisky) is currently being sold in a bottle weighing approximately 350g. Advances in manufacturing technology have led to the development of a commercially viable bottle weighing 298g that would be of similar height and shape. The remit for this work was to consider 'on-shelf' presentation of such containers. Preliminary testing suggested that when the bottle is full this weight difference can be detected, but not easily so, by a consumer who is asked which of the two bottles is heavier. It is possible that this perceived weight difference would have a negative impact on consumer assessments related to product quality. However, it should be noted that in this context the detection of a weight difference is 'cued'. The consumer has been told that there is a difference to detect. It may be that without this prompt (as would be the case for consumers in a supermarket setting) the weight difference would go undetected. Nevertheless, it is also theoretically possible that consumers who are not consciously aware of the weight difference could still be influenced in their assessment of product quality, value or purchase likelihood.

This leads to four possible outcomes:

- consumers will be aware of the weight difference (when unprompted) and their assessments of quality etc, will alter as a result;
- consumers will be aware of the weight difference, but will not mind;
- consumers will not be consciously aware of the weight difference, but their assessments of quality etc, will alter; and
- consumers will not be aware of the weight difference and there will be no difference in assessments of quality, etc.

A consumer test was undertaken to provide a quantitative assessment of these possibilities with respect to consumers' perceptions of value, quality and purchase likelihood. In addition, consumers' sensitivity to this weight difference was also tested.

To examine the effects of container weight convincingly, it is necessary to have different levels of this variable (i.e. lighter and heavier containers) while all other variables remain constant. This is not easily achieved, as substantial changes in container weight are generally accompanied by changes in container shape. In this instance, the only 300g spirit bottle that was available for testing was slightly shorter than the 350g bottle. This leads to a potential difficulty when interpreting differences in consumers' responses to the two designs in that these may be attributable to weight, shape or a combination of both. It was felt that in this instance, although the match between bottles was not perfect, it was sufficiently close to be worth proceeding. Nevertheless, some caution must be exercised when interpreting results of this study.

Study participants were presented, one at a time, with two bottles of whisky. One of these was the current 350g bottle, the other was the lightweight 300g bottle. One bottle had the 'Co-op's Scotch Whisky' label, the other 'Arden House'. (A counterbalanced sequence was used so that all combinations of bottle weight and label type were tested.) Participants were asked to assess each bottle for quality, value and likelihood of purchase. In addition they were asked, first indirectly and then directly, whether they had noticed a weight difference between the bottles. Qualitative information was also gathered relating to consumer perceptions of the labels/brands.

### 2.2.1.1

#### Method

#### Participants

144 participants were recruited in Co-op stores in the Leeds area or from University of Leeds staff and students. The age range of the sample was 19–89 years, with a mean of 48.53 (sd=16.75). Thirty-eight women and 106 men were recruited. Participants were allocated to one of four groups:

- Co-op shoppers who had bought whisky from the Co-op in the last year (n=48);
- Co-op shoppers who bought whisky in the last year but not from the Co-op (n=48);
- non-Co-op shoppers who had purchased or drunk whisky in the last year (n=24); and
- non-Co-op shoppers who do not buy or drink whisky (n=24).

The demographics of the whisky purchasing/drinking sample were guided by data obtained from a recent Mintel report analysing the whisky sector (Mintel International Group Ltd, Whiskies UK 2004), which indicated that the majority of scotch whisky drinkers were males aged 45+, predominantly retired or in the 'third age' lifestyle.

#### Materials

A heavier (approx. 346g) and a lighter (approx. 300g) bottle were used for testing. These were similar (although not identical) in shape (see Figure 1). Both were filled with 70cl of whisky and this quantity was marked on the label. Two current Co-op own brand labels, Arden House and Scotch Whisky, were used.

#### Procedure

Participants were presented with the lighter and heavier bottles sequentially and invited to hold and inspect them. The Arden House label was placed on one of the bottles, the Scotch Whisky label on the other. The order of presentation and the pairing of label with specific bottle weights was counterbalanced such that all possible combinations occurred with equal frequency.

On presentation of each bottle participants were asked to respond to the following questions using a seven-point scale.

- How would you rate the quality of this bottle?
- This bottle is priced at [Arden House £8.79; Scotch Whisky £9.59]. How much value do you think the product/bottle conveys – do you think it is of high or low value?
- How likely would you be to purchase this bottle of whisky?



Figure 1  
Current brands of  
Co-op whisky



Once this had been completed for both bottles, participants were asked for their opinions of the two designs, including their preferences and opinions of the label. The bottles were then removed from sight and each participant was asked to indicate any differences they had observed between the two bottles. The participant was then shown a list of aspects that may have varied between the two bottles and asked to state which they thought applied. The prompted aspects were: i) label colour; ii) foil lid colour; iii) bottle shape; iv) name/brand; v) glass colour; vi) label wording; vii) glass thickness; viii) bottle height; ix) label design/layout; x) bottle weight; xi) easy to read; xii) quality; xiii) expense and xiv) other aspects.

Finally, the participants were presented with the two bottles, allowed to pick them up, and asked which bottle was heavier. They were then asked whether or not they would still purchase the lighter bottle.

### 2.2.2

#### Food jars

This section of the report details a series of focus groups that were conducted by the Psychology of Design group at the Institute of Psychological Sciences. The purpose of the work was to provide the Co-op with information about the potential for rationalising the jars used for food consumables, with a view to using more efficient (weight to volume of contents) jars.

There are many logistical difficulties associated with bringing about such changes. Factors to be considered include: i) whether the packer/filler can obtain the alternative jar in appropriate quantities at an appropriate cost; ii) whether the packer/filler is packing/filling the same product for other customers, and whether they would welcome the change (otherwise two production 'runs' would be required) and iii) whether the current production line could cope with the dimensions of the alternative jar.

For these reasons, among others, it was not possible at this point to identify specific products that could be switched to more efficient jars. Therefore, a selection of products were identified that would be appropriate candidates (including possible alternative jars). These were tested on the bases that: i) changes may be possible and ii) they would provide useful exemplars of the possible effects of such changes. These products were: i) sandwich spread; ii) sweet pickle; iii) peanut butter and iv) carbonara sauce.

The focus groups were designed to provide insight into general consumer perceptions of and attitudes towards the possible effects of lightweighting a number of Co-op brands currently on the market. In each focus group, researchers gathered information from consumers about how the proposed alternatives compared to their original designs and alternative brands on the market, what shoppers currently purchase and why, and what advantages and disadvantages they perceived designs to have. An important element of these focus groups was to pinpoint where the strengths and weaknesses may lie in the modification of the current Co-op designs now and in the near future. This was approached by examining consumers' packaging preferences, and the reasons for those preferences on a product-by-product basis. This information was intended to provide a foundation from which perceptions relating to lightweighting of the products could be explored. Any changes to packaging weight that are noticeable to shoppers may have an effect on overall opinions of glass. An important goal of this research was to discover which products would be acceptable for lightweighting, and which would meet with resistance.

### 2.2.2.1

#### Method

#### Participants

Data from a Food Retailing UK Mintel report (Mintel International Group Ltd, Food Retailing UK, November 2005) states that the Co-op attracts secondary 'top up' shoppers as opposed to primary shoppers – those who do their main shopping in one superstore. Whilst the Co-op may not be in direct competition with the 'big four' (Sainsbury's, Morrisons, Asda and Tesco), it suggests that secondary shoppers are attracted to the small stores on account of convenience, lower prices or treat foods. Findings from the report also imply that the Co-op's customer demographics include a range of social and economical groups.

For this study participants were recruited through advertisements placed in local Co-op stores and/or from direct mail (to the University of Leeds' consumer panel and university staff). In total, 19 participants (14 females and 5 males) took part in these focus groups (mean age 40 years, range 21–71). To provide an appropriately diverse sample, participants in the following categories were recruited:

- aged under 30 who shopped for themselves/a partner (n=5);
- aged over 30 who shopped for themselves/a partner (n=6); and
- those who shopped for a family (two focus groups, total n=8).

To take part, all had to be Co-op shoppers who shopped at the stores more than five times a year and a few times a month. 26% of the sample shopped at the Co-op twice a week, 26% shopped there once a week, 15–16% twice a month, 12% other and the remaining 15% either shopped there daily or once every two weeks. One of the main reasons given for shopping at the Co-op was that it was convenient. This was mentioned by 15 participants. However, its fair trade and ethical policies were also mentioned. Each participant received £15 for the 90-minute session.

#### Materials (products included in the focus groups)

Four product types were tested. For each product type the current Co-op jar and an alternative, more efficient jar were used. In addition, a selection of other brand containers in each product category were presented to provide participants with broader reference points and to stimulate within-category comparisons.

Pickle: Branston's jar (360g); Branston's squeezezy (410g); Heinz pickle (280g); Co-op original jar (310g); Co-op alternative jar (see Figure 2).

Sandwich spread: Heinz sandwich spread (270g); Heinz toppers (128g); Shipham's chicken spread (35g); Co-op chicken paste (75g); Co-op original jar (279g); Co-op alternative jar (see Figure 3).

Peanut Butter: Sun Pat (340g); Whole Earth (227g); Co-op original jar (340g); Co-op alternative jar (see Figure 4).

Pasta sauce: Napolina (325g); Lloyd Grossman (400g); Co-op finest spinach and ricotta (340g); Co-op original jar (280g); Co-op alternative jar (see Figure 5).

Consistent with a process of container rationalisation, for three of the products tested (pickle, sandwich spread and pasta sauce) the same alternative jar was used.

#### Procedure

All of the focus groups were conducted in the Psychology of Design Laboratory at the Institute of Psychological Sciences, University of Leeds. At the beginning of each session participants were given an overview of the nature of the session and asked to provide informed consent, including permission for recording of the session. All focus groups were video or tape recorded for later analysis.

Participants initially completed a series of ratings on each of the products, viewing alternative and current Co-op designs. The Co-op products were presented alongside their main shelf competitors to recreate a supermarket shelf scenario. The viewing order for each of the alternatives was manipulated and counterbalanced.

Participants responded to the following items using a seven-point scale:

- the overall amount of [product] in this jar is less (1) – more (7) than I would usually want to buy;
- at £[amount], this jar of [product] represents good value for money;
- I think this jar of [product] is of high quality;
- if I wanted some [product] I would be happy to purchase this particular jar; and
- for [product] the shape of this jar is not typical (1) – typical (7).



Figure 2

Current and alternative Co-op jars for pickle



Figure 3

Current and alternative Co-op jars for sandwich spread



Figure 4

Current and alternative Co-op jars for peanut butter

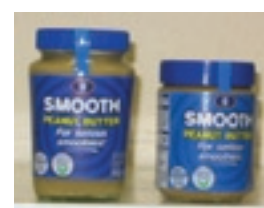


Figure 5

Current and alternative Co-op jars for pasta sauce (carbonara)

After giving individual ratings of the Co-op containers participants were also asked to complete two rating scales while viewing the current and alternative designs for each of the products side by side.

- Which of these jars looks more like a Co-op product?
- Which of these jars do you prefer?

Following ratings the focus group discussion began. Participants were shown each product category alongside its competitors. A semi-structured format was used to ask participants about their purchase habits for each of the products and their opinions on the current and alternative designs, both individually and also in comparison with other products in the marketplace.

### 2.3

#### **Manufacturing trials**

Once items capable of being lightweighted have been identified, all the detailed design work has been completed and all the retailer or brand owner's concerns addressed, the next stage in the lightweighting process is the actual manufacturing process. Glass containers are formed in cast-iron moulds by multi-section so-called IS machines. The machines vary in size and complexity, the largest able to run 40 moulds simultaneously. The production of a full set of moulds and ancillary equipment represents a very significant investment which could exceed £50,000 for the larger machines. The introduction of a new (or modified) product is therefore normally preceded by the production of a limited run from one or a small number of mould sets. A trial run will produce sufficient items to permit product testing and trials at the filling line. Success at this stage should lead to a decision to 'tool up' to produce a full set of mould equipment.

Rockware have successfully undergone this process for both their 70cl and 1 litre generic spirits bottles. Both these bottles are sold to a range of 'own-brand' products, including Co-op brands, via a range of fillers.

## 3 Results

### 3.1

#### Analysis and audits

Photographs and container details of all the collected samples are given in Appendix A. For comparative purposes it was considered that brim-filled volume would constitute the best index as the product information on labels gives a mix of units including volume, weight and drained weight.

Table 1 gives details of the container's weight, brim-fill volume, manufacturer, product bar code, plus additional details on the closure.

Item	Product volume	Manufacturer	Bar code	Glass weight (g)	Glass product	Closure type	Closure weight (g)
Malt vinegar	1.14l	Rockware	613545	586	7198	P/c	2.9
Malt vinegar	568ml	Allied Glass	613538	332		P/c	2.9
Clear vinegar	568ml	Allied Glass	613569			P/c	2.9
Malt vinegar	284ml	Beatsons	603898	208		P/c	2.9
Clear vinegar	284ml	Betasons	613576			P/c	2.9
Grapeseed	500ml	Allied Glass	154284	431			
Groundnut	500ml	Allied Glass	377775				
Extra virgin olive oil	250ml	Allied Glass	425650	273			
Olive oil	250ml	Allied Glass	425674			M/c	3.3
Apple juice	750ml	Spain Vidrala	404797	602		M/c	1.4
Lemon juice	250ml	Portugal Vidro de emb	280976	143		P/c	2.4
Tomato ketchup	550g	Rockware	5814	267	8630	M/s	6.2
Salad cream	283g	Rockware	460613	267	no mark	M/s	4.7
Brown sauce	340ml	Rockware	128419	203	8640	M/s	3.6
Mayonnaise	500ml	Germany Oberland	256292	254		M/s	8.8
Mayonnaise (reduced fat)	500ml	Germany Oberland	256308			M/s	
Garlic & herb dressing	250ml	Allied Glass	536608			M/s	5.2
1000 island dressing	250ml	Allied Glass	536646	290		M/s	5.2
Mayonnaise	250ml	Germany Oberland	256285	138		M/s	7.5
Mayonnaise (reduced fat)	250ml	Germany Oberland	256315			M/s	
Pasta sauce (Carbonara)	280g	Rockware	601382	200	7319	M/s	9.7
Pasta sauce (hot & spicy)	500g	Redfeam	599108		3014	M/s	
Pasta sauce (mushroom)	500g	Redfeam	468817	263	3014	M/s	8.9

Table 1

Co-op brand glass containers

Item	Product volume	Manufacturer	Bar code	Glass weight (g)	Glass product	Closure type	Closure weight (g)
Chilli (cooking sauce)	440g	Redfeam	545198		0327	M/s	
Hot chilli	440g	Rockware	545211	252	6831	M/s	10.7
Pasta bake (cheese & bacon)	405g	Redfeam	631006		0327	M/s	
Pasta bake (tomato & herb)	435g	Rockware	631037	251	6831	M/s	11.3
Sweet & sour sauce	440g	Redfeam	630962		0327	M/s	
Mincemeat	822g	Rockware	432511	343	6115	M/s	14.6
Mincemeat	411g	Rockware	432412	196	no mark	M/s	9.0
Beetroot	710g (wet weight)	Rockware	313155	343	6115	M/s	13.3
Beetroot	340g	Rockware	471312	201	6824	M/s	11.4
Pickled onions	270g	Rockware	471114	181	6265	M/s	9.1
Pickled onions	440g	Redfeam	470315	248		M/s	11.4
Gherkins	680g	Turkey Topkapi	405775	320		M/s	15.2
Baby gherkins	340g	Turkey Topkapi	503136	209		M/s	10.9
Pimento stuffed olives	340g	Spain BSN	720014	203		M/s	7.2
Pitted green olives	340g	Spain BSN	719971			M/s	4.8
Pitted black olives	150g (wet weight)	Spain BSN	719933	139		M/s	4.8
Ham & beef paste	75g	Germany Gerresheime	114608	111		M/s	5.1
Chicken & ham paste	75g	Germany Gerresheime	114585			M/s	5.1
Mango chutney	335g	Rockware	482738	186	3238	M/s	7.7
Seedless raspberry jam	454g	Netherlands N.V. Vereenig	430418			M/s	
Strawberry jam	454g	Netherlands N.V. Vereenig	430210	172		M/S	8.3
Sandwich pickle	310g	Rockware	639026		3238	M/s	
Ginger conserve jam	454g	Rockware	108355	205	8077	M/s	8.7
3 fruits marmalade	340g	Rockware	129362	236	no mark	M/s	11.2
Sandwich spread	279g	Rockware	512299	194	7319	M/s	8.9
Chocolate spread	350g	Sweden PLM	512275	189		P/s	8.0
Hazelnut chocolate spread	350g	Sweden PLM	416146			P/s	
Mint sauce	185g	Rockware	274715	170	no mark	M/s	8.8
Apple sauce	200g	Beatsons	695633		M/s		
Apple sauce	270g	Rockware	639224	236	no mark	M/s	10.6

Table 1

Continued from previous page

Item	Product volume	Manufacturer	Bar code	Glass weight (g)	Glass product	Closure type	Closure weight (g)
Dried sage	15g	Stolzle	706179	97		P reseal	6.5
Sea salt	90g	Stolzle	706391	99		P reseal	
Medium roast coffee	200g	Rockware	680806	416	7777	P/s	15.0
Gold roast coffee	200g	Allied Glass	680844	365		P/s	17.6
Malted drink	400g	Rockware	486903	361	8135	P/s	15.9
Gold roast coffee	100g	Allied Glass	680868	218		P/s	10.7
Rich roast (decaf)	100g	Rockware	680660		8134	P/s	
Rich roast	100g	Rockware	680721	222	8134	P/s	11.7

Table 1

Continued from previous page

Figure 6 is a plot of container weights versus their brim-filled volume.

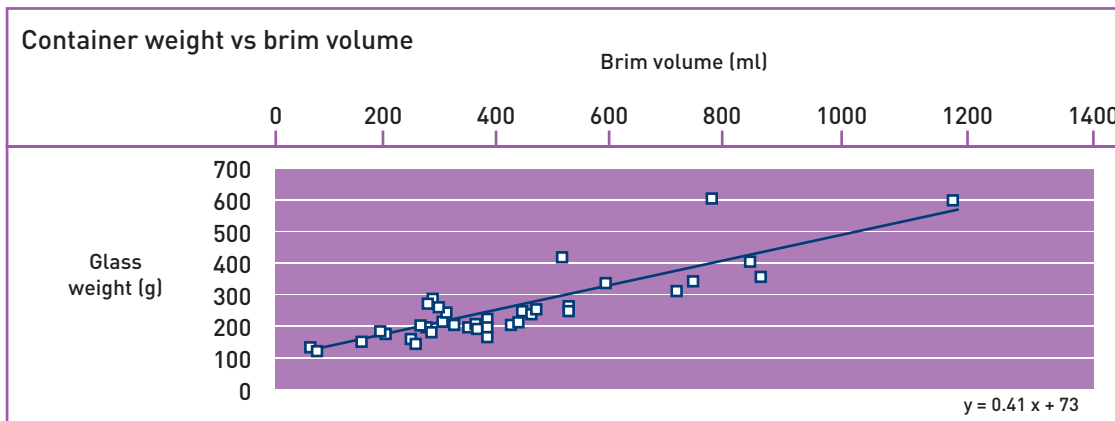


Figure 6

Container weight versus brim-filled volume (all items)

**NB** obtained 2 samples of each container but where 1 jar was used for several varieties of the same product e.g. malt and clear vinegar only one of each product was sampled. Thus no container details are given for 568ml malt vinegar as it is identical to 568ml clear.

Figure 7 is also a plot of container weights versus brim-filled volumes, but is restricted to the wide-mouthed round articles within the sample, which can more be compared readily.

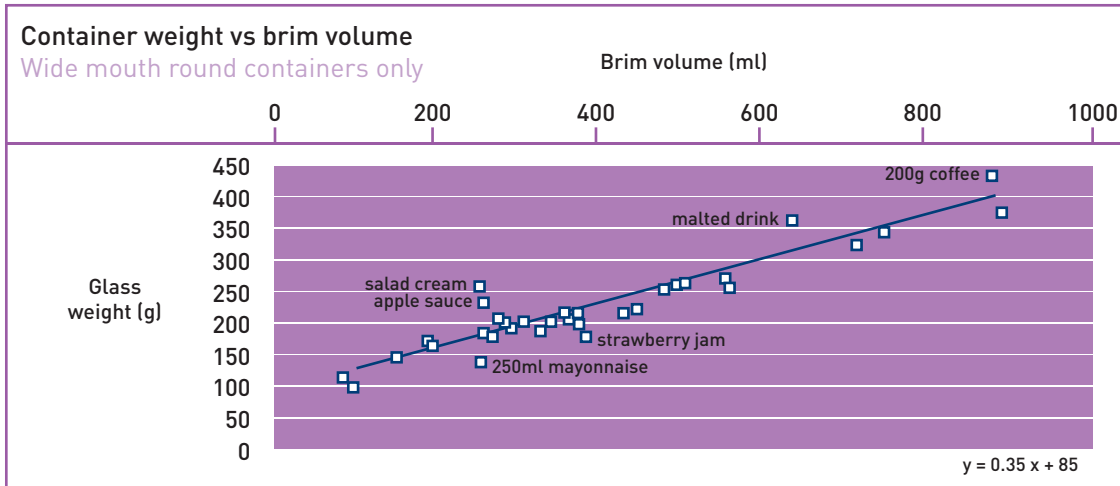


Figure 7

Container weight versus brim-filled volume (wide-mouth round only)

## 3.2

### Consumer perception studies

#### 3.2.1

##### Whisky

Participants' 'uncued' sensitivity to the weight differences between the bottles was relatively poor. In response to a list of possible differences between the two bottles, only 12% of the sample identified weight as a difference and also were able to identify correctly the direction of this difference. On this basis, it seems probable that relatively few consumers will detect such a difference in bottle weight when bottles are presented in context, ie, on a supermarket shelf. Likelihood of detection may be further reduced by the possibility that in a supermarket setting consumers will pick up only one bottle. Moreover, in many Co-op stores spirit bottles are kept behind the sales counter and customers need to ask shop staff specifically for them.

When considering the effects of bottle weight on participants' ratings of quality, value, and purchase likelihood, differences were not sufficiently large and consistent to be considered statistically reliable. This was the case both for those participants who noticed the weight difference and those who did not. This would suggest that there is no consistent pattern of preference for bottles that differ in weight by this amount, and on the basis of these results, it would seem that the use of the lighter weight bottle is unlikely to have a negative impact on sales.

However, there are some caveats that should be added to this conclusion. First, as mentioned in the introduction, the sizes and shapes of the lighter and heavier bottles were similar but not identical. It is possible that effects of size and shape exert an influence that counterbalances effects of weight (e.g. it would be possible that consumers prefer the shape of the lighter bottle but prefer the weight of the heavier bottle). Second, although these tests have been completed on a reasonably large sample, it may be that effects of weight become apparent when considered in the context of still larger numbers. These results are based on probabilistic methods. They address the likelihood of weight differences influencing consumer responses. Finally it should be noted that in accordance with the brief for this work, on-shelf presentations (full bottles) were tested. This weight difference will account for the lowest proportion of total weight in this context. However, it should be noted that although weight difference would be more noticeable in empty bottles, it seems probable that the opportunity for comparison would be less.

### 3.2.2

#### Food jars

The results of the focus group discussions indicated substantial inter-consumer variability in preference for jar designs. This is perhaps consistent with the fact that only a few of the differences between ratings obtained for the original and alternative containers were statistically reliable. However, it does seem that some product-dependent differences exist, and that there are sufficient consistencies for some generalisations to be tentatively ventured. The original jar designs (which were always taller than the alternative design jars) tended to be considered more elegant and more aesthetically pleasing, and were perceived by some participants to contain a greater quantity of the product. This perceived greater quantity of contents was thought by some participants, notably those who shop for a family as opposed to just for themselves, to be a positive attribute. However, for some products (e.g. sandwich spread) and some participants (those who only shop for themselves) the perceived greater quantity was considered to be more than they would want to purchase at one time. Surprisingly, given this pattern of comments in focus group discussions, the 'family shoppers' rated the current pasta sauce jar more severely, with respect to containing less of the product than they would want, than the alternative container. This latter result is difficult to explain. Also running counter to this, and supporting the results of the focus group discussions, ratings for value were greater for the current peanut butter container.

For some products, the original jars were considered more typical, and were often preferred for that reason (pasta sauce, peanut butter and pickle). Differences in ratings support this for the pasta sauce container (for the 'non-family shoppers') and the peanut butter container (for the full sample). In contrast, the alternative jars tended to be regarded as more aesthetically plain, sometimes being compared to jam jars. Participants often stated that they thought the alternative design (generally not including the alternative peanut butter jar) were also more practical. Participants frequently referred to increased ease of accessing the contents of the alternative jars with a knife or spoon, the ease with which these shorter, squatter jars could be opened, and the increased convenience for storing in the fridge. However, it should be noted that taller and somewhat narrower jars (i.e. the original design) were regarded as more practical when pouring of contents was required (as in the case of the pasta sauce).

From the results of these focus groups, it would seem that any process of rationalising jars will need to be considered on a case-by-case basis. Consumer testing will be required and it will be important for this to take account of certain key characteristics of the product consumers. Important factors in consumer acceptance of revised designs are:

**The extent to which 'strongly' shaped jars are typical for the product category.**

'Strong' shaping will tend to make rationalisation (changing to a plainer design) less acceptable. The rationalised jar will appear plain in comparison to competitor products.

Related to this, the importance the consumers attach to the aesthetics of the jar will tend to be greater for products that will be 'on display' in the kitchen or the dining room.



**Whether the contents of the jar will be scraped or poured out.** If the contents will be accessed with a knife or a spoon over a prolonged period (as opposed to poured out and used in one go) then the rationalised jar (a shorter jar with a larger opening) may be considered more practical. It is important that this issue (being able to scrape the contents of a jar out with a knife or a spoon) is not ignored when considering the potential for reducing the weight, and therefore possibly the thickness, of glass containers.

**The quantity of product required by the consumer.**

For consumers who only shop for themselves the perceived reduced quantity of contents may be considered advantageous. For consumers who shop for a family this was not the case. Although it was not identified in this study, differences in the perceived volume of contents are likely to have an impact on perceived value. If shorter jars are perceived to contain less of the product they may also be perceived to offer poorer value. Ratings for the peanut butter containers were consistent with this position. However, as noted above, results for the ratings obtained for the pasta sauce container did appear contrary.

**The importance attached to ease of opening.**

Some consumer groups – particularly older consumers – emphasised the importance of this attribute. In the case of the jars considered for this study, consumers tended to perceive the 'rationalised' jar as being easier to open.

In the context of the current set of products, it is suggested that altering the design of the peanut butter jar and possibly pasta sauce may have negative effects on consumer perceptions. The effects of changing the designs of the sandwich spread and pickle jars are less obvious, but it would seem that the alternative designs for these products may be acceptable to consumers.

### 3.2.3

#### **Some marketing issues**

Although this area was not addressed in these focus groups, before making changes to jar designs it would seem important to consider how well each product is performing in the marketplace. A change of identity may be beneficial for a product that is performing poorly, but may have negative consequences for a product that is performing particularly well.

Participants were very supportive of the concept of reducing glass waste. They tended to identify the Co-op as an ethical brand that is concerned with fair trade. Consequently, the association with waste reduction seemed appropriate to them. On this basis, it was felt that advertising the environmental advantages of glass waste reduction would be a major encouragement for consumers to purchase 'rationalised' jar designs.

Some of the focus groups expressed a view that the Co-op would benefit from stronger generic branding/visual identity for its products. Although the Co-op logo is present on Co-op products, it is not very noticeable, and there are substantial variations in other aspects of label design. Potentially related to this, there was a good deal of agreement, and some strongly held opinions, among the consumers tested that the presented Co-op labels could be substantially improved. Many features were disliked, including: colour, images of food, font, size, shape and position.

The aesthetic and functional aspects of lid design were identified by consumers as important and often neglected aspects of jar design. Adding more colour to the lids (e.g. having finishes that looked less like plain metal) would make them more attractive. There is scope in designing the shape of the lid to add interest to a container design that might have become more plain in the process of 'rationalisation' and glass weight reduction. Making lids easier to open was also regarded as important, particularly by older participants.

Some of the focus groups praised the clear nutritional information and vegetarian symbols on the back of the label. Health issues were generally of more concern to the older group. Family shoppers were also very conscious about the need to purchase products that had nutritious and healthy ingredients for their children whilst older non-family shoppers seemed to be more conscious of the ingredients in terms of the amount of fat in the products. Potentially related to differing emphasis on health-related issues, inter-consumer differences in preferences for label designs could be identified. For some products, such as the peanut butter, the younger age groups tended to have a preference for brighter coloured packaging. In contrast older age groups expressed a dislike for this type of packaging, preferring more neutral colours and packaging such as those used by the 'Whole Earth' peanut butter.

#### 3.2.4

#### Some limitations

Finally, some limitations of the study reported here should be considered. First, it is possible that the obvious and unavoidable focus on jar shape during the focus group sessions may have led participants to give a stronger response to such differences than would be encountered in normal shopping situations. For this reason it is possible that these results over-estimate the effects of the differences in jar design on consumer perceptions and potential purchase behaviour. However, counter to this, it should be noted that these results are based on a relatively small sample of participants. It is, of course, possible that differences that are meaningful in the context of high-volume sales were not detectable with a sample of this size. In this instance, the size of sample was determined by resource constraints. However, prior to proceeding with specific jar design changes it would be worthwhile undertaking a further focused study (examining the specific jars under consideration) using survey methodology or something similar, so that data can be gathered from larger numbers of participants.

### 3.3

#### Manufacturing trials

##### 3.3.1

#### 70cl spirits bottle

The 70cl spirits bottle is currently undergoing final manufacturing and filling line trials prior to proceeding to full production. It is anticipated that all trials will be successful and, once confirmation of this has been received, the 298g bottle will be added to Rockware's product portfolio.

Co-op brand whisky is supplied by Whyte & McKay. The Co-op has confirmed that once Whyte & McKay have completed filling trials, they will request that Whyte & McKay fill Arden House and Co-op Scotch Whisky brands in the 298g bottle.

Based on Co-op sales data for each brand, the likely weight savings are shown in Table 2:

Product	Previous weight (g)	New weight (g)	Tonnes saved
70cl Arden House	340	298g	15
70cl Scotch Whisky	340	298g	31
<b>Total</b>			<b>46</b>

Table 2

##### 3.3.2

#### 1 litre spirits bottle

Rockware have also successfully lightweighted the 1 litre generic spirits bottle which they sell to a range of fillers, including Halewood. Based on production volumes, the weight savings for the 1 litre bottle are shown in Table 3:

Product	Previous weight (g)	New weight (g)	Tonnes saved
1 litre generic spirits	500	440	99

Table 3

## 4 Conclusions

The work conducted with the Co-op during the extension to the Container Lite project provided valuable learning in the risks and opportunities inherent in working directly with a retailer and its supply chain.

The project extension has successfully achieved:

- a weight reduction of 99 tonnes based on the Rockware production of a 1 litre generic spirits bottles;
- foundation research on food containers to lead into work proposed for the next stage in GlassRite; and
- trial of an audit process to identify information on proposed trial containers from the project partner's portfolio.

Work conducted during Container Lite on 70cl and 1.5 litre generic spirits bottles successfully achieved weight savings and, based on the same principles of lightweighting an existing design, the project target of a 99 tonne reduction during the lifetime of the project was achieved.

Although Co-op branded whisky is currently available in one of the lightest 70cl bottles on the market, consumer research appears to support the move to the next generation of bottles. Bottles weighing 298g have been produced and are available on the market. The Co-op has confirmed its commitment to specifying this lightest weight for its Arden House and Scotch Whisky brands. Based on sales data for these brands, this move is expected to achieve further savings of 46 tonnes. As sales data are based on a 12-month period, this saving is expected within 12 months of the move to the lighter bottle.

Consumer perception research into food products packaged in glass delivered more complex results, because a more complex concept that was tested. As part of the main Container Lite project, research was undertaken into overall perceptions of lightweighting, with the general result that weight reduction whilst maintaining design was generally acceptable. However, using shape change as a means of lightweighting is potentially more problematic – especially where shape is associated to product. The research conducted here in terms of the potential for consolidating containers manufactured at the same volume (but at different weights) to the lowest weight points firmly towards potential issues based around consumer acceptance and potential filling-line issues rather than any technical matters. Issues including type of product, family size and reason for purchase all appear to have an impact on an individual's preference for container shape.



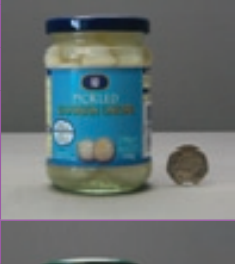
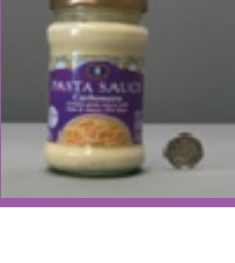
Due to these complex considerations, the Co-op has chosen to schedule any implementation of food container consolidation at a later date when they have appropriate resources to ensure effective implementation. However, the research that has been undertaken will provide a foundation for future work on lightweighting of food containers that will be completed by the project consortium and we are confident can be implemented successfully.








# Appendix A

## Appendix A – Results of the store audit

	Item	Mince meat
	Coop bar code	432511
	Product wt / vol	822g
	Glass manufacturer	Rockware
	Glass weight	343g
	Brim fill volume	745g
	Item	Malt vinegar
	Coop bar code	613545
	Product wt / vol	1.4l
	Glass manufacturer	Rockware
	Glass weight	586g
	Brim fill volume	1.17l
	Item	Dried sage
	Coop bar code	706179
	Product wt / vol	15g
	Glass manufacturer	Stolzle
	Glass weight	97g
	Brim fill volume	102g
	Item	Ham and beef paste
	Coop bar code	114608
	Product wt / vol	75g
	Glass manufacturer	Germany Gerresheimer
	Glass weight	111g
	Brim fill volume	527g
	Item	Sea salt
	Coop bar code	90g
	Product wt / vol	706391
	Glass manufacturer	Stolzle
	Glass weight	99g
	Brim fill volume	102g
	Item	Gold roast coffee
	Coop bar code	680868
	Product wt / vol	100g
	Glass manufacturer	Allied Glass
	Glass weight	218g
	Brim fill volume	436g

	Item	Rich roast coffee
	Coop bar code	680721
	Product wt / vol	100g
	Glass manufacturer	Rockware
	Glass weight	222g
	Brim fill volume	448g
	Item	Pitted black olives
	Coop bar code	719933
	Product wt / vol	150g
	Glass manufacturer	Spain BSN
	Glass weight	139g
	Brim fill volume	159g
	Item	Mint sauce
	Coop bar code	274715
	Product wt / vol	185g
	Glass manufacturer	Rockware
	Glass weight	170g
	Brim fill volume	195g
	Item	Gold roast coffee
	Coop bar code	680844
	Product wt / vol	200g
	Glass manufacturer	Allied Glass
	Glass weight	365g
	Brim fill volume	881g
	Item	Medium roast coffee
	Coop bar code	680806
	Product wt / vol	200g
	Glass manufacturer	Rockware
	Glass weight	416g
	Brim fill volume	868g
	Item	Bramley apple sauce
	Coop bar code	695633
	Product wt / vol	200g
	Glass manufacturer	Beatsons
	Glass weight	168g
	Brim fill volume	202g
	Item	Lemon juice
	Coop bar code	280976
	Product wt / vol	250ml
	Glass manufacturer	Portugal Vidro de embalagem
	Glass weight	143g
	Brim fill volume	257g

	Item	Mayonnaise
	Coop bar code	256285
	Product wt / vol	250ml
	Glass manufacturer	Germany Oberland
	Glass weight	138g
	Brim fill volume	272ml
	Item	Thousand Island dressing
	Coop bar code	536646
	Product wt / vol	250ml
	Glass manufacturer	Allied Glass
	Glass weight	290g
	Brim fill volume	271ml
	Item	Extra virgin olive oil
	Coop bar code	425650
	Product wt / vol	250ml
	Glass manufacturer	Allied Glass
	Glass weight	273g
	Brim fill volume	264ml
	Item	Bramley apple sauce
	Coop bar code	639224
	Product wt / vol	270g
	Glass manufacturer	Rockware
	Glass weight	236g
	Brim fill volume	298g
	Item	Pickled silverskin onions
	Coop bar code	471114
	Product wt / vol	270g
	Glass manufacturer	Rockware
	Glass weight	181g
	Brim fill volume	295g
	Item	Sandwich spread
	Coop bar code	512299
	Product wt / vol	279g
	Glass manufacturer	Rockware
	Glass weight	194g
	Brim fill volume	315g
	Item	Carbonara pasta sauce
	Coop bar code	601382
	Product wt / vol	280g
	Glass manufacturer	Rockware
	Glass weight	200g
	Brim fill volume	311g

	Item	Salad cream
	Coop bar code	460613
	Product wt / vol	283g
	Glass manufacturer	Rockware
	Glass weight	267g
	Brim fill volume	289g
	Item	Malt vinegar
	Coop bar code	603898
	Product wt / vol	284ml
	Glass manufacturer	Beatsons
	Glass weight	208g
	Brim fill volume	301g
	Item	Mango chutney
	Coop bar code	482738
	Product wt / vol	335g
	Glass manufacturer	Rockware
	Glass weight	186g
	Brim fill volume	284g
	Item	3 fruits marmalade
	Coop bar code	129362
	Product wt / vol	340g
	Glass manufacturer	Rockware
	Glass weight	236g
	Brim fill volume	299g
	Item	Baby gherkins
	Coop bar code	503136
	Product wt / vol	340g
	Glass manufacturer	Turkey Topkapi
	Glass weight	209g
	Brim fill volume	368g
	Item	Beetroot
	Coop bar code	471312
	Product wt / vol	340g
	Glass manufacturer	Rockware
	Glass weight	201g
	Brim fill volume	371g
	Item	Brown sauce
	Coop bar code	128419
	Product wt / vol	340ml
	Glass manufacturer	Rockware
	Glass weight	203g
	Brim fill volume	329g



	Item	Pimento stuffed olives
	Coop bar code	720014
	Product wt / vol	340g
	Glass manufacturer	Spain BSN
	Glass weight	203g
	Brim fill volume	353g
	Item	Chocolate spread
	Coop bar code	512275
	Product wt / vol	350g
	Glass manufacturer	Sweden BLM
	Glass weight	189g
	Brim fill volume	342g
	Item	Instant malted drink
	Coop bar code	486903
	Product wt / vol	400g
	Glass manufacturer	Rockware
	Glass weight	361g
	Brim fill volume	665g
	Item	Mincemeat
	Coop bar code	432412
	Product wt / vol	411g
	Glass manufacturer	Rockware
	Glass weight	196g
	Brim fill volume	378g
	Item	Tomato paste bake
	Coop bar code	631037
	Product wt / vol	435g
	Glass manufacturer	Rockware
	Glass weight	251g
	Brim fill volume	477g
	Item	Hot chilli
	Coop bar code	545211
	Product wt / vol	440g
	Glass manufacturer	Rockware
	Glass weight	525g
	Brim fill volume	480g
	Item	Pickled onions
	Coop bar code	470315
	Product wt / vol	440g
	Glass manufacturer	Redfeam
	Glass weight	248g
	Brim fill volume	462g

	Item	Ginger conserve jam
	Coop bar code	108355
	Product wt / vol	454g
	Glass manufacturer	Rockware
	Glass weight	205g
	Brim fill volume	378g
	Item	Strawberry jam
	Coop bar code	430210
	Product wt / vol	454g
	Glass manufacturer	Netherlands NV Vereer
	Glass weight	172g
	Brim fill volume	381g
	Item	Mushroom pasta sauce
	Coop bar code	468817
	Product wt / vol	500g
	Glass manufacturer	Redfeam
	Glass weight	263g
	Brim fill volume	526g
	Item	Grapeseed oil
	Coop bar code	154284
	Product wt / vol	??
	Glass manufacturer	Allied Glass
	Glass weight	431g
	Brim fill volume	519g
	Item	Mayonnaise
	Coop bar code	256292
	Product wt / vol	500ml
	Glass manufacturer	Germany Oberland
	Glass weight	254g
	Brim fill volume	527g
	Item	Tomato ketchup
	Coop bar code	5814
	Product wt / vol	550g
	Glass manufacturer	Rockware
	Glass weight	267g
	Brim fill volume	525g
	Item	Distilled malt vinegar
	Coop bar code	613538
	Product wt / vol	568ml
	Glass manufacturer	Allied Glass
	Glass weight	332g
	Brim fill volume	590g

	Item	Pickled gherkins
	Coop bar code	405775
	Product wt / vol	650g
	Glass manufacturer	Turkey topkapi
	Glass weight	320g
	Brim fill volume	716g
	Item	Beetroot
	Coop bar code	313155
	Product wt / vol	710g
	Glass manufacturer	Rockware
	Glass weight	343g
	Brim fill volume	743g
	Item	Apple juice
	Coop bar code	404797
	Product wt / vol	750ml
	Glass manufacturer	Spain
	Glass weight	602g
	Brim fill volume	782g
	Item	Mincemeat
	Coop bar code	432511
	Product wt / vol	822g
	Glass manufacturer	Rockware
	Glass weight	343g
	Brim fill volume	745g

## Appendix B – Consumer perception studies

### Contents

---

1	Introduction	30
2	Lightweighting whisky bottle	31
3	Study of effects of food container rationalisation	38

## Appendix B – contents

<b>1</b>	<b>Introduction</b>	<b>30</b>
<b>2</b>	<b>Lightweighting whisky bottle</b>	<b>31</b>
2.1	Method	31
2.1.1	Participants	31
2.1.2	Materials	32
2.1.3	Procedure	33
2.2	Results	33
2.2.1	Quantitative data analysis	33
2.2.2	Qualitative data analysis relating to brand	34
<b>3</b>	<b>Study of effects of food container rationalisation</b>	<b>38</b>
3.1	Introduction	38
3.2	Method	38
3.2.1	Participants	38
3.2.2	Materials (products included in the focus groups)	39
3.2.3	Procedure	39
3.3	Results	40
3.3.1	Ratings	40
3.3.2	Focus group discussions	41
3.3.2.1	Non family shoppers FG1 aged under 30 years	41
3.3.2.2	Non-family shoppers aged over 30 years	43
3.3.2.3	Family shoppers: Group 1	44
3.3.2.4	Family shoppers: Group 2	46
3.4	Conclusions	48
3.4.1	Original versus alternative Co-op jar designs	48
3.4.2	Some marketing issues	49
3.4.3	Some limitations	50

# 1 Introduction

This work was undertaken as part of and an extension to the WRAP-funded Container Lite project. This project is concerned with reducing the weight of glass containers, thereby saving on the amount of glass going to landfill. Additional benefits for retailers and glass manufacturers may accrue in the form of financial savings resulting from reduced manufacture and transportation costs.

The Co-op has identified two areas where lighter weight glass containers might be used to package their food and drink products. The first of these concerns two of their whisky products (Arden House and Scotch Whisky). Prior to committing to the use of a lightweight bottle, the Co-op wanted to consider possible consumer reactions. This is particularly important given that glass weight is often thought to be associated with product quality. Such effects may be strengthened by the fact that whisky can be regarded as a premium product.

Lightweighting could also be done by rationalising the food jars that the Co-op uses so that, in the short term, more efficient jars (weight/volume) are selected, and in the longer term it becomes easier to develop still more efficient jars. Again, obtaining some information on consumer perceptions of such changes was regarded as an important part of the Co-op's decision-making process. Rationalising jars will tend to mean a reduction in the complexity of jar shapes. It may have implications for the visual identity of packaging and this, in turn, may influence consumer perceptions.

This appendix presents the results of this consumer perception work, undertaken by the Psychology of Design group at the University of Leeds.

## 2 Lightweighting the whisky bottle

Co-op whisky (Arden House and Scotch Whisky) is currently being sold in a bottle weighing approximately 350g. Advances in manufacturing technology have led to the development of a bottle weighing 298g that would be of similar height and shape. The remit for this work was to consider 'on-shelf' presentation of such containers. Preliminary testing suggested that when the container is full this difference in bottle weight (44g) can be detected, but not easily so, by a consumer who is asked which of the two bottles is heavier. It is possible that this perceived weight difference would have a negative impact on consumer assessments related to product quality. However, it should be noted that in this context the detection of a weight difference is 'cued'. The consumer has been told that there is a difference to detect. It may be that without this prompt (as would be the case for consumers in a normal supermarket setting) the weight difference would go undetected. Nevertheless, it is also theoretically possible that consumers who are not consciously aware of the weight difference could still be influenced in their assessment of product quality, value, or purchase likelihood.

This leads to four possible outcomes:

- consumers will be aware of the weight difference (when unprompted) and their assessments of quality, etc, will alter, as a result;
- consumers will be aware of the weight difference but will not mind;
- consumers will not be consciously aware of the weight difference, but their assessments of quality, etc, will alter; and
- consumers will not be aware of the weight difference and there will be no difference in assessments of quality, etc.

A consumer test was undertaken to provide a quantitative assessment of these possibilities with respect to consumers' perceptions of value, quality, and purchase likelihood. In addition, consumers' sensitivity to this weight difference was also tested.

To examine the effects of container weight convincingly, it is necessary to have different levels of this variable (i.e. lighter and heavier containers) while all other variables remain constant. This is not easily achieved, as substantial changes in container weight are generally accompanied by changes in container shape. In this instance, the only 300g spirit bottle that was available for testing was slightly shorter than the 350g bottle. This leads to a potential difficulty when interpreting differences in consumers' responses to the two designs in that these may be attributable to weight, shape, or a combination of both. It was felt that, in this instance, although the match between bottles was not perfect (see Figure 1) it was sufficiently close to be worth proceeding. Nevertheless, some caution must be exercised when interpreting the results of this study.

Study participants were presented, one at a time, with two bottles of whisky. One of these was the current (350g) bottle, the other was the lighter weight (300g) bottle. One bottle had the 'Finest Scotch Whisky' label, the other had 'Arden House'. (A counterbalanced sequence was used so that all combinations of bottle weight and label type were tested.) Participants were asked to assess each bottle for quality, value, and likelihood of purchase. In addition they were asked, first indirectly and then directly, whether they had noticed a weight difference between the bottles. Qualitative information was also gathered relating to consumer perceptions of the labels/brands.

### 2.1

#### Method

##### 2.1.1

#### Participants

144 participants were recruited in Co-op stores in the Leeds area or from the University of Leeds staff and students. The age range of the sample was 19–89 years, with a mean of 48.53 (sd=16.75). Thirty-eight women and 106 men were recruited. Participants were allocated to one of four groups:

- Co-op shoppers who had bought whisky from the Co-op in the last year (n=48);
- Co-op shoppers who bought whisky in the last year but not from the Co-op (n=48);

- non-Co-op shoppers who had purchased or drunk whisky in the last year (n=24); and
- non-Co-op shoppers who do not buy or drink whisky (n=24).

The demographics of the whisky purchasing/drinking sample were guided by data obtained from a recent Mintel report analysing the whisky sector (Mintel International Group Ltd, Whiskies UK 2004), which indicated the majority of scotch whisky drinkers were males aged 45+, predominantly retired or in the 'third age' lifestyle.

### 2.1.2 Materials

A heavier (approx. 346g) and a lighter (approx 300g) bottle were used for testing. These were similar (although not identical) in shape (see Figure 1). Both were filled with 70cl of whisky and this quantity was marked on the label. Two current Co-op own-brand labels, Arden House and Scotch Whisky, were used.



Figure 1  
Current brands of  
Co-op whisky



### 2.1.3

#### Procedure

Participants were presented with the lighter and heavier bottles sequentially and invited to hold and inspect them. The Arden House label was placed on one of the bottles, the Scotch Whisky Label on the other. The order of presentation and the pairing of label with specific bottle weights was counterbalanced in such a way that all possible combinations occurred with equal frequency.

On presentation of each bottle participants were asked to respond to the following questions using a seven-point scale:

- How would you rate the quality of this bottle?
- This bottle is priced at [Arden House = £8.79; Scotch Whisky £9.59]. How much value do you think the product/bottle conveys – do you think it is of high or low value? and
- How likely would you be to purchase this bottle of whisky?

Once this had been completed for both bottles, participants were asked for their opinions of the two designs, including their preferences and opinions of the label. The bottles were then removed from sight and each participant was asked to indicate any differences they had observed between the two bottles. The participant was then shown a list of aspects that may have varied between the two bottles and asked to state which they thought applied. The prompted aspects were: i) label colour; ii) foil lid colour; iii) bottle shape; iv) name/brand; v) glass colour; vi) label wording; vii) glass thickness; viii) bottle height; ix) label design/layout; x) bottle weight; xi) easy to read; xii) quality; xiii) expense and xiv) other aspects.

Finally, the participant was presented with the two bottles, allowed to pick them up, and asked which bottle was the heaviest. They were then asked whether or not they would still purchase the lighter bottle.

## 2.2

### Results

#### 2.2.1

##### Quantitative data analysis

A series of descriptive statistics were produced and statistical analyses are presented here. Comparisons were made of the ratings participants gave for the lighter and the heavier bottle (data being averaged over the two labels). Percentages of participants who detected the weight difference (prompted and unprompted) are given. Differences in participants' ratings of quality, value, and purchase likelihood, for the lighter and heavier bottles were tested. Ratings for those participants who noticed that there was a weight difference (in response to the list of possible differences described above) and who correctly identified the weight difference were also considered separately. These analyses were completed for: i) the full sample; ii) Co-op shoppers; iii) Co-op shoppers who purchase whisky in the Co-op; iv) Co-op shoppers who currently do not purchase their whisky in the Co-op; and, v) whisky buyers/drinkers.

##### The full sample

The variation in bottle weight was noted by 17 participants (12%) of the 144 participants, when presented with the list of possible aspects that varied across the two bottles. Differences in ratings (quality, value, and purchase likelihood) between the lighter and heavier bottle were not of sufficient magnitude or of sufficient consistency to be regarded as reliable. Similarly, when considering just those participants who noticed and were able to correctly identify the difference (see above), rating differences were not statistically significant.

##### Co-op shoppers

When considering those participants who were classified as Co-op shoppers, 12 of the 96 (12.5%) participants correctly identified the weight difference in response to the list of prompts and correctly identified the direction of difference. Differences in ratings for the lighter and heavier bottle were not reliable for either: i) all Co-op shoppers; or, ii) the sub-set of this sample that noted the weight difference and were able to identify the direction of difference correctly.

### All whisky buyers

When considering those participants who identified themselves as whisky buyers, 14 of the 120 (12%) noticed the difference when presented with the list of aspects and were able to correctly identify the heavier bottle. Differences in ratings for the lighter and heavier bottle were not reliable for either: i) all whisky buyers; or ii) the sub-set of this sample that correctly identified the weight difference.

### Those who purchase whisky in the Co-op

Seven of the 48 (15%) participants who purchase whisky at the Co-op regularly, noticed and correctly identified the weight difference in response to the list of possible aspect of difference. Differences in ratings for the lighter and heavier bottle were not reliable for either: i) all Co-op whisky buyers; or ii) the sub-set of this sample that correctly identified the weight difference.

### Non Co-op whisky buyers

Seven of the 72 (10%) participants who purchase whisky, but not at the Co-op, noticed weight difference in response to the list of possible aspect of difference and were able to correctly identify this difference. Differences in ratings for the lighter and heavier bottle were not reliable for either: i) all Co-op whisky buyers; or ii) the sub-set of this sample that correctly identified the weight difference.

### Summary

Participants' 'uncued' sensitivity to the weight differences between the bottles was relatively poor. In response to a list of possible differences between the two bottles, only 12% of the sample identified weight as a difference and also were able to identify correctly the direction of this difference. On this basis, it seems probable that relatively few consumers will detect such a difference in bottle weight when bottles are presented in context, ie, on a supermarket shelf. Likelihood of detection may be further reduced by the possibility that, in a supermarket setting, consumers will pick up only one bottle. Moreover, in many Co-op stores spirit bottles are kept behind the sales counter and customers need to ask shop staff specifically for them.

When considering the effects of bottle weight on participants' ratings of quality, value, and purchase likelihood, differences were not sufficiently large and consistent to be considered statistically reliable. This was the case both for those participants who noticed the weight difference and those who did not. This would suggest that there is no consistent pattern of preference for bottles that differ in weight by this amount, and on the basis of these results, it would seem that the use of the lighter weight bottle is unlikely to have a negative impact on sales. However, there are some caveats that should be added to this conclusion. First, as mentioned in the introduction, the sizes/shapes of the lighter and heavier bottles were similar but not identical. It is possible that effects of size/shape exert an influence that counterbalances effects of weight (eg, it would be possible that consumers prefer the shape of the lighter bottle but prefer the weight of the heavier bottle). Second, although these tests have been completed on a reasonably large sample, it may be that effects of weight become apparent when considered in the context of still larger numbers. These results are based on probabilistic methods. They address the likelihood of weight differences influencing consumer responses. Finally, it should be noted that, in accordance with the brief for this work, on-shelf presentations (full bottles) were tested. This weight difference will account for the lowest proportion of total weight in this context. However, it should be noted that although weight difference would be more noticeable in empty bottles, it seems probable that the opportunity for comparison would be less.

#### 2.2.2

### Qualitative data analysis relating to brand

In addition to rating each of the products and/or bottles, participants were also given the opportunity to express their views on the label/brand designs in a less structured manner. These responses were categorised and summarised, and are presented in the following section.

One hundred and forty four responses were given, with 89 people making more than one response that could be categorised. On the basis of content analysis, but also drawing on

the CAPDeCO model (see the final Container Lite project report for details), the following categories were used to describe the data:

- **affective emotional responses** – Instances in which one design was felt to be better or liked more than the other but the participant did not have a ‘thought out’ justification;
- **quality** – Comments relating to how expensive, cheap or professional the designs were perceived to be and how much quality they conveyed;
- **familiarity** – Recognition of the brands and how much they looked like whisky and/or current brands on the market;
- **colour preference** – Whether the labels were more appealing due to the colours in their design;
- **the information and detailing on the label** – The amount of information on the label, including features and detailing;
- **tradition** – Whether the designs were considered traditional, authentic and whether the image was regarded as ‘young’ or ‘old’;
- **associations** – Associations respondents made when looking at the designs;
- **whisky colour** – Whether one whisky looked darker, or looked as if it had a stronger taste;
- **practicality** – Issues relating to how practical the bottles were in terms of handling, storage etc; and
- **prominence** – Whether or not one of the designs stood out more than the other.

An overview of the comments given for each of these categories is given below. The ‘practicality’ and ‘prominence’ categories have been excluded on account of the small number of responses for these categories.

### Quality

Of those who gave quality as a reason for a preference between the two bottles, well over half preferred the Scotch Whisky design, stating that it looked more expensive, appeared to be of better quality, or looked more professional. The majority thought that Arden House looked cheaper and more mass-produced.

‘Scotch Whisky fancier label’.

‘Scotch Whisky looks better, label does more’.

‘Scotch Whisky preferred looks better quality’.

‘Scotch Whisky liked more; label makes it look more expensive. Arden House cheap, can’t give as a present’.

‘Arden House wouldn’t buy looks cheaper’.

‘Prefer Scotch Whisky appears lighter in colour label says finest blend, appears higher quality than the other one’.

‘Arden House looks cheap’.

‘Arden House mass produced, cheaper no sophistication doesn’t lead you to have an idea of what it is’.

### Affective responses

In general participants tended to favour the Scotch Whisky design bottle overall. Reasons for their preferences were that the label was thought to look better and that the Scotch Whisky generally had a better look about it. Only a small number (1 to 2 individuals) thought that Arden House looked better, stating this was due to it standing out or looking distinctive.

‘Scotch Whisky better, labels liked more than Arden House labels’.

‘Scotch Whisky Looks better’.

‘Arden House attractive bottle design’

‘Scotch Whisky appeals more looks more traditional Famous Grouse like’.

‘Scotch Whisky looks nicer, more established more on label looks nicer, shape etc’.

'Scotch Whisky more appealing'.

'Scotch Whisky is preferred, it looks better'.

'Arden House brown not nice back looks cheap'.

### **Familiarity**

A large majority of participants reported that the Scotch Whisky brand was familiar to them, stating it looked more like a bottle of whisky, or that it looked like one of the main brands on the market. Some reported that it just looked familiar and felt it represented a whisky more than Arden House on account of this. There was only one instance in which participants reported that Arden House was familiar to them.

'Scotch Whisky looks like a bottle of whisky – recognisable, looks like other branded bottles'.

'Scotch Whisky looks more like a whisky bottle, familiar design, Arden House dark'.

'Scotch Whisky looks like whisky bottle. Arden House cheap and nasty'.

'Scotch Whisky like design looks like a popular one'.

'Scotch Whisky looks like Bells'.

### **Label colour**

In terms of colour the Scotch Whisky label was considered by many (but not all) participants to be better in that it was of a lighter colour.

'Arden House preferred, individual, darker colour'.

'Arden House darker and better. Scotch Whisky appears to copy other brands'.

'Scotch Whisky lighter and more appealing. Arden House darker and typical. Could be any product, not clear it is whisky'.

'Scotch Whisky label brighter, more design, more classier writing'.

'Scotch Whisky preferred better colour of label goes well, conveys more quality'.

'Arden House dark and dim and not appealing'.

'Arden House label too dark brown, bit big doesn't stand out, circle looks cheap and mass-produced'.

### **Detailing and information on label**

Respondents who liked the detailing and information on the bottles felt the Scotch Whisky design conveyed more information about the product.

'Arden House preferred as it makes you want to take a second look'.

'Scotch Whisky preferred, style of writing better, more old fashioned and thus more appealing'.

'Scotch Whisky more effort being put in on label'.

'Scotch Whisky says about whisky macs and ginger wine'.

'Arden House nicer labels, funky appealing'.

### **Traditional design**

In a small number of cases respondents commented on the history and tradition of the bottle designs. Generally the Scotch Whisky was preferred for these reasons.

'Scotch Whisky Packaging looks to have heritage. Arden House appears that should be half to third of price of Scotch. Whisky, Arden House brown reminds of cheap alcoholics'.

'Arden House more modern interesting honest, straightforward, different interesting'.

'Scotch Whisky looks more traditional less cheap and nasty'.

'Scotch Whisky looks more authentic want something conveys tradition and history'.

'Label traditional'.

**Other associations with designs**

Participants made the following associations about the bottle designs:

- 'Scotch Whisky label looks less like a tin of beans. Arden House brown things brown for a reason!'
- 'Scotch Whisky Classy and right on. Arden House back alley.'
- 'Arden House looks like beer bottle'.
- 'Arden House looks dowdy'.
- 'I prefer Scotch Whisky because Arden House looks like a cheap Russian cognac'.
- 'Arden House beer label'.

**Colour and taste of whisky**

Some respondents felt that Arden House looked as if it was a darker and stronger whisky.

- 'Arden House preferred as darker and stronger'.
- 'Scotch Whisky lighter and better whisky'.
- 'Arden House preferred darker colour whisky, peatier taste'.
- 'Arden House dark brown labels brings out colour of whisky. Scotch Whisky – Cats Piss'.
- 'Scotch Whisky label and whisky combine well'.
- 'Scotch Whisky preferred info on label matured in oak casks info gives a better impression'.
- 'Arden House looks stronger maybe label makes it look darker'.
- 'Arden House looks stronger'.

**Summary of qualitative data**

Figure 2 below presents the frequencies with which respondents gave particular features as a rationale for their preferences for either of the bottles.



Figure 2

Figure 2 indicates that the Scotch Whisky design tended to be preferred. Generally, it was considered to be of higher quality, the branding (label design) was thought to be more consistent with the product, it was thought to be more 'traditional', and associations were more positive. However, a small number of participants thought that the appearance (colour) of the Arden House whisky, and therefore potential taste, was preferable or stronger. It is possible that this was also influenced by the colour of the label.

## 3 Study of effects of food container rationalisation

### 3.1

#### Introduction

A series of focus groups were conducted by the Psychology of Design group in the University of Leeds laboratory. The purpose of the work was to provide the Co-op with information about the potential for rationalising the jars used for food consumables, with a view to using more efficient (weight to volume of contents) jars.

There are many logistical difficulties associated with such changes. Factors to be considered include: i) whether the packer/filler can obtain the alternative jar in appropriate quantities at an appropriate cost; ii) whether the packer/filler is packing/filling the same product for other customers, and whether they would welcome the change (otherwise two production 'runs' would be required); and iii) whether the current production line could cope with the dimensions of the alternative jar.

For reasons such as these, it was not possible at this time to identify specific products that would be switched to more efficient jars. Therefore, a selection of products were identified that would be appropriate candidates (including possible alternative jars). These were tested on the bases that: i) changes may be possible; ii) they would provide useful data on the possible effects of such changes. These products were: i) sandwich spread; ii) sweet pickle; iii) peanut butter and iv) carbonara sauce.

The focus groups were designed to provide insight into general consumer perceptions of and attitudes towards the possible effects of lightweighting a number of Co-op brands currently on the market. In each focus group, researchers gathered information from consumers about how the proposed alternatives compared to their original designs and alternative brands on the market, what shoppers currently purchase and why, and what advantages and disadvantages they perceived when altering the designs. An important element of these focus groups was to pinpoint where the strengths and weaknesses may lie in the modification of the current Co-op designs now and in the near future. This was approached by examining consumers' packaging preferences, and the reasons for those preferences on a product-by-product basis. This information was intended to provide a foundation from which perceptions relating to lightweighting of the products could be explored. Any changes to packaging weight that are noticeable to shoppers may have an effect on their overall opinions of glass. An important goal of this research was to discover for which products lightweighting would be regarded as acceptable, and which would meet with resistance.

### 3.2

#### Method

#### 3.2.1

##### Participants

Data from the Mintel report (Food Retailing UK, November 2005) states that the Co-op attracts secondary 'top up' shoppers as opposed to primary shoppers, who do their main shopping in one superstore. Whilst they may not be in direct competition with the 'big four' (Sainsbury's, Morrison's, Asda and Tesco) it suggests that secondary shoppers are attracted to the small stores on account of convenience, lower prices or treat foods. Findings from the report also imply that the Co-op's customer demographics include a range of social and economical groups.

For this study participants were recruited through advertisements placed in local Co-op stores and or from direct mail (to our consumer panel and university staff). In total 19 participants (14 females and 5 males) took part in these focus groups (mean age 40 years, range 21–71). To provide an appropriately diverse sample, participants were recruited to the following groups:

- aged under 30 who shopped for themselves/ and partner (n=5);
- aged over 30 who shopped for themselves / a partner (n=6); and
- those who shopped for a family (two focus groups, total n=8).

To take part all had to be Co-op shoppers who shopped there more than five times a year and a few times a month. 26% of the sample shopped at the Co-op twice a week, 26% shopped there once a week, 15–16% twice a month, 12% other and the remaining 15% either shopped there daily or once every two weeks. One of the main reasons given for shopping at the Co-op was that it was convenient. This was mentioned by 15 participants. However, its fair trade and ethical policies were also mentioned. Each participant received £15 for the 90-minute session.

### 3.2.2

#### Materials (products included in the focus groups)

Four product types were tested. For each product type the current Co-op jar and an alternative, more efficient jar were used. In addition, a selection of other brand containers in each product category was presented to provide participants with broader reference points and to stimulate within-category comparisons.

Pickle: Branston's jar (360g); Branston's squeezy (410g); Heinz pickle (280g); Co-op original jar (310g); Co-op alternative jar (see Figure 3).

Sandwich spread: Heinz sandwich spread (270g); Heinz toppers (128g); Shipham's chicken spread (35g); Co-op chicken paste (75g); Co-op original jar (279g); Co-op alternative jar (see Figure 4).

Peanut Butter: Sun Pat (340g); Whole Earth (227g); Co-op original jar (340g); Co-op alternative jar (see Figure 5).

Pasta sauce: Napolina (325g); Lloyd Grossman (400g); Co-op finest spinach and ricotta (340g); Co-op original jar (280g); Co-op alternative jar (see Figure 6).

Consistent with a process of container rationalisation, for three of the products tested (pickle, sandwich spread, and pasta sauce) the same alternative jar was used.

### 3.2.3

#### Procedure

All of the focus groups were conducted in the PoD Laboratory at the Institute of Psychological Sciences, University of Leeds. At the beginning of each session participants were given an overview of the nature of the session and asked to provide informed consent (as per BPS ethical guidelines) including permission for recording of the session. All focus groups were video- or tape-recorded for later analysis.

Participants initially completed a series of ratings on each of the products, viewing alternative and current Co-op designs. The Co-op products were presented alongside their main shelf competitors to recreate a supermarket shelf scenario. Viewing orders for each of the alternative were manipulated and counterbalanced.

Participants responded to the following items using a seven-point scale:

- The overall amount of [product] in this jar is less (1) – more (7) than I would usually want to buy;
- At £[amount], this jar of [product] represents good value for money;
- I think this jar of [product] is of high quality;
- If I wanted some [product] I would be happy to purchase this particular jar; and
- For [product] the shape of this jar is not typical (1) – typical (7).

After giving individual ratings of the Co-op containers participants were also asked to complete two rating scales while viewing the current and alternative designs for each of the products side by side:

- Which of these jars looks more like a Co-op product? and
- Which of these jars do you prefer?

Following ratings the focus group discussion began. Participants were shown each product category alongside its competitors. A semi-structured format was used to ask participants about their purchase habits for each of the products and their opinions on the current and alternative designs, both individually and in comparison with other products in the marketplace.



Figure 2

Current and alternative Co-op jars for pickle



Figure 3

Current and alternative Co-op jars for sandwich spread



Figure 4

Current and alternative Co-op jars for peanut butter

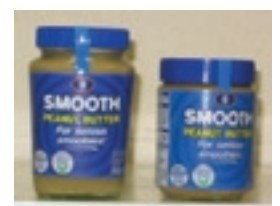


Figure 5

Current and alternative Co-op jars for pasta sauce (carbonara)

### 3.3 Results

#### 3.3.1 Ratings

To provide sufficient participant numbers for statistical analyses, tests were limited to: i) 'non-family shoppers'; ii) 'family shoppers'; and iii) the full sample. A series of Wilcoxon's tests were performed. Few differences between ratings for the current Co-op jar designs and the proposed alternatives could be considered statistically reliable.

For 'non-family shoppers' the only reliable differences between ratings for the current and the alternative Co-op jars were such that the participants thought they would be happier to purchase the sandwich spread in the alternative container (5.09 versus 4.09). For peanut butter, they thought that the current jar offers better value than the alternative jar (4.09 versus 3.64). For pasta sauce they thought that the shape of the current jar was more typical for the product than the alternative design (5.18 versus 4.36).

For 'family shoppers' the only significant difference was for pasta sauce, with participants being relatively more emphatic that they perceived the current jar would provide less than they would usually want to buy (2.13 versus 2.87).

For the full sample, the only statistically significant differences were between ratings for the current and alternative peanut butter containers. The current peanut butter jar was rated as offering better value than the alternative jar (4.63 versus 3.89) and as being more typical for the product than the alternative jar (5.32 versus 4.37).

The fact that there were few reliable differences may simply indicate that participants did not identify substantial differences between the two designs. However, it may also be a reflection on the rather small sample of participants for this type of statistical analysis, combined with the variability in participants' responses.

When considering the final questions asking for direct comparisons, results are presented in descriptive form (no inferential statistical tests were applied). Participant ratings were rather neutral with regard to which of the jar designs looked more like a Co-op product (see Figure 7).

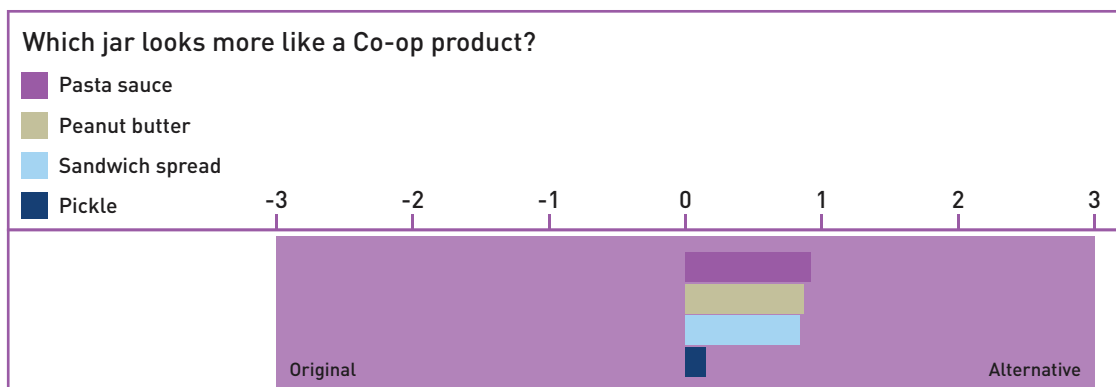


Figure 7

When considering preferences for the original design or the alternative design, there was a tendency for participants to prefer the original designs. This was more evident for peanut butter and, to a lesser extent, pasta sauce (see Figure 8).



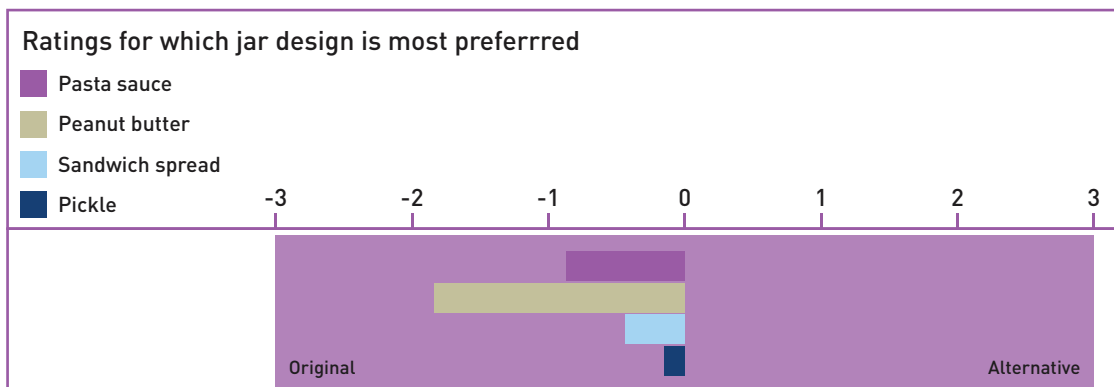


Figure 8

### 3.3.2

#### Focus group discussions

Initially, in this section, a group by product summary of comments is provided. Following this, some overall conclusions are drawn.

#### 3.3.2.1

##### Non-family shoppers FG1 aged under 30 years

#### Pickle

Two out of the five respondents were pickle purchasers.

**Associations and supermarket decisions:** When asked what brand of pickle they would look at and buy on the shelf, most stated that they would look and probably choose the Branston brand. Branston was considered a good brand of pickle that most people bought on account of its brand familiarity. It was viewed as a striking and a clear design that stood out easily. Respondents also reported that it had a better quality taste in comparison to its competitors and enjoyed being able to view easily the contents of the product. The Co-op brand as a whole was not considered as easily identifiable in comparison to the Branston brand.

**Alternative versus original designs:** Of those who favoured the original (current) jar this was because it was perceived to contain a greater amount of product (it was taller). The shorter, alternative design was associated with a generic jar that could be used for any type of product. It was also considered to be a more traditional, squat jar and as something that would look attractive on the kitchen shelf.

**Label:** Participants did not view the Co-op label favourably. It was associated with piccalilli; they did not like the colour and thought the design looked dull. They particularly disliked the strip design that went all the way around the jar, feeling it was unoriginal, and thought that an improvement in the lid colour could make the design more pleasing.

**Practicality:** The lids of the jars were viewed as difficult to open and Branston pickle was thought of as more practical in relation to the ease with which the pickle could be scooped out of the jar.

#### Sandwich spread

Not many people regularly purchased sandwich spread. The individual who did bought it fresh from the refrigerated section as opposed to buying it out of a jar or a can.

**Co-op versus alternative products:** The Co-op designs were viewed as not as intricate as the main brands. Some felt that Heinz brands looked babyish whereas the Co-op one looked a bit more adult. Again as with the pickle they expressed a dislike for being unable to view the contents of the tinned sandwich spreads, and nutrition was also an issue in some cases.

**Co-op label:** Most did not have an aversion to the sandwich spread label, describing it as better than the pickle label. The green colouring was a favoured feature and was associated with a nice sandwich.

**Original versus alternative design:** There were mixed opinions on the original and alternative designs. The alternative design was viewed as easier to use, something that would fit nicely in the fridge and would be practical in terms of getting the contents out of the jar. One or two respondents believed that the original jar had more product in it.

#### **Peanut butter**

Two out of the five consumers in this group bought peanut butter spread and out of the two, one reported that they bought the Co-op brand.

**Supermarket decisions:** In terms of what the shoppers tended to buy, the main brand, Sun Pat, was the potential main competitor to the Co-op. The person who bought the Co-op brand did so on the basis that they felt it tasted the same as the Sun Pat brand but was cheaper. The lid feature on the Sun Pat brand and other main brands was particularly favoured in that it was felt to be novel and different. In comparison the Co-op lid was described as average, although not everyone in the group was in agreement over the extent to which this influenced their purchases. Packaging of the peanut butter was one possible influencing factor and on this issue the view was that the Co-op packaging looked cheap.

**Original versus alternative designs:** The original jar was considered by most as more attractive on account of the shape (which gave the appearance of containing more), being able to see the product and it was generally viewed as better value for money. Participants felt that the label covered too much surface area on the alternative design making it unappealing because the contents could not be seen easily. Only one person preferred the alternative design, stating that there were practical issues with the original jar (more difficult to access contents with a knife) and that the alternative one looked better aesthetically.

**Label:** The amount of blue colour of the label was felt to be too much. Some said if the label on the smaller design fitted it better and was altered in shape that it might affect whether or not they bought it.

#### **Pasta sauce**

**Supermarket decisions:** The majority in the group who purchased pasta sauces said they tended to stand in front of the shelves and deliberate on what product they were likely to purchase. Some were influenced by price or special offers whilst others chose main brands, feeling that quality and taste was more important than getting a cheaper product that they believed wouldn't taste as nice.

**Appearance of Co-op product:** The contents of the pasta sauce were associated with a bland appearance that looked unappealing and that most people would be unlikely to buy. However the Co-op spinach and ricotta brand was favoured by most on account of the appearance of the product (as viewed in the jar) being considered tasty.

**Original versus alternative design:** The majority of participants preferred the original design on account of its appearance, shape, typicality for the pasta sauce category and the fact that it would look better in the fridge. Only one person favoured the alternative pasta sauce design because they did not like the hourglass shape of the taller design. Opinions were mixed on the sizes of the pasta jar; some thought the taller jar would have too much sauce leading to it being wasted and thrown away. Others thought that a bigger size was practical for when friends came round, or it could be saved and stored. One individual felt the Co-op designs were too small and that they would not have enough in a portion.

**Label:** Opinions were divided on the label design of the Co-op pasta sauce. One person thought it looked attractive whilst another thought it looked dull, unprofessional and wasn't very striking.

**Other:** Overall the group felt that the way the strip label went around the jar could be improved. They also pointed out that the pasta sauce and sandwich spread labels looked quite similar and that it might be easier to mistake the two products if they were all assigned to the generic jar shape. Opinion was split as to whether the jars should all be the same shape. One person felt that the same shape fitted a positive pattern whilst others thought they would appear boring being all the same size. Most participants stated that being made aware of the benefits of the lightweight jar would make them more inclined to purchase it.

### 3.3.2.2

#### Non-family shoppers aged over 30 years

##### Pickles

Five out of the six participants in this group purchased pickle.

**Associations and supermarket decisions:** When deciding what pickle to buy, some of the group members said they were swayed by special offers in store whilst others reported that they purchased Branston and a select few bought own-branded items. Size was a determinant for those who lived on their own; they favoured the smaller size jars on account of portions required. One or two reported that ingredients influenced their decisions at the supermarket shelf and that they checked products for their ingredients. One respondent favoured 'stockier' designs on account of having arthritis and finding it easier to grip or hold a smaller shaped jar. The squeazy pickle jars were linked with convenience, safety (no potential glass breakage) and grip. In contrast some stated the bottle was impractical as it was hard to control the amount of product coming out of the bottle and that they wouldn't repeat buy on account of the fact the contents went all over the worktop.

**Original versus alternative design:** As with the previous focus group there were mixed views on the Co-op designs. The smaller one was considered more practical for required amount of use, holding, getting a knife or spoon into it and fitting it into the fridge. But the taller jar was closely associated with a pickle jar and considered to be more natural. Most thought it maybe wouldn't be enough for a family sized product if a family were to buy it. Participants thought that the original jar looked more like a pickle jar

##### Sandwich spread

Three of the six participants bought sandwich spread.

**Associations and supermarket decisions:** Respondents said that they were aware of ingredients and health aspects when determining what brand of sandwich spread they purchased. The Heinz brand was a strong preference for some, who would choose it because it was considered superior on taste and quality. Others did not have a specific brand they would choose and tended to pick whatever was there.

**Label:** The majority of the group did not like the label, stating that it was difficult to read, didn't stand out and was 'fussy'. They felt it could be improved by having a more streamlined effect, possibly with gold and black to reduce its cheap appearance.

**Original versus alternative design:** There was no overall agreement on the two Co-op designs. The smaller one was thought to be good in practicality and portion size. Others preferred the taller one but admitted that the smaller one would be better for practicality. Those who mainly preferred the taller design suggested it looked more pleasing but were not necessarily able to give concrete reasons for their preference.

##### Peanut butter

Three out of the six participants purchased peanut butter spread.

**Associations:** Those who did not purchase peanut butter associated it with the war or Camp America.

**Supermarket decisions:** Of those who purchased peanut butter, half said that they would check out the different brands when looking at the supermarket shelves, whilst the other half said that they purchased the whole earth or organic brands. One or two bought Sun Pat, but some expressed a dislike for it on account of it being oily.

**Label:** The label was not popular amongst the group with people stating that it looked horrible, had garish primary colours and the blue shade was associated with cheapness. Respondents said the reds, browns and muted colours of the labels and lids of the whole earth brand were more pleasing and represented a more natural organic brand of peanut butter.

**Original versus alternative design:** Those who favoured the small jar said it looked lighter and was a better size in terms of use. Those who favoured the taller one did so because of familiarity with current peanut butter designs, thought the label looked better and also because it had the right amount in terms of use.

### **Pasta sauce**

All participants in this group bought pasta sauce

**Supermarket decisions:** Respondents reported that Italian names were a large factor in what pasta brand was purchased. Ingredients and health aspects were also considered. Some of the shoppers reported a tendency to scan the shelves and would have a look at the Co-op ingredients and might give it a try. Most respondents liked the Co-op spinach and ricotta brand as they thought it looked good and expensive, likening it to Sainsbury's finest label. They particularly liked the appearance of the contents, the chunks and herbs, and thought that it looked a nice natural colour.

**Associations:** With other Co-op products the appearance of the sauce was not thought of as appealing; respondents felt that it looked largely egg based and lacking in other ingredients. One respondent felt that it was trying to be like the Napolina brand but was not successfully doing so.

**Original versus alternative design:** Three respondents favoured the tall design whilst three favoured the smaller design, although in some cases preference for either was marginal. The original design was described as having a better shape, being more graceful, and more eye-catching. In comparison the alternative design was considered to be a more ordinary shape. For those who lived alone the smaller design was more appealing.

### **Other issues**

**Lids:** Lids were an issue for some of the participants. If the lid was too tight it could hurt the hand and is difficult to open.

**Labels:** Respondents felt they would be more accepting of the shape of the designs if the labels were improved. The labels were described as quite fussy and old-fashioned, doing little to promote the brand.

**Appearance of jars:** They suggested a possible benefit of having generic jars would allow for them to be easily recognised as the Co-op brands. However, there was also the concern that if they were all made too uniform they might not stand out on the shelves.

#### **3.3.2.3**

### **Family shoppers: Group 1**

Two out of the four shoppers in this group reported that they purchased pickle in the supermarket.

### **Pickle**

**Supermarket decisions:** Most purchased main brands such as Branston's pickle or Heinz. Reasons for selecting Branston were brand familiarity, good price, nice taste and trust in the brand. Heinz was selected on account of its packaging and the perception that it was healthier than its counterparts. Branston's pickle was associated with children, whilst the taller Co-op brand was thought to be more elegant. Inevitably when faced with a choice of pickle on the shelves something with 'homemade' feel was appealing.

**Practicality:** Family shoppers viewed the Branston squeeze tube as quite practical, easy to open and get out. Glass wasn't viewed as practical on account of its potential for breakage, its heaviness and the problem of having to take it to be recycled.

**Original versus alternative design:** As with previous findings, there was a variety of opinions on the two jar designs. Some liked the taller design because it was associated with quality, elegance, looked classy and looked less cheap and nasty. Others felt the taller design was too tall, that the shorter one fitted the category well in that it was similar to the Heinz shape and allowed easy access for a spoon or knife. One person even thought the smaller design contained a greater amount of pickle.

**Label:** The Heinz label was viewed favourably on account of its traditional green colours. In contrast the yellow label of the Co-op jar was not popular with respondents, who described it as cheap. They found the presence of a turnip unappetising and thought it would be off putting to children.

**Lids:** The squeezey lid of the Branston pickle was popular in that respondents thought it looked easy to open and that children could use it easily. The thick red lid on the glass jar was also favoured on account of its novelty. In contrast most viewed the Co-op lid as difficult to remove.

**Co-op versus alternatives:** Heinz appeared to the groups to be a strong favourite on account of its traditional appearance and colours. In contrast the presence of the turnip on the Co-op label was viewed with distaste and it was viewed as cheap and nasty. One person pointed out that it was useful to have the health angle of the vegetables on the label, but its appearance seemed to cancel out this positive connotation.

### **Sandwich spread**

**Supermarket decisions:** The majority of respondents went for a main brand of sandwich spread, favouring it on quality and taste, with most indicating a preference for a main brand over a supermarket's own.

**Colour and contents:** Heinz was referred to as a distinctive jar that could be easily recognised with or without the labels, and the colour and consistency of the spread was preferred. Although some thought that Co-op might have less artificial flavouring and colourings its packaging appearance was not enough to attract them to switch products. The contents of the Co-op jar were viewed in a negative light with comments such as 'Makes me feel sick', 'looks like sick in a jar', 'looks like baby sick' 'wouldn't use to clean the bathroom', 'toxic', 'spread looks thin and runny', 'can't visualise it in my fridge'.

**Co-op brand identity:** Respondents believed there was no clear Co-op identity across the products that had been shown and that the visual identity of the Co-op was not apparent. The Co-op sign/logo on the packaging was deemed too small and lacked brand clarity.

**Label:** Participants did not have high regard for the label, but felt that it was an improvement on the sandwich pickle label. They described it as mediocre, boring, poor marketing and that it was difficult to tell what the picture of the sandwich was. In contrast the Heinz label was considered to be a more effective example of good marketing.

**Original versus alternative design:** The majority of participants were happy with the alternative jar on account of the ease with which a knife could be used when spreading the spread and on account of it being the right size that would fit nicely in the fridge.

**Appearance:** Heinz was viewed as good on appearance on account of the chunky vegetable pieces it was associated with good quality ingredients. In contrast the Co-op was perceived as being watery and unattractive, runny and thin. Participants were particularly averse to being able to see that the contents did not fill the jar and gaps could be seen between the lid of the jar and the contents.

**Association with Co-op products:** Some of the respondents perceived the Co-op supermarkets' products to be expensive, likened it to Sainsbury's, and did not feel that the packaging fitted in with this concept. One person was shocked by cheapness of the packaging, likening it to a cheap Asda brand. Others associated it with convenience and corner shops where they could go for emergency purchases.

### **Peanut butter**

**Supermarket decisions:** Of the three shoppers who purchased peanut butter, attitudes were mixed with regards to what type of peanut butter the shoppers bought. Some would only buy main brands, some purely wanted ones that were healthy and others said that they buy own-brands.

**Associations:** Views varied with regard to the type of jar people associated with peanut butter. Most felt that the taller design was a typical peanut butter jar shape. One person linked the smaller jar to a specialised American peanut butter that was more expensive. Label colour was not associated with peanut butter as one or two felt that it should have been brown.

**Label:** Whilst the original design was viewed as favourable, there were a few negative responses to the label and the tag. It was considered to be garish, plain, not natural, artificial and the wrong colour. The writing was perceived as child like and possibly less sophisticated than the whole earth brand. A brown or deep red label was preferable.

**Security tag:** The security broken seal tabs were viewed as cheap and nasty and time-consuming to remove. Some respondents didn't like the idea of the tag flapping around once opened. It was also perceived as a little unnecessary in that they thought there would be a foil cover in the jar anyway.

**Original versus alternative design:** Overall there was a preference for the taller designed jar on account of its shape and perceived shape associations with peanut butter.

### **Pasta sauce**

**Supermarket decisions and associations:** Those who purchased pasta sauce brands said they preferred authentic Italian brands. Respondents were keen to have a sauce with Italian/links origins and that looked homemade. There was quite a large preference for the Napolina, which was associated with Italy and vibrant colours. The darker black label was also felt to be quite stark and striking. The Co-op pasta sauce was associated with a high price by some whilst others stated that they would expect it to be half the price of the main brands.

**Contents and appearance of Co-op:** People thought that the contents did not look appealing stating the pasta sauce looked like white sauce or baby sick. The majority of respondents preferred the Napolina brand or liked the Co-op finest brand on the basis of its shape and colour and its better quality image.

**Label:** There were a number of negative comments about the pasta sauce label for the Co-op brand, with people stating that it had an artificial look, the writing was hard to read and that the recipe idea looked unappetising and unhealthy. They felt incorporating a racing green colour into the design and possibly adding appetising food recipes or vegetables to the label as a cooking suggestion could improve it.

**Size:** Size of both jars was an issue for the family shoppers who felt that the serving would be too small and looked like it would only feed one to two people at the most.

**Original versus alternative design:** The taller design was favoured overall on account of its size and that it looked like the sauce would pour out into a pan easily when used in cooking. The shorter jar was considered to be better for scraping the remaining contents out of the jar but many thought it was simply too small.

**Other comments:** Most felt that a standard jar would be quite boring and people tended to like the variation in jar size. However they did stipulate if they were told about benefits of lightweighting they would be more encouraged to buy it, and thought it would need to be publicised. One participant said that they had been prompted to purchase Sainsbury's Easter eggs on account of their in-store promotion on reducing packaging. They suggested this type of promotion could be used as a means to attract new customers. Generic jars were also considered to be different from the norm and didn't carry great associations. There was the connotation that products in the generic shape and height represented a lack of creativity but some didn't feel that they would necessarily recognise unity in the height until they returned home with their shopping.

#### **3.3.2.4**

### **Family shoppers: Group 2**

#### **Sandwich pickle**

One of the four respondents purchased pickle and their main choice was Branston's pickle on account of its taste and its prominence as a brand leader in the market.

**Supermarket decisions/Associations:** Participants associated the original jar design with a pickle jar stating that was the type of shape they expected pickle to come in. Participants did not like the idea of using a squeeze bottle for pickle and felt the Co-op would be wiser to stick with a jar.

**Appearance and Co-op label:** The appearance of the Co-op design was perceived as cheaper and inferior in comparison to the other pickles, which they classed as brand leaders. Participants thought that the Branston label was superior in comparison to the Co-op own label and that the Co-op label looked old-fashioned, outdated and budget price.

**Original versus alternative designs:** There was a preference for the taller design on account of it being taller and more trendily shaped whereas the smaller one was considered old-fashioned and associated with a jam jar.

### **Sandwich spread**

**Supermarket decisions/Associations:** Only one respondent indicated that they purchased sandwich spread, always selecting the Heinz brand due to a strong preference for the brand. Heinz was deemed instantly recognisable and they liked the features such as the indentations around the body of the jar and the lid design. The Co-op design carried old-fashioned associations for the group. They also commented on the fact that the Co-op brand as a whole didn't seem to have a clear, recognisable identity.

**Product appearance:** In comparison to Heinz the Co-op designs did not fare very well. The Heinz brand was considered to be more appealing whereas they felt again that the Co-op brand was old-fashioned and did not like the appearance of the contents, which they felt had a grey tint to it.

**Original versus alternative designs:** Consistently with other findings opinions were divided on preference for the original Co-op designs or the alternative. Some thought that the original design was more suitable in that it looked more modern in comparison to the alternative jar. Others felt there was no great difference between the two.

### **Peanut butter**

Two respondents reported that they bought peanut butter spread.

**Supermarket decisions:** Those who purchased peanut butter reported that their choices were usually based on brand name (preferring the major brands) and health aspects (eg, looking for a product that was low in fat).

**Associations, colour and label:** Participants felt that the Co-op branding did not look wholesome. They disliked the wording 'for serious smoothees', which they did not find amusing; although they did recognise that blue coloured labels have associations with (smooth) peanut butter, they did not like this colour (they felt that it did not look wholesome); they did not like the font that was used on the label; and they did not like the security tag that was placed over the lid – partly because the colour did not match the label, and partly because they would prefer an inner foil lid. Participants associated the original peanut butter jar with a more modern type of peanut butter. They also stated that the original jar was a more familiar and typical design for a peanut butter container.

**Original versus alternative design:** The majority of respondents favoured the taller peanut butter design (3 to 1). Reasons for this preference were because it was viewed as a more typical modern shape, it was familiar as most peanut butters were in the same type of packaging and it was perceived to have more peanut butter in it. The only advantage to the smaller jar was that it was seen as a more practical design when using a knife to scrape the peanut butter out of the jar.

### **Pasta sauce**

**Supermarket decisions:** Of the three people who claimed they bought pasta sauce, most said that they would look around and see what was on the shelves and would not necessarily have made their mind up on a particular brand prior to viewing the shelves.

**Product appearance:** Participants liked the look of the Co-op spinach and ricotta, which they felt had a modern look.

**Label:** Participants thought the label of the alternative designs could be improved by being made to look more appealing, modern and with more of a special appeal. They particularly liked the features on the Co-op spinach and ricotta brand as they felt it looked modern, attractive and expensive.

**Original versus alternative designs:** The original design was favoured by most because it looked as if it would be easy to pour the contents out of the jar, looked easy to use and looked less old-fashioned than the smaller jar. It was also likened to the sandwich spread designs, with some respondents thinking that it looked very similar. One person commented that when the alternative jar was used it looked like a bland basic jam jar that suggested not a lot of care had been taken with the product. Whereas a well designed attractively packaged product gave them the impression that the contents would taste good.

**Other comments:** One of the main features that participants thought could be improved with the Co-op products was the label designs. They thought it would be possible to be more creative with them. Participants did not like the lower case writing on the labels but liked the clear nutritional information and vegetarian information on all of the Co-op products. As with previous groups some participants also stressed the need for a brand identity. Having been informed about the lightweighting of the jars, some participants said they thought the purpose of the study had been to switch from a smaller jar in to a taller jar and that they were not in favour of doing the reverse. However, they did say that if they were aware of the rationale behind it they would support it but the new designs might require a large publicity push and promotions.

### 3.4

## Conclusions

#### 3.4.1

### Original versus alternative Co-op jar designs

The results of the focus group discussions indicated substantial inter-consumer variability in preference for jar designs. This is perhaps consistent with the fact that only a few of the differences between ratings obtained for the original and alternative containers were statistically reliable. However, it does seem that some product-dependent differences exist, and that there are sufficient consistencies for some generalisations to be tentatively ventured. The original jar designs (which were always taller than the alternative design jars) tended to be considered more elegant, more aesthetically pleasing, and were perceived by some participants to contain a greater quantity of the product. This perceived greater quantity of contents was thought by some participants, notably those who shop for a family as opposed to just for themselves, to be a positive attribute. However, for some products (e.g. sandwich spread) and some participants (those who only shop for themselves) the perceived greater quantity was considered to be more than they would want to purchase at one time. Surprisingly, given this pattern of comments in focus group discussions, the 'family shoppers' rated the current pasta sauce jar more severely with respect to containing less of the product than they would want than they did the alternative container. This latter result is difficult to explain. Also running counter to this, and supporting the results of the focus group discussions, ratings for value were greater for the current peanut butter container.

For some products the original jars were considered more typical, and were often preferred for that reason (pasta sauce, peanut butter and pickle). Differences in ratings support this for the pasta sauce container (for the 'non-family shoppers') and the peanut butter container (for the full sample). In contrast, the alternative jars tended to be regarded as more aesthetically plain, sometimes being compared to jam jars. Participants often stated that they thought the alternative design (generally not including the alternative peanut butter jar) were also more practical. Participants frequently referred to increased ease of accessing the contents of the alternative jars with a knife/spoon, the ease with which these shorter, squatter jars could be opened, and the increased convenience for storing in the fridge. However, it should be noted that taller and somewhat narrower jars (i.e. the original design) were regarded as more practical when pouring of contents was required (as in the case of the pasta sauce).



From the results of these focus groups, it would seem that any process of rationalising jars will need to be considered on a case-by-case basis. Consumer testing will be required and it will be important for this to take account of certain key characteristics of the product. Important factors in consumer acceptance of revised designs are:

- The extent to which 'strongly' shaped jars are typical for the product category. 'Strong' shaping will tend to make rationalisation (changing to a plainer design) less acceptable. The rationalised jar will appear plain in comparison to competitor products. Related to this, the importance the consumers attach to the aesthetics of the jar will tend to be greater for products that will be 'on display' in the kitchen or the dining room.
- Whether the contents of the jar will be scraped out or poured out. If the contents will be accessed with a knife or a spoon over a prolonged period (as opposed to poured out and used in one go) then the rationalised jar (a shorter jar with a larger opening) may be considered more practical. It is important that this issue (being able to scrape the contents of a jar out with a knife or a spoon) is not ignored when considering the potential for reducing the weight, and therefore possibly the thickness, of glass containers.
- The quantity of product required by the consumer. For consumers who only shop for themselves the perceived reduced quantity of contents may be considered advantageous. For consumers who shop for a family this was not the case. Although it was not identified in this study, differences in the perceived volume of contents are likely to have an impact on perceived value. If shorter jars are perceived to contain less of the product they may also be perceived to offer poorer value. Ratings for the peanut butter containers were consistent with this position. However, as noted above, results for the ratings obtained for the pasta sauce container did appear contrary.
- The importance attached to ease of opening. Some consumer groups – particularly older consumers – emphasised the importance of this attribute. In the case of the jars considered for this study, consumers tended to perceive the 'rationalised' jar as being easier to open. When this was, in fact, the case would depend on a number of factors (eg, height of lid) and would need to be the subject of separate testing.

In the context of the current set of products, it is suggested that altering the design of the peanut butter jar and possibly pasta sauce may have negative effects on consumer perceptions. The effects of changing the designs of the sandwich spread and pickle jars are less obvious, but it would seem that the alternative designs for these products may be acceptable to consumers.

#### 3.4.2

##### **Some marketing issues**

Although not addressed in these focus groups, before making changes to jar designs, it would seem important to consider how well each product is performing in the marketplace. A change of identity may be beneficial for a product that is performing poorly, but may have negative consequences for a product that is performing particularly well.

Participants were very supportive of the concept of reducing glass waste. They tended to identify the Co-op as an ethical brand that is concerned with fair trade. Consequently, the association with waste reduction seemed appropriate to them. On this basis, it was felt that advertising the environmental advantages of glass waste reduction would be a major encouragement for consumers to purchase 'rationalised' jar designs.

Some of the focus groups expressed a view that the Co-op would benefit from stronger generic branding/visual identity for its products. Although the Co-op logo is present on Co-op products, it is not very noticeable, and there are substantial variations in other aspects of label design. Potentially related to this, there was a good deal of agreement, and some strongly held opinions, among the consumers tested that the presented Co-op labels could be substantially improved. Many features were disliked, including: colour, images of food, font, size, shape, and position.

The aesthetic and functional aspects of lid design were identified by consumers as important and often neglected aspects of jar design. Adding more colour to the lids (e.g. having finishes that looked less like plain metal) would make them more attractive. There is scope in designing the shape of the lid to add interest to a container design that might have become more plain in the process of 'rationalisation' and glass weight reduction. Making lids easier to open was also regarded as important, particularly by older participants.

Some of the focus groups praised the clear nutritional information and vegetarian symbols on the back of the label. Health issues were generally of more concern to the older group. Family shoppers were also very conscious about the need to purchase products that had nutritious and healthy ingredients for their children whilst older non-family shoppers seemed to be more conscious of the ingredients in terms of the amount of fat in the products. Potentially related to differing emphasis on health-related issues, inter-consumer differences in preferences for label designs could be identified. For some products, such as the peanut butter, the younger age groups tended to have a preference for brighter coloured packaging. In contrast older age groups expressed a dislike for this type of packaging preferring more neutral colours and packaging such as those used by the 'Whole Earth' peanut butter.

#### 3.4.3

#### **Some limitations**

Finally, some limitations of the study reported here should be considered. First, it is possible that the obvious and unavoidable focus on jar shape during the focus group sessions may have led participants to give a stronger response to such differences than would be encountered in normal shopping situations. For this reason it is possible that these results overestimate the effects of the differences in jar design on consumer perceptions and potential purchase behaviour. However, counter to this, it should be noted that these results are based on a relatively small sample of participants. It is, of course, possible that differences that are meaningful in the context of high volume sales were not detectable with a sample of this size. In this instance, the size of sample was determined by resource constraints. However, prior to proceeding with specific jar design changes it would be worthwhile undertaking a further focused study (examining the specific jars under consideration) using survey methodology or something similar, so that data can be gathered from larger numbers of participants.

**Waste & Resources  
Action Programme**

The Old Academy,  
21 Horse Fair,  
Banbury, Oxon  
OX16 0AH

Tel: 01295 819900  
Fax: 01295 819911  
Email: [retail@wrap.org.uk](mailto:retail@wrap.org.uk)

Helpline freephone  
0808 100 2040

[www.wrap.org.uk/retail](http://www.wrap.org.uk/retail)

