

## Changes in red meat attitudes and behaviours over time

### Introduction

The red meat Nutrition campaign was launched by MLA in February 2002, with the 'Red Meat Feel Good' campaign running from 2002 to 2005 and the 'We Were Meant to Eat It' campaign running from 2006 to present. The campaign was designed to improve consumer's perceptions of red meat and contribute to growth in consumer demand for red meat.

### Approach

Recognising that consumer expenditure on red meat has risen by \$2.7b since 2001, the purpose of this analysis is to assess the extent to which the red meat Nutrition campaign has contributed to this change. To understand the relationships we must be careful not to simply look for a linear relationship between advertising and a battery of attitudinal statements. We are looking for an observed change in attitudes and behaviours and attempt to find a link of causality between these changes and MLA's Nutrition campaign. Advertising is largely a defensive marketing factor it confirms loyalties, nurtures favourable dispositions and reinforces habitual behaviour (Hugh McKay 1983).

MLA has tracked attitudinal and behavioural consumer segments over time the past 12 years which will be used to assess changes in consumer attitudes and behaviour. The following question will be used to assess the changes:

Which of the following statements best describes you? (in connection to red meat)

- I enjoy red meat, it's an important part of my diet – Appreciators segment
- I like red meat well enough. It's a regular part of my diet – Acceptors segment
- I do eat some red meat although truthfully it wouldn't fuss me if I didn't – Resistors segment
- I rarely eat red meat – Rejecters segment

This question combines both attitudes to red meat and behaviour and therefore provides a good indication of consumer attitudes and their propensity to consume red meat over time.

### Data Collection Methodology

Segment data from the consumer tracking is available from May 1996 to May 2008, with a gap from July 1998 to December 2001. There have been a number of changes in the data collection over this period as indicated in figure 1.

Figure 1 – MLA consumer tracking methodology over time

MLA Consumer tracking methodology and sampling frames over time	1996-1998	2002 'Red Meat Feel Good' analysis	2002-2003	2004-2006	2006-2008
Research methodology	Face to Face	Face to Face	Face to Face	CATI	Online
Research agency	Dangar	The Leading Edge	The Leading Edge	The Leading Edge	Millward Brown
Sample size	n=80/fortnight	ad hoc	n=24/week	n=54/week	n=100/week
Cities sampled	Sydney/Melbourne/ Brisbane	Sydney/Melbourne/ Brisbane	Sydney/Melbourne/ Brisbane	Sydney/Melbourne/ Brisbane/Adelaide/ Perth	Sydney/Melbourne/ Brisbane/Adelaide/ Perth
Core sample frame	18-54 Grocery buyers responsible for preparing meals	Mums with kids 5- 17 in household	18-64 Grocery buyers responsible for preparing meals	18-64 Grocery buyers responsible for preparing meals	18-64 Grocery buyers responsible for preparing meals
Other weights/quotas	Unknown	Nationally representative by age, SES, city	Nationally representative for age, SES, city; 75% females*	Nationally representative for age, SES, city; 75% females*	Nationally representative for age, SES, city; 75% females*

The data available is for grocery buyers over the time period except for the period pre and post the Nutrition campaign launch in 2002 where the sample was mums with kids. The mums with kids data was not available for all the periods so the decision to look at the total sample was made. When we look at the differences between mums with kids and the total sample in the same period very little difference is seen. We have this comparison data between June 2004 and June 2005 for the total sample and for mums with kids and the differences between the segments are small. None of the differences between segments across the samples are statistically significant. The differences are outlined in figure 2.

*Figure 2 – Sample differences*

	Total Jul 04 - Jun 05 n=2668 %	Mums with Kids Jul 04 - Jun 05 n=385 %	Difference Jul 04 - Jun 05 %
Appreciators	35%	34%	1%
Acceptors	41%	42%	-1%
Resistors	19%	22%	-3%
Rejectors	5%	4%	1%

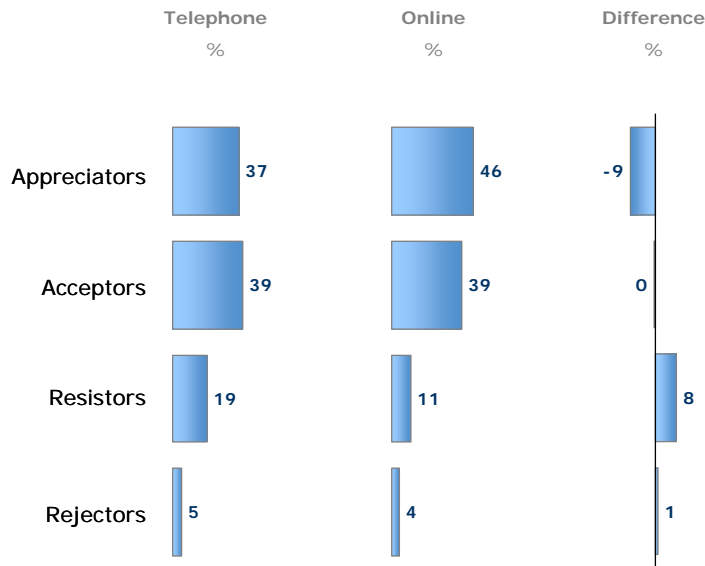
The changes in methodology and differences make it difficult to treat the data as one time series but we can look at changes in the segments over time keeping in mind the changes. That said there has been research into the differences across data collection methodologies which will help to interpret the differences.

Hill and Spencer (2002) conducted a parallel study to compare online ad pre-testing and face to face ad pre-testing to determine if there were any significant differences in responses. As a further point of comparison they examine a parallel CATI (telephone)/online study in a non-ad related field. They found that on key advertising measures there was no significant difference with the face to face and online results.

A parallel study of telephone and online was conducted by Millward Brown when the MLA consumer tracking was moved from telephone to online in July 2006. The parallel study was conducted to determine the differences in responses comparing the telephone and online data collection methodologies.

Figure 3 demonstrates the differences in consumers segments from the parallel study. The Appreciators segment was 9% points higher in the online sample and the Resistors segment is 8% points lower. Indicating that the move online resulted in a net positive effect on the key segments.

Figure 3 – Comparison of segments telephone and online



Telephone total sample (n=321), Online total sample (n=396).

Source: Millward Brown, 2006

There are bound to be some differences in responses when comparing face to face, telephone and online methodologies, though face to face and online results in some studies have been found to be quite similar. Although there is no research that clearly indicates how data can be weighted to account for change in methodology. We do know from the Millward Brown parallel study for the MLA consumer tracking there are clear differences between telephone and online for two of the segments, Appreciators and Resistors.

The MLA consumer tracking online data is less volatile than the telephone data suggesting that the online data is more stable and may be more reliable.

There are some suggestions that face to face data and online data are more comparable and that online data is more stable than telephone data. Caution must of course be used when comparing data across different methodologies. The methodology differences have been kept in mind in the subsequent analysis.

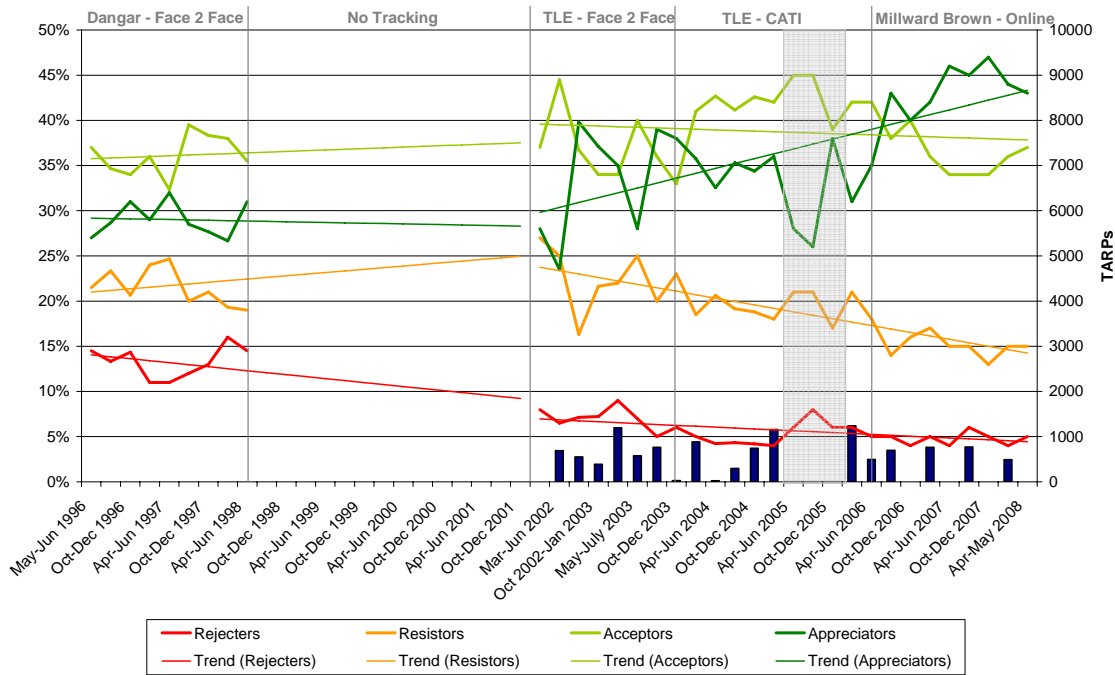
**Attitude and behaviour segment trends**

Historically the MLA consumer tracking of the attitude and behaviour segments was consistently available quarterly. Therefore for the analysis the segment data was aggregated quarterly where possible. Figure 4 demonstrates the pre Nutrition campaign (May 1996 to Feb 2002) and post Nutrition campaign (Mar 2002 to May 2008) trends, this provides insight into how the segments have changed over time. Ideally we would like to see positive shifts in the Appreciator and Acceptor segments after the launch of the Nutrition campaign. This would suggest that people are becoming more predisposed to red meat in both their attitudes and behaviours.

**Trends pre and post Nutrition campaign**

The pre Nutrition campaign trend suggests a slight decrease in Appreciators, a slight increase in Acceptors, a more pronounced increase in Resistors and a more pronounced decrease in Rejecters. The post Nutrition campaign trend shows a significant increase in Appreciators, a slight decline in Acceptors, a significant decline in Resistors and a slight decline Rejecters. Although we can see trends in the data these trends do not take into consideration the changing methodology over time.

Figure 4 – Attitude and behaviour segment trends



The TARPs show when the Nutrition campaign started in Mar 2002 and the advertising over time. Since the Nutrition campaign has been running the largest drop in the Appreciator segment coincides with the period of no advertising between Apr-Dec 2005. Indicating that in the absence of advertising attitudes and behaviours may not be reinforced.

**Trends by methodology**

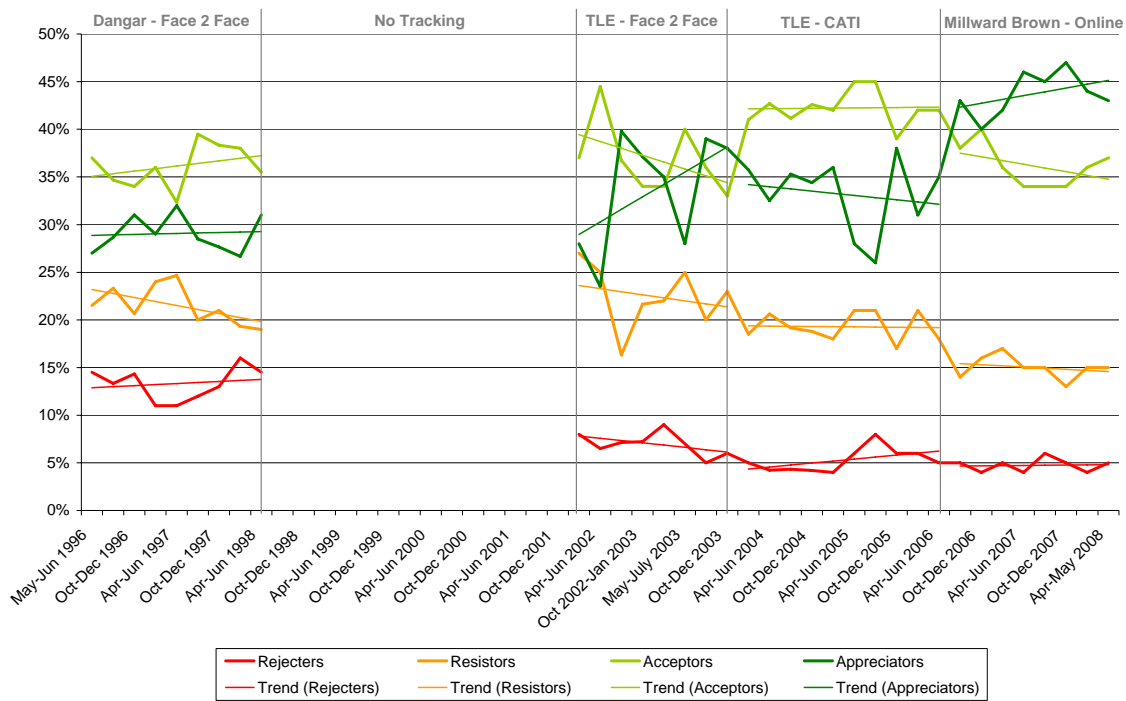
In Figure 5 the trends are broken down by methodology and supplier. In the Dangar face to face period from May 1996 to Jun 1998 the segments are relatively stable with Acceptors seeing a slight increase and Resistors seeing a slight decrease.

The Nutrition campaign was launched in Mar 2002 and the TLE face to face period captures pre and post the campaign launch from Jan 2002 to Dec 2003. The Appreciator segment increases significantly over this period from 28% to 38% which is an increase of 10% points and 36% increase overall. The slope over this period indicates that there is an increase in the Appreciator segment on average of 1.3% each quarter. This increase is also statistically significant at the 95% confidence interval both point to point and for the trend. Over this period all other segments are seen to decline overall by 25% for Rejecters, 15% for Resistors and 11% for Appreciators. The largest decline is seen for Resistors segment over this period.

During the TLE CATI period from Jan 2004 to Jun 2006 there is a slight decrease in Appreciators, Acceptors and Resistors remain stable and a slight increase in Rejecters.

In the Millward Brown online period from Jul 2006 to May 2008 the Appreciator segment increases slightly, Acceptors decrease slightly and both Resistors and Rejecters remain stable.

*Figure 5 – Attitude and behaviour segment trends by methodology*



Overall, the trends by methodology and show a positive increase in the Appreciator segment post the launch of the Nutrition campaign and the Rejecter and Resistor segments are seen to decline over the same time period. The Appreciator segment is higher across all the methodologies post 2002 with an average of 37%, when compared with the 1996-1998 period with an average of 29%. There is a strong increase in the Appreciator segment across all methodologies (maybe excluding CATI where it seems to flatten) and the Appreciator segment is consistently greater than it was pre the Nutrition campaign.

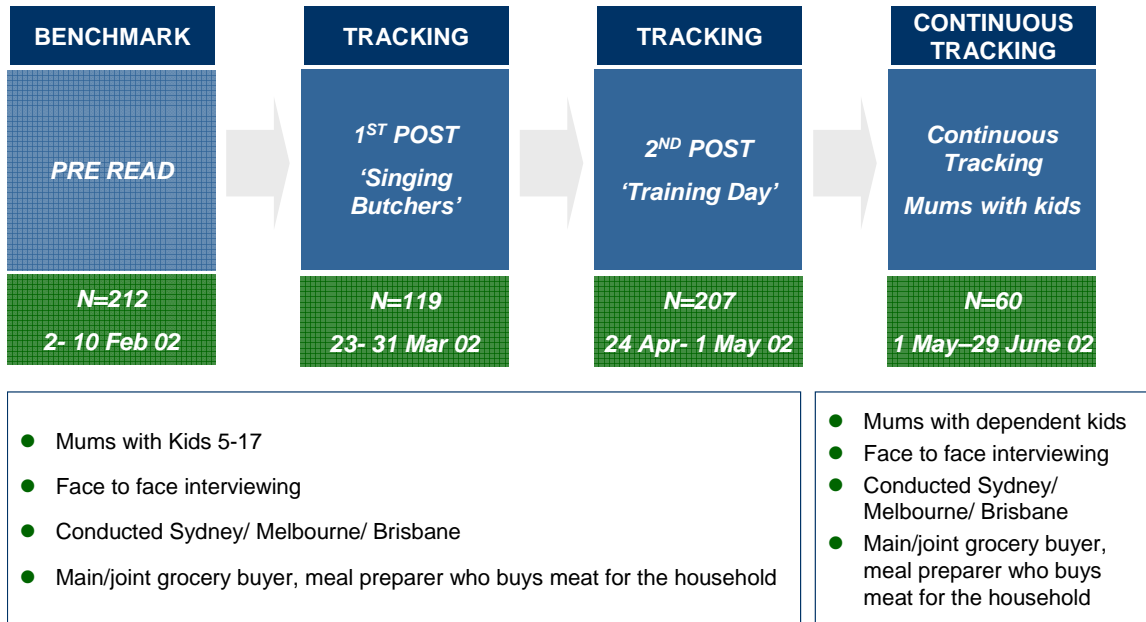
The level of Appreciators pre the Nutrition campaign is 28% which is similar to the level of Appreciators in the 1996 to 1998 period which averages around 29%. The largest increase in the Appreciators segment is seen in the period after the Nutrition campaign launch. This increase is both large and is statistically significant.

**Evidence of causality**

In February 2002 MLA embarked on the first wave of advertising to help redress negative perceptions of red meat with the focus on vitality and well being benefits. Prior to 2002 changing consumer attitudes about the healthiness of red meat have put pressure on red meat consumption (TLE, Aug 2002). Research was conducted in 2002 by TLE to evaluate the impact of the red meat Nutrition campaign in changing consumer attitudes and behaviours.

TLE conducted research into the impact of the red meat Nutrition campaign on consumer attitudes and behaviours. Figure 6 outlines the consumer research and the advertising executions.

Figure 6 – Research design

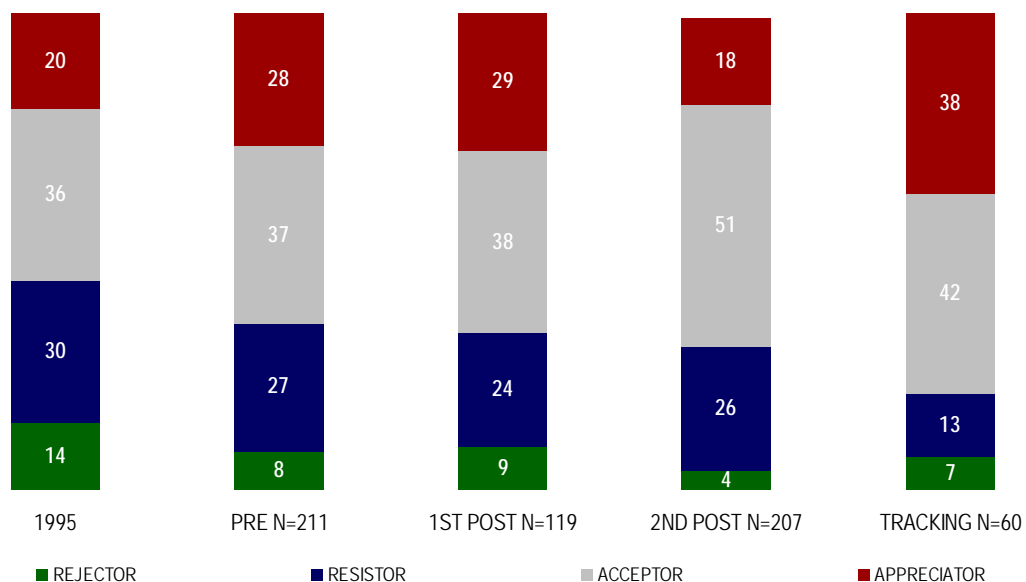


Source: TLE Aug 2002

**Attitude and behaviour segments**

In Figure 7 the changes in the attitude and behaviour segments for the pre Nutrition campaign wave and the post campaign waves are shown.

Figure 7 – Attitude and behaviour segments



Source: TLE Aug 2002

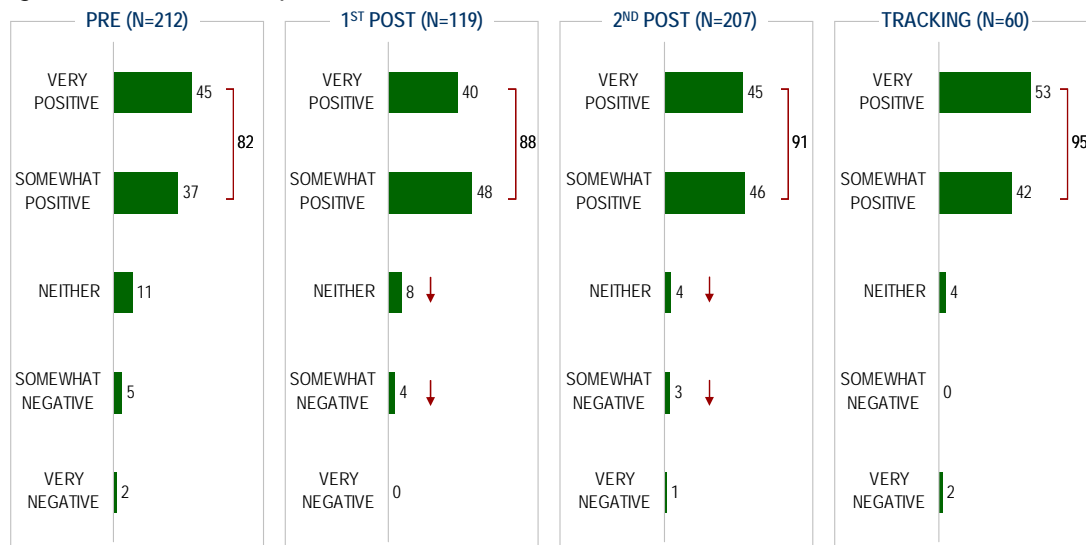
To test the hypothesis that the Appreciators segment has increased from the pre Nutrition wave to the tracking wave a one tailed significance test is used. The increase in the Appreciators segment from 28% to 38% is statistically significant at 90%, even with a small sample size of 60 for the tracking wave. When the Appreciator and Acceptor segments are combined the increase from 65% to 80% is statistically significant at 95%. There is also a statistically significant decline at 95% in the Resistors segment from 27% to 13% from the pre-wave to the tracking wave.

If we also test the differences from the pre-wave to the Jul to Sep quarter (Appreciators 40%, N=287) then Appreciators are statistically significantly higher at 95% in the Jul to Sep quarter compared with the pre-wave.

**Other attitudinal measures**

There has also been a positive increase in a number of other red meat attitudes. Figure 8 demonstrates that positive disposition continues to strengthen over the waves.

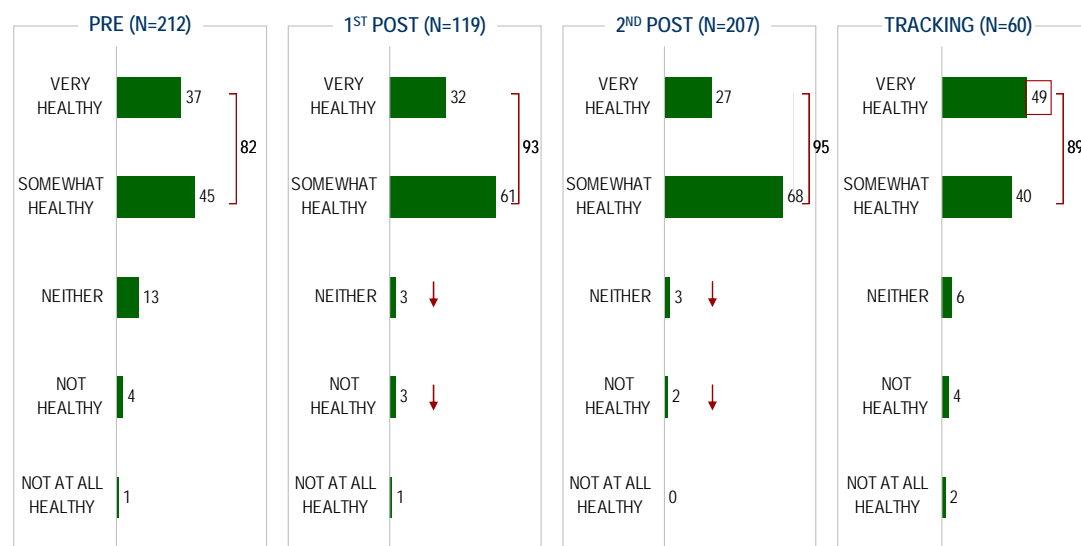
*Figure 8 – Red meat disposition*



Source: TLE Aug 2002

Perceptions of red meat healthiness increase from the pre-wave. Figure 9 shows how very healthy and some what healthy combined significantly increase from the pre-wave and very healthy significantly increases in the tracking wave.

Figure 9 – Red meat healthy



Source: TLE Aug 2002

Figure 10 shows how red meat imagery measures strengthen from the pre-wave to the tracking wave. Most of the imagery measures significantly increase from the pre-wave.

Figure 10 – Imagery

	Pre n=212	1st Post n=119	2nd Post n=207	Tracking n=60
Is essential for vitality and wellbeing	63	69	70	77
Can make healthy meals	59	78	66	76
Is essential part of a healthy diet	58	66	69	68
Is well liked in our household	55	70	66	64
Provides a wide range of vitamins and minerals	53	66	67	76
Something children should eat more frequently	26	40	37	42
Something we should eat more frequently	23	27	46	23
Is well liked by children	23	27	46	40
Can make light meals	15	19	20	15

Source: TLE Aug 2002

There were a number of key KPIs that needed to be achieved to indicate the success of the Nutrition campaign launch success. Figure 11 provides an outline of the changes in the 10 key attitudinal and behavioral KPI measures. The TLE report (Aug, 2002) indicates that 9 out of the 10 KPI's used to measure the success of the campaign were met.

This research helps to prove the success of the red meat Nutrition campaign and how it has been instrumental in changing consumer attitudes and behaviours towards red meat.



Figure 11 – Summary

	PRE %	TARGET %	1 <sup>ST</sup> POST %	2 <sup>ND</sup> POST %	TRACKING %	OUTCOME
<b>DISPOSITION</b>						
Very positive	45	+5	40	45	53	Achieved
<b>ATTITUDES</b>						
Red meat is very healthy	37	+5	32	27	49	Achieved
A good source of Omega 3's	8	+5	24	20	7	✓
Essential part of a healthy diet	58	+2	66	69	68	✓
We should be eating more frequently	23	+2	27	46	23	✓
Children should eat more frequently	26	+2	40	37	42	✓
Provides a wide range of vitamins + minerals	53	+5	66	67	76	✓
Is essential for vitality and well being	63	+5	69	70	77	✓
<b>BEHAVIOUR</b>						
Healthy target is 3-4 red meat meals	57	+5	56	57	53	no change
Actual serving frequency (3+ times a week)	58	+5	60	56	71	Achieved

Source: TLE Aug 2002

### Discounting other factors

The focus of this paper has been on the changes in the attitude and behaviour segments pre and post the launch of the red meat Nutrition campaign. We must also recognise that the changes in the segments could also to some degree be driven by changes in other factors such as price, product quality, innovation and substitutes.

Over the period have examined the real price of red meat has increased which would likely to have the effect of reducing the demand of red meat.

Perceived eating quality has been tracked by MLA from 2000 to 2007. The measure was collected approximately every 2 years at a single point in time, there is no continuous measurement. Perceived eating quality has increased overall since 2000, 38% (2000), 33% (2001), 38% (2003), 42% (2005) and 45% (2007).

The actual red meat product offer has remained largely consistent over the 1996 to 2008 period.

With regards to substitutes Chicken prices have remained stable of the time period and Pork eating quality has increased.

### Summary and conclusions

There has been a significant increase in the Appreciators segment post Nutrition campaign compared with pre Nutrition campaign. This increase is evident both across methodologies and within methodologies with the greatest increase in Appreciators seen after the launch of the Nutrition campaign.

The TLE research demonstrates that the Nutrition campaign has had a significant impact on changing both consumer attitudes and behaviours towards red meat. The changes in the attitudinal and behavioural segments continue well beyond the Nutrition campaign launch.

If we accept that there has been a positive change in the attitude and behaviour segments then the result is a measurable change in propensity to consume red meat. As a consumer moves up

the segment chain, their stated demand levels increase, and this increase in demand can be valued using average serve sizes and \$/kg of red meat.

The calculations in Figure 12 are an attempt to put a value on the increase in red meat demand after the Nutrition campaign launch. The figures are intended as a discussion starter not a definitive answer.

The initial changes in the segments observed in 2002 add an estimated \$104m to the value of the category. If we take the same comparison across to 2007, we see a demand increase worth \$559m. These estimates keep price and population at 2002 levels.

Figure 12 – Estimate of demand impact 2002 prices and population

Segments over time	2002 PRE*	2002 POST**	2007***	Propensity to consume (serves per week)
Appreciator	28%	25%	45%	3.7
Acceptor	37%	46%	34%	3.1
Resistor	27%	23%	15%	2.3
Rejecter	8%	6%	6%	1.4

Impact on demand	2002 PRE	2002 POST	2007
Estimated total serves/ week +	57,337,308	58,185,070	61,899,124
Estimated total serves/ year	2,981,540,016	3,025,623,643	3,218,754,448
Estimated consumption (at 0.190g per serve++)/kgs	566,492,603	574,868,492	611,563,345
Estimated value (at Retail price/kg)+++	\$7,024,508,278	\$7,128,369,302	\$7,583,385,479
Actual value ++++		\$7,156,780,000	\$9,034,990,000
<b>Total demand impact (compared with PRE 2002)</b>	<b>\$0</b>	<b>\$103,861,025</b>	<b>\$558,877,202</b>
<b>\$ per capita</b>	<b>\$357.24</b>	<b>\$362.53</b>	<b>\$385.67</b>
<b>Total demand impact (compared with PRE 2002) - 50% weight</b>	<b>\$0</b>	<b>\$51 930 512</b>	<b>\$279 438 601</b>
<b>\$ per capita - 50% weight</b>	<b>\$173.62</b>	<b>\$182.27</b>	<b>\$192.84</b>

\* 2002 PRE are the segment figures from prior to the launch of the Nutrition campaign Feb 2002

\*\* 2002 POST is an average of the TLE post segment figures, Post 1, Post 2 and Tracking

\*\*\* 2007 is an average of all 2007 segment figures

+ 2002 population 19 663 000 (source ABS)

++ source MLA

+++2002 retail price \$12.40 (source ABARE)

++++ source MLA

Figure 12 provides an estimate of the change in demand and of course we must allow for a margin of error due to methodology and supplier changes and other potential drivers of demand. Even a conservative analysis demonstrates a significant impact on demand for red meat over the time period.

Figure 13 shows the estimates when both 2002 and 2007 prices and population figures are included. The increase in the category using 2007 prices and population we see a demand increase worth \$2,560m.

Figure 13 – Estimate of demand impact 2002 and 2007 prices and population

Segments over time	2002 PRE*	2002 POST**	2007***	Propensity to consume (serves per week)
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Impact on demand	2002 PRE	2002 POST	2007
Estimated total serves/ week +	57,337,308	58,185,070	66,674,640
Estimated total serves/ year	2,981,540,016	3,025,623,643	3,467,081,280
Estimated consumption (at 0.190g per serve++)/kgs	566,492,603	574,868,492	658,745,443
Estimated value (at Retail price/kg)+++	\$7,024,508,278	\$7,128,369,302	\$9,584,746,199
Actual value ++++		\$7,156,780,000	\$9,034,990,000
<b>Total demand impact (compared with PRE 2002)</b>	<b>\$0</b>	<b>\$103,861,025</b>	<b>\$2,560,237,921</b>
<b>\$ per capita</b>	<b>\$357.24</b>	<b>\$362.53</b>	<b>\$452.54</b>
<b>Total demand impact (compared with PRE 2002) - 50% weight</b>	<b>\$0</b>	<b>\$51,930,512</b>	<b>\$1,280,118,960</b>
<b>\$ per capita - 50% weight</b>	<b>\$173.62</b>	<b>\$182.27</b>	<b>\$226.27</b>

\* 2002 PRE are the segment figures from prior to the launch of the Nutrition campaign Feb 2002

\*\* 2002 POST is an average of the TLE post segment figures, Post 1, Post 2 and Tracking

\*\*\* 2007 is an average of all 2007 segment figures

+ 2002 population 19 663 000, 2007 population 21 180 000 (source ABS)

++ source MLA

+++2002 retail price \$12.40, 2007 retail price \$14.55 (source ABARE)

++++ source MLA

The growth in value estimated from the survey data from 2002 to 2007 is very close to the actual growth in the market in this period, adding some face validity to the research approach.

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## **Dr Victoria Hodgson**

Victoria has a strong analytical marketing background with over 10 years experience designing complex quantitative research studies. She holds a Bachelor of Economics, Master of Marketing Management and a PhD in Marketing entitled 'Linking Marketing to Shareholder Value'. In conjunction with her post graduate studies Victoria lectured in Market Research and Advertising Communications.

Victoria went on to head up OMD's Econometric Modelling group, Lighthouse (now Brand Science) in Sydney. The group was responsible for market mix modelling which involved analysing the impact of media/advertising, price, promotion, distribution, seasonality and economic factors on sales and determining the ROI of marketing activity. Victoria's next role was as a consultant in the Advanced Quantitative Techniques group at The Leading Edge Market Research Consultants (TLE) in Sydney. The role involved staying at the leading edge of advanced quantitative research methodologies, developing IP, designing and conducting a range of advanced quantitative research studies.

Victoria heads up The Clever Stuff research and analytics with Eric Brat. They consult to Market Research Agencies, Advertising/Media Agencies, Management Consultants and end Clients on marketing ROI, advertising effectiveness, segmentation, customer analytics, pricing, NPD, forecasting and customer satisfaction. Applying quantitative methodologies including choice modelling, conjoint analysis, latent class analysis, structural equation modelling, econometric modelling, cluster analysis, regression, factor analysis amongst other techniques.

Victoria has worked for clients in industries including Banking and Finance, IT & Telecommunications, FMCG, Media, Airlines, Business Services, Retail, Fast Food, Automotive and Tourism.