

Department of Trade & Industry

THE IMPACT OF LABELLING

SCHEMES

7071/2002

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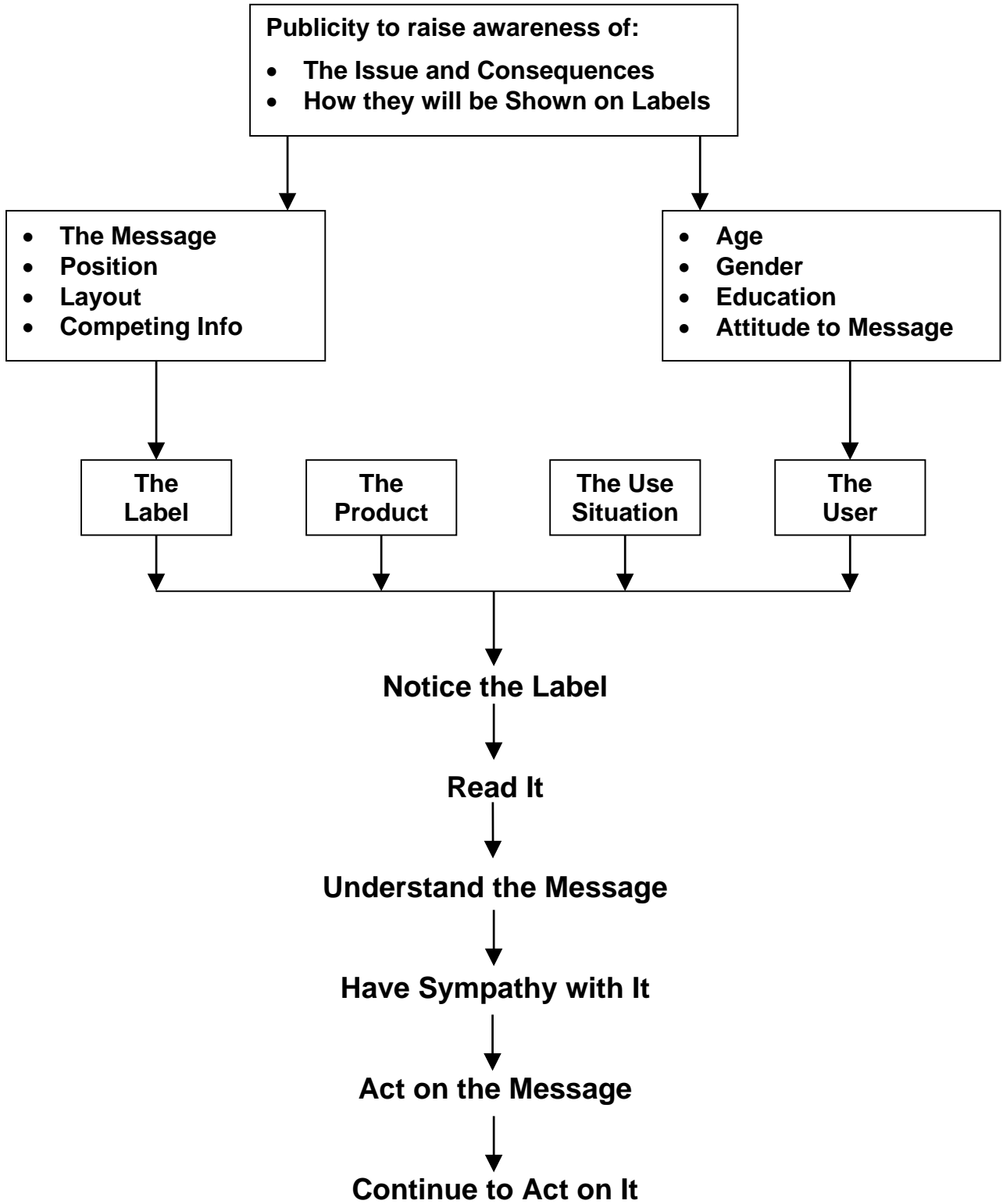
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HOW A LABEL HAS IMPACT



OVERVIEW

- **There are simple rules of layout and positioning that increase the chance of a label being seen but ...**
- **... impact is highly dependent on the unique combination of label + product + situation + user.**
- **Keep each message simple – a single phrase or a logo is often best.**
- **Some labels contain so much information that all the messages are lost.**
- **Without “education” even the best designed label will be ineffective.**
- **Old or often repeated messages may lose their impact.**
- **The action taken as the result of a label varies widely. It depends on factors critical to the individual application.**
- **The impact of any new label scheme needs to be individually assessed.**

1. INTRODUCTION

1.1 Background

The purpose of this project is to provide information on research that has been carried out into the impact of product labelling schemes. A labelling scheme is an agreed way of presenting information about a product to the purchaser or user. The label can be glued to or printed on the immediate container of the product or on secondary packaging or it may be a loose label tied to the product. Labelling schemes, in this context, do not include the presentation of brand information.

Schemes may be mandatory and required by either National or EU regulations or they may be voluntary. The idea of labelling schemes is to provide purchasers or users of products with information which will help them to, for example:

- decide which product to buy
- use it properly
- choose what to eat
- use or store the product more safely
- take appropriate action in an emergency

In order for a scheme to be effective the customer must:

- notice and read the label
- understand the implications
- take action

To understand the implications the customer will have to have had relevant “education” through advertising or other publicity campaigns. (ie to select a product labelled as high in poly-unsaturates, the customer must have an opinion about the benefits of poly-unsaturates).

To take action the customer will normally need to feel that he/she can “trust” the label and this depends on the belief that they are effectively policed. Statutory schemes are policed by a government agency such as HSE (Health and Safety Executive) which monitors CHIPS (Chemicals Hazard Information and Packaging for Supply) labelling of dangerous substances, while voluntary schemes are policed by bodies or associations such as RSPCA, the Soil Association or AMDEA (the Association of Manufacturers of Domestic Electrical Appliances). Some bodies will inspire more trust than others.

Some product labels may include apparent “Seals of Approval” which are devised by the manufacturer and have no independent status or verification. Although not part of a labelling scheme, as such, we include some comments on these where appropriate.

In the work we were looking for any information about the IMPACT of labelling rather than the specification or administration of the scheme - though the two elements cannot always be separated.

There is more work associated with awareness and understanding of labels than with their impact, which is much harder to measure. Issues of awareness have been discussed as without awareness there can be no impact.

This report is based on research into labelling impact as reported in published literature or in discussions with individuals who have experience of using or monitoring labelling schemes. No direct consumer research was undertaken.

1.2 Objectives

The primary objective of this study is to inform officials about existing evidence on product labelling schemes and their impact.

In addition it should:

- help officials to draw conclusions about which characteristics of labels/labelling schemes are effective in terms of meeting their objectives and which are not.
- inform and underpin policy development on best practice for product labelling.
- help officials to establish where labelling can best add value.

1.3 Method

As a starting point, information on some labelling schemes was available from DTI. From this we identified some of the organisations involved in designing, using and monitoring such schemes. From directories of trade associations, we added to this list. We also drew up a questionnaire defining the information we were seeking.

We carried out an Internet search for relevant reports and also used this as an additional source of organisations which might be able to furnish information.

We telephoned 160 organisations seeking their views and asking for copies of relevant reports or findings. We emailed 40 other organisations inviting them to complete a web questionnaire we had set up.

Research concentrated on the UK but we also made contacts in USA, France and Germany, and some of the reports we identified cover a number of European countries.

As part of the programme we held weekly discussions with DTI on the progress of the work. In this way we were able to redirect our approach, as necessary, along the most fruitful avenues.

2. SUMMARY AND CONCLUSIONS

2.1 Results

Information from 52 sources have been included in this report. 20 of these were in the USA, two in Germany, two in Scandinavia, one in France, three covered several EU countries and the remaining 25 covered UK only.

Many of the sources provided information based on substantial pieces of research using samples of statistically significant size or properly structured focus groups. One of the sources provided information on a major piece of on-going research, which will be published in June.

Copies of reports were collected and papers printed from the Internet are supplied separately. These are shown in **bold** type in the list of references at the end of the report.

The earliest report referred to was published in 1988 but most of the remainder were published from the mid 1990s onwards. Care must be taken in interpreting results of older reports. Issues of behaviour will not have changed very much but knowledge and attitudes may have changed considerably.

2.2 Key Characteristics

The circumstances in which different labelling schemes are used vary but an analysis of the information gathered indicates some general principles.

- For a label to have impact, the consumer must recognise the message, understand it and be sympathetic to it. If a labelling scheme designed to encourage healthy eating is to be successful then the consumer must read the fat content of the product on the label and understand what he reads in relation to the recommended daily allowance as well as having a wish to eat healthily. To develop this understanding involves “education” through a variety of media.
- It was recognised that a number of schemes have had little impact because, although there may be sympathy for the message, the associated Logo is not well known*.
- The message should be simple** – a single phrase is ideal. It is more important to be comprehensible than comprehensive.

* Refs 8, 47, 48, 49, 50

** Refs 2, 3, 4, 6, 12, 15, 17, 19, 21

- Text can be supported by or replaced by a Logo* but the significance of a new Logo takes time to be learned²⁸.
- Different types of information need to be kept separate**. Specific messages should be boxed and highlighted^{15,42} though this does not always seem to work⁴⁶.
- The efficacy of labels is specific to the combination of “the warning”, “the product”, “the usage situation” and “the user”. It is not always easy to transfer findings from one situation to another and new labels need to be tested for efficacy^{46,47}.
- Information on the front of the label has greatest impact and different parts of the label interact with each other²⁴⁻²⁸.
- Labels frequently increase awareness of an issue without substantially affecting behaviour***.
- Labels are frequently cluttered with required or necessary information and with marketing claims and slogans. A marketing claim should only be made if the product concerned is substantially better than most of the competition^{6,10}, otherwise it should be eliminated.

2.3 Conclusions

Labels are frequently overburdened with information but there are a number of reasons for this:

- Regulatory requirements demand specific information and producers need to protect themselves legally.
- Different customers want different things so there is a tendency to cover every requirement.
- There is a natural desire to want to give comprehensive information although this does not necessarily lead to comprehensibility.
- In some areas, particularly food, there has been a proliferation of voluntary schemes, in addition to mandatory ones, and producers want to include all of them when they can.
- As well as information defining the product and its use, producers also want to include marketing and promotion information.
- This is a greater problem with small packs.

* Refs 2, 31, 33, 41

** Refs 2, 3, 14, 51, 52

*** Refs 32, 33, 38, 39

- Simplicity

Consumers respond to, and in the main prefer, simplicity*. They are often confused by multiple messages, long sentences and technical terms. Most consumers²² cannot inter-relate two pieces of information on a label or perform simple calculations based on labelling information. For example, most would be unable to estimate how much of a food they should eat per day to meet their energy needs even though the label lists Calories/100g and the Calories a person needs. Some of the phrases on chemicals are considered too complex⁶ – what are “zeolites” or “surfactants” as listed on washing powders?

The theme throughout is that the message should be simple, clear, specific, believable and, at least in theory, verifiable⁶. The phrase “breaks down naturally in the soil” fulfils all these criteria and was considered reassuring while “good for the environment” is considered too vague.

- Logos

Consumers** prefer Logos to complex instructions. The meaning of some Logos can be worked out without having been learned but these are not necessarily the most effective. Other Logos are not decipherable immediately but once learned are easily remembered and recognized. The BSI “Kitemark”, the “Wool Mark”, the “Lion” on eggs and, increasingly, the “CE” mark all fall into the latter category⁴². None of them could be instantly interpreted but they are clear crisp designs, and they have been around for a long time and have been learned. The “Corrosive” symbol used on chemicals, on the other hand does not seem to have been learned.

- Getting the Message

People must be aware that there is an issue that is covered by product labelling and they must be sympathetic to the message before they will respond - they are often misinformed***. As most people³ are unaware of the relative flammability of cotton and polyester, or that there is a labelling scheme for children’s nightdresses, it is no wonder that the scheme has had little impact.

Green issues have some impact but are not high up^{6,16} the list of selection criteria. Sometimes people believe that green products (e.g. “without bleach”⁶) will be less efficient than their “browner” alternatives. In many cases consumers feel they “can have little impact on the environment” or, as with Marine Stewardship⁷ fish, they are unwilling to pay more for green products. In many circumstances price and quality are more important than green considerations when it actually comes to choosing a product. Only with more “education” in parallel with the labelling schemes is impact likely to be improved.

* Refs 2, 3, 4, 6, 12, 15, 17, 19, 21

** Refs 2, 31, 41

*** Refs 3, 5, 10

Saving energy was only the seventh most important factor⁷ in buying a fridge. Labelling fridges with the energy label has only a limited direct impact. However, some retailers now only stock appliances with better ratings and this leads to an indirect impact from the labelling scheme.

Similarly the Forest Stewardship Council⁴⁸ (FSC) has a low profile itself but B&Q only stocks timber which has FSC approval so increasing, by an indirect route, the impact of the Logo.

Some people are concerned about healthy eating but confused about the multifarious and, sometimes, conflicting messages¹⁶. Can a simple set of consistent messages be developed? – probably not because there are so many groups with their own special interests.

It takes a long time to get a message established and once there it persists. The level of awareness of some Logos illustrates this. Furthermore, many people still believe aerosols¹⁰ contain CFCs even though, in the UK, they were abandoned in 1989.

- International differences

There are some differences^{2,4,7}. These are small when it comes to hazard warnings on chemical. There are, however, wider differences in attitudes to energy conservation, with Denmark showing much greater concern than many other countries. With Marine Conservancy⁷, the Swiss and Dutch have the greatest concern over the issue and are more likely to pay extra for approved fish, with the Germans at the other end of the scale.

National differences probably result from an accumulation of differing “education” over the years.

- Displaying the Message

Poor legibility is a criticism of many labels. A study for the visually impaired identified a number of features which can help all consumers⁴⁴:

- Type size of 14 pt for key information using bold clear type face
- Wider line spacing
- High contrast, black on white or yellow background.
- Numerals can be confused in some type faces – Frutiger is best.
- Use recognised icons where possible
- Key info should be boxed
- Picture on the left, text on right
- Use upper and lower case, not all capitals
- Leave space between paragraphs
- Do not justify text
- Avoid shadowing of text
- Avoid splitting words at line ends
- Line length of 50 to 65 characters.
- Use matt surfaces
- Avoid blistered or curved surfaces for text
- Contents of transparent containers can affect legibility

There is a need to keep different types of information^{2,3,15} separate such as safety warnings and instructions for use or nutrition levels, storage and cooking instructions. Different types of information can be distinguished by colour. Particularly important information can be boxed, as indeed, nutritional information already is.

Consumers do not understand¹⁰ “kJ” for energy and prefer “Calorie” with a capital “C” to “kcal”.

Numbers on nutritional labels should be whole numbers with no decimals.

People are less likely to read the message on products with which they are familiar. Any change of message or new warning needs to be specifically highlighted for a period after its introduction.

- Tactile Warnings

The visually handicapped need special warnings⁴³ but only simple messages can be communicated. “Education” is needed so that consumers know there is a message to look for.

- Misleading Messages

Misleading messages still abound. A claim implies that the product concerned is “better” than the general run of competing products. Claims¹⁰ such as “CFC Free” on an aerosol imply that other aerosols contain CFCs but they don’t. There are many other such messages.

Consumers want simple phrases and sometimes feel they are being (deliberately) misled by long sentences particularly where they include scientific and technical terms.

3. METHOD

3.1 Sources of Information

The work began from a table describing 40 labelling schemes which was supplied by DTI, recognising that this was only a starting point and that DTI did not claim this to be a complete list. Metra Martech looked through the table and listed organisations which have any involvement in either initiating, specifying or monitoring labelling schemes, and in particular for any indication that they had carried out any evaluation of impact. We were particularly interested in trade associations (National Farmers Union or British Coatings Federation), voluntary organisations (RSPCA or Consumers' Association), retailers (B&Q or Co-op) and government related bodies (Health & Safety Executive (HSE) or Trading Standards)

Directories were used to identify other associations and we carried out web searches for references to "impact of labelling" and related phrases. We used these to identify further organisations relevant to the subject, concentrating particularly on the UK but also identifying some in USA, France and Germany. At this point we had identified well over 100 potential respondents.

A questionnaire was prepared (Appendix A), defining the type of information we were looking for but recognising that not all the questions would be appropriate for all organisations and that some would need additional questioning. In particular we were seeking to concentrate on measurements of IMPACT rather than definition or enforcement of schemes. We prepared a variant of the questionnaire which was posted on our web-site and which could be accessed by clicking an appropriate link.

Initially calls were made to organisations asking questions from the questionnaire or discussing related issues. Metra Martech's main objective was to identify studies which had been carried out into the impact of labelling and to obtain copies of relevant reports. These have been obtained by mail, email or on the web. In addition to formal reports we have also obtained some much less detailed comments and anecdotal information, often verbally. A further objective of the calls was to identify others who might have relevant information and to get contact details for them.

In the course of making the calls the list of potential contacts grew as additional referrals were obtained. We therefore sent emails to a proportion of the organisations to which we were unable to speak. These emails invited recipients to complete our web site questionnaire.

As a result of this work we have obtained a series of “reports” relating to specific labelling schemes (e.g. CHIP labelling of Hazardous Chemicals) or to particular subjects (e.g. Green Claims). Some of these are formal reports, some are reports or papers printed from the web and others are brief verbal records. The degree of relevance to the subject also varies considerably, with some long reports containing only brief comments on labelling impact.

The bulk of our report consists of an analysis of those reports and papers grouped together in appropriate sections.

Approximate numbers of contacts and outcomes were as follows:

Contacts and Replies	
Contacts	
Potential	200
Telephone	160
Emails sent	42
Emails	
Some information sent	6
Reply but no information	12
No reply	24
Reports	
Formal reports	20
Web/email reports/extracts	20
Informal comments	15

Forty-seven of the contacts and web sources contained information which has been referred to directly in the report and these are listed in the table of references at the end of the report. There are a further 6 references which supplied verbal or brief written information. Hard copies of a number of reports were obtained or printed from the Internet. Those shown in **bold** in the list of references are provided separately as hard copy. Although of interest, much of the information relates to awareness of schemes and issues rather than to the impact of schemes.

The sources cited in this report contain additional references to documents which may be relevant.

3.2 Classification of Information

We have discussed the information under the following headings:

- Hazard Warnings
- Energy And Green Issues
- Ethical Considerations
- Food Labelling
- Pictograms And Logos
- Other Subjects

In Sections 4 to 9 the findings are discussed under each of these headings. Classification is not always clear cut, (should labelling of food as “Organic” be considered under “Ethical”, “Environmental” or “Food”?), and most of the conclusions cut across several of the headings.

The weight given to each topic reflects the amount of information available on labelling impact rather than the importance of the product itself. The first section, on Chemicals, is set out in considerable detail as this is based on a comprehensive report covering a number of European countries. Such complete answers are not available for all products.

It is also important to remember that the discussion focuses on the labelling of the products and not on the underlying classifications and other packaging rules.

4. HAZARD WARNINGS

4.1 Chemicals Hazards

- The Study

EU Directive 88/379/EEC specifies the labels which must be placed on Dangerous Preparations. As far as the UK is concerned these are enshrined in the CHIP (Chemicals Hazard Information and Packaging for Supply) regulations¹, promoted and monitored by HSE. There are 18 different categories of danger in three categories ie. Physico-chemical (explosive, oxidising, flammable etc), Health (toxic, corrosive, irritant, sensitising, carcinogenic, mutagenic etc) and Environmental Hazard. Each category has a symbol letter and a symbol (Logo). If a chemical does not fit into any of these categories then the supplier is not required to do any more. However, if it does fit into any of them then the supplier has to provide hazard information and package the chemicals safely.

If the substance is supplied in a container (i.e. not in bulk) then the container must be labelled with an appropriate logo (flame, skull and crossbones etc), a symbol or letter (e.g. T+ = Very Toxic), and a very short phrase (e.g. “Very Toxic”). In addition the label should include any appropriate risk or R-Phrases (e.g. “Dangerous to aquatic animals” or “Irritating to skin and eyes”) and safety or S-Phrases (e.g. “If swallowed seek medical advice” or “Keep out of reach of children”). Containers should also have a raised triangle which is a general warning, for the visually impaired, that the package contains a hazardous substance.

A study has been commissioned by the EU² to look at consumer reactions to labels, with a comparison of responses in four countries, Denmark, France, Spain and UK. The regulations impose a standard labelling system across the single market, and the objective of the study was to determine whether the labels were understood and hence contribute to protection of the public. The views and needs of six target groups, consumers, professional users, manufacturers, authorities, medical staff and blind and visually handicapped people, were assessed by focussing on three main questions and various sub-questions:

- How comprehensible are current labels?
 - Do users read labels?
 - Do users understand the information (symbols and text) on the label?
 - Do the labels have any effect (is the information used)?
 - Is the level of information adequate?
- Are there national differences?
 - Is there a link with environmental, safety or consumer awareness?
 - Is there a link with economic performance, wealth or education?

NB: Footnotes refer to References in Section 10.

- How can comprehensibility be improved?
 - What would be the benefit of simpler information?
 - Will more information lead to decreasing comprehensibility?
 - Can training and education improve comprehensibility?
 - Can alternative methods of hazard communication be applied?

This study relied on 225 telephone interviews with individuals in each of the four countries plus about 200 respondents in companies. A total of about 12 focus groups appear to have been carried out.

- Conclusions on Statutory Labelling of Chemicals

Professional users show a slightly higher level of comprehension than consumers but the difference is not large and indicates that the needs of both groups can be met through a single labelling system.

The labelling system works fairly well but there is room for improvement.

People say they usually read labels but many of them only read them the first time they use a particular product. They also appear to think that any product they use regularly, and which is easily available to the consumer, is unlikely to pose a serious hazard. Only 1% never read the logo or hazard information whilst a third never read the information on safe use – the latter figure is almost half if the Danish results are excluded.

Users generally think that labels include the information they need and rate the Logo and hazard warning as the most important element.

Some of the Logos are poor communication tools, notably the symbols for harmful/irritant, oxidising and to a lesser extent corrosive. The St Andrews's Cross can mean several things (mostly lesser risks) and causes some confusion. There were many suggestions that symbols need redesigning but any change could cause even more confusion, in the beginning at least.

The system of R- and S-phrases are too complex and appear to have been designed for technical precision rather than communication. However since they are basically understood the system merely needs streamlining rather than a fundamental change. It appears that the balance between completeness and clarity needs to move towards clarity, and changes in these phrases could be accomplished without the confusion which would arise if Logos were changed.

The research found that hazard information is not always sufficiently separated from instructions for use and other information. Could they be separated by colour? Older respondents want larger print.

The tactile raised triangle is adequate for the blind but needs to be enforced more effectively and universally. Braille is not a solution as not enough blind people read it. People blind from an early age may do so but most visually impaired people become so later in life when it is difficult to learn such a skill.

There are some national differences (the Danes read labels more often) but the differences are not enough to require a different system in different countries.

No other convincing or substantial differences were identified between other groups though professional and more educated users, not surprisingly, showed higher comprehension.

Standards of enforcement are seen as an issue by manufacturers, and authorities point out that this is further complicated by the involvement of both health and environmental agencies.

Manufacturers and users complain that the system is too complex but medical authorities need details when they are asked to treat an accident.

Professional users would like to see more emphasis on long term hazards.

All this suggests a need for simple labels for end users plus more detailed safety data sheets for those who require them.

4.2 Flammability of Clothing

DTI commissioned a study³ of the consumer awareness and response to flammability labelling of children's nightwear. Stage I explored whether consumers know that they can buy 'Low Flammability' garments and if they understand the terminology used. Stage 2 examined whether consumers are interested in purchasing a greater range of 'Low Flammability Garments'.

There is a sense that this is a problem from the past, and that with central heating rather than open fires there is no longer a real risk, with consumers ignoring the presence of gas rings, candles and barbecues as sources of ignition. There is also a sense that all clothes on the market are reasonably safe. On the other hand there is a real horror of such fires which can lead people to suppress all thought of it. Flammability is thus not a key issue when buying clothes except for a minority and they appear to be misinformed about the relative inflammability of different materials.

During the course of interviews respondents said they began to see it as a greater problem and that in future they would take more interest in flammability, (will this interest persist?), illustrating how informing consumers is crucial to any impact that labelling might have.

Treated cotton is less flammable than synthetics though consumers are frequently unaware of this. Cotton and cotton blends are often preferred to synthetics but on grounds of comfort rather than safety. Many of those who choose 'cotton' on grounds of safety are not aware that they are actually buying blends with a high proportion of synthetics, as they go by feel rather than checking the label.

Most consumers are unaware that there is a choice between 'safe' and 'unsafe' garments and many find the information on the labels unclear.

Current labels used were found to be confusing and too complicated. A simple phrase such as "Low Flammability to BS 5722" would be acceptable. Additional information about flammability of all fabrics and potential sources of ignition should be on a separate swing ticket. Some tickets combine the words 'Low Flammability' and 'Keep Away from Fire' on the same ticket and this is confusing. The phrase 'Keep Away from Fire' appears on so many children's clothes to the extent that its impact is diluted.

Once awareness of the flammability issue had been raised by the research there were questions as to why children's nightdresses were the focus of the regulations when many other items were not covered. Two thirds of the sample thought that all nightwear for children and the elderly should be covered. Many thought such nightwear should also be available for adults.

There is a need to make people aware that there is a risk, then that there is a labelling scheme, before anyone will take any action.

5. ENERGY AND GREEN ISSUES

5.1 Energy

The energy consumption of a fridge or freezer can be measured in terms of energy consumption per litre of cooled volume after adjustment for the temperature of the fridge and freezer compartments. This can be converted into an index. The index is then divided into a seven point scale with A indicating an index of less than 55 and G an index of over 125.

All fridges and freezers sold in the EU must carry a label of a prescribed format indicating which category it comes under, annual energy consumption in kWh, volume for fresh food, volume for frozen food and star rating for freezer temperature and noise rating (voluntary). The label is standardised and simple. In particular, the energy efficiency is indicated by a single capital letter, white on a dark background positioned in relation to the A-G scale with text indicating which end of the scale is high and which is low. The same information is also provided in a technical data sheet which must also be supplied with the machine.

Customer attitudes to buying refrigerators were studied⁴ in 11 EU countries. Energy use was found to be the seventh most important factor in buying an appliance in 1998. The complete list of factors quoted, in descending order of importance was:

1. Internal dimensions
2. External dimensions
3. Price
4. Special features (including frost free)
5. Brand/manufacturer
6. Appearance
7. Energy use
8. "Quality"
9. Environmental Impact
10. Low noise
11. Servicing and guarantees
12. Country of origin

The list illustrates the importance of practical factors identified elsewhere and the relatively low importance on environmental factors and country of origin at that stage. In the four years since then we would expect energy to have grown in importance as a factor.

Energy consumption was very important for only about 10-15% of purchasers though with considerable country by country variations. In Austria, Denmark, Netherlands and Sweden energy use was more important. In France, Greece, Ireland, Spain and UK it was less important, with Portugal and Finland in

between. Where energy use is considered as important it is primarily to “save money” rather than “save the environment”.

The report includes extensive details on consumers’ observations, recall and response to these energy labels as well as general attitudes to environmental issues. About half of them consider “household energy saving” to be one of the actions they can take to protect the environment.

About two thirds of respondents “had seen” or “think they had seen” an energy label. Apart from this the impact of labelling on purchase is influenced by how important an issue energy is considered to be. Table 5.1 below summarises the key findings. Compliance indicates the proportion of appliances in the shops that are properly labelled while “Importance” indicates the proportion of respondents who consider energy saving to be important.

The impact of labelling, as reported, is clearly substantial in some countries and correlated with the importance attached to energy but it is not obviously correlated with compliance. This work was completed four years ago.

The report also analyses specific publicity that has been given to the Energy labels in each country. There is no clear correlation between publicity methods and the importance attached to Energy saving.

This is a clear and simple labelling system not confused by other messages and this must, in part, account for its impact.

TABLE 5.1 : OVERALL EFFECTIVENESS OF LABELLING OF FRIDGES AND FREEZERS			
	Compliance	Importance or Energy Saving when Choosing	Influence of Labelling (%)
Denmark	***	***	56
Netherlands	***	***	45
Austria	**	***	49
Sweden	**	***	39
Finland	**	**	41
Portugal	*	**	35
UK	***	*	24
France	**	*	32
Ireland	**	*	15
Spain	*	*	19
Greece	*	*	4
*** => 70%, ** = 50-70%, * = <50%			
Source : Cool Labels, Energy and Environment Programme, Environmental Change Unit, University of Oxford, 1998			

A Which report in 1997 found that the ratings on the labels were, however, not always accurate and a further study in 1998⁵ found that 18 out of 24

appliances tested had worse performance than indicated on their labels. These errors may have been corrected by now but if consumers come to believe that labels are inaccurate it will substantially undermine any impact the labels might have.

5.2 Green Claims

The National Consumer Council investigated Green Claims⁶ to establish whether consumers felt misled by environmental claims in general. Although this study is old, completed in 1995, and attitudes may have changed, some of the conclusions still appear to be valid.

As part of the study 55 different Logos making environmental claims were identified with a wide range of claims. Some are factual “CFC Free” or “100% Recycled Paper” while others are vague “Dolphin Friendly” and some fairly meaningless “People Working for a Better World”. Over 200 products were identified which made environmental claims with many, but not all, sporting one, and sometimes, more of the Logos.

Six focus groups were carried out with participants selected to give a mix of age and class etc. A seventh group was selected from among those with some “green” tendencies. These were referred to as the light greens.

When asked (without prompting about environmental claims) what marketing claims participants in the group had noticed, claims on products “recycled”, “biodegradable”, “Ozone Friendly” or “CFC free” were mentioned quite frequently. Other claims such as those involving “rain forests”, “sustainability”, “organic”, “recyclable” and “environmentally friendly” were mentioned less often.

For many consumers the environment was not a big issue in product selection. Recycled paper products or unleaded petrol were sometimes bought deliberately because they were readily available and easy to buy. When products making environmental claims were selected the choice was usually dictated by some other factor.

When asked why they did not buy “green” products, reasons included “lack of knowledge”, “poor display” and the fact that information on environmental effects was usually in small lettering. Many people did not really believe it would make much difference to the world and that anyway environmental messages kept changing, and what was good this year might be considered bad in a year’s time.

There was also concern that ‘green’ products are expensive and less effective – if it has “no bleach” will it work?

The claims on washing powders are often incomprehensible – why is “phosphate free” a good thing? What are “surfactants”, “zeolites” or “EDTA”? On the other hand, a claim on a paper product that it is “100% recycled” was found to be simple and comprehensible while a claim not to contain “pulp from tropical forests” was thought to be “an unverifiable con”.

As reported elsewhere consumers do not often consider energy consumption when buying appliances. People thought “CFCs” were already banned from fridges so how could they be reduced? References to “HCFCs” they thought was an effort to blind them with science?

The theme throughout the consideration of other products was that the message should be simple, clear, believable and, at least in theory, verifiable. The phrase “breaks down naturally in the soil” fulfils all these criteria and was considered reassuring. Most of the claims on paint were treated with scepticism except the claim to be “water-based”. The more specific a claim the more likely it is to be believed.

People wanted standardised claims which should only be made where the product in question was significantly better for the environment than the norm. They thought there were far too many logos and symbols and could not tell which had any verifiable status.

All this said people wanted the environmental information but it was still not going to make a great deal of difference to their purchasing habits while price, quality and previous experience were all much more important

The light greens had many of the same concerns about simplicity and honesty but were prepared to buy products because they were green. The non-greens do not buy green products because “I cannot be sure it will do any good”, whereas the light-greens will buy it “in case it will do some good”.

5.3 Marine Stewardship Council

In 1997, Unilever in co-operation with the World Wildlife Fund set up the Marine Stewardship Council (MSC). The objectives of which are to:

- Establish criteria for sustainable fishing
- Increase public awareness of the subject of sustainable fishing
- Certify fish produced by sustainable methods
- Award the MSC Logo to processors and marketers of sustainable fish products

Surveys⁷ were carried out in 5 EU countries in 2000 and 2001. About 1,000 people in each country were asked a series of questions including ones about the following issues, apart from over-fishing:

- Pollution (air, water, soil)
- Multi cultural/ethnic/religious
- Food safety
- Ageing population
- Unhealthy eating

The Table 5.2 summarises some of the findings in 2001. Results for 2000 were similar with no consistent differences.

TABLE 5.2 : RESPONSE TO MSC AND ITS LABELS IN 2001					
	FR	NL	D	CH	UK
Average for all issues					
Awareness of all issues (%)	73	81	60	81	68
Level of Concern (1 = no concern, 4=great concern)	2.6	2.3	2.5	2.7	2.2
Over-fishing					
Awareness of this as an issue (%)	53	82	49	76	62
Level of Concern (1 = no concern, 4=great concern)	2.7	2.3	2.4	2.7	2.4
Seen the MSC Logo (%)	4	2	5	14	7
Seen MSC Logo or heard of MSC (%)	11	5	10	19	15
At least some concern (%)	62	66	44	72	55
Prepared to pay a bit more (%)	25	31	12	34	20

In three of the countries there is a greater degree of awareness of the other issues than of over-fishing but the level of concern was similar.

Only a small proportion, except perhaps in Switzerland, had seen the Logo though rather more had heard of MSC.

In the UK 55% of respondents have some concern over the issue. The figure is lowest, perhaps surprisingly, in Germany. Even though many people express some concern, well under half of them would be prepared to pay even “a bit more” for MSC approved fish.

The Impact of the MSC Logo must be small. Very few have seen the Logo, not everyone is concerned by the issue and less than a third would be prepared to pay more even if they had seen the Logo.

5.4 The Forestry Stewardship Council

The Forestry Stewardship Council promote a label consisting of a stylised outline of a tree with the words “The wood in this product comes from well managed forests independently certified according to the rules of the FSC”. It

can be in any colour so long as it contrasts with the background. The scheme was launched in 1993 but has had little publicity.

A survey in Gardening Which? in late 2001 found that only 13% of respondents shown the logo (without the words) recognised it. When those 13% were asked what the Logo meant responses were:

- 30% Don't know or very vague
- 24% Something green or eco friendly
- 19% Something to do with tree or forests
- 27% The timber comes from well managed forests (the right answer)

Overall less than 4% (27% of 13%) of respondents recognised and understood the label. FSC admit they have not yet promoted it very much but it illustrates the point that to have significant impact, promotion of the Logo will be needed. Even then, of course, it will only have impact if the consumers think this is a worthwhile issue.

B&Q has a policy of only stocking timber carrying the FSC Logo. This scheme thus has an indirect impact even if consumers know little about it. The driver here is choice by B&Q to have "green" policies of which their promotion of paints with low volatile organics is another example. Perhaps surprisingly B&Q do not promote their "green" policies very forcefully.

5.5 Soil Association

There is no published research into the impact of the Soil Association's "Organic" logo but MORI questioned 1,873 adults in UK in February 2001. The study found that overall 16% recognised the Logo and that the figure was highest for AB social class, lower among the young (9% for 15-24 age group), and 5% and 6% respectively in Scotland and Wales.

The Soil Association recognises the need to publicise their "brand" and what it stands for, and are seeking to do so.

5.6 Labelling Schemes on Paints

The Chip regulations, discussed earlier, apply to paints and coatings as well as to other chemicals. In addition the British Coatings Federation (BCF) have a voluntary scheme⁸ which covers voluntary safety information some of which is additional CHIP S-phrases.

There is also a system for marking paints with the VOC (Volatile Organic Content) in five bands (Minimal, Low, Medium, High, Very High). This was first used by B&Q but is now used universally. No assessment of impact has been identified.

BCF produce a leaflet⁹ which is available at point of sale which describes the impact of paints etc on the environment including how they are labelled to indicate the level of VOCs. This is one example of how the public can be made aware of a labelling scheme.

5.7 Aerosols

Aerosols used to use CFCs as the propellant but under the Montreal Protocol of 1987 it was agreed that they would be phased out by 2000. In practice, in the UK, they were removed from all except some medical aerosols by 1989. In 1997, by which time CFCs had been phased out in UK for 8 years, BAMA (British Aerosol Manufacturers' Association) commissioned a survey¹⁰ to find out if people knew whether or not CFCs were still present. The study showed that only 18% of people knew that they could be sure that aerosols no longer contain CFCs.

The low appreciation of the facts suggests that consumers had not picked up the relevant information from cans or from other sources. This confirms, as concluded earlier, that people may read labels on products when they use them for the first time but no longer do so on products which are familiar. This further suggests that when there is a fundamental change in a familiar product (i.e. a change from CFC to LPG) this needs to be particularly highlighted.

As the research shows, most people believe aerosols still contain CFC and many are still labelled "CFC Free", implying that this is a special benefit not shared by them all. However, BAMA now recommends that cans should, at least for the moment, carry the words "Aerosols do not contain CFCs" as part of an effort to educate the public. It has been found in the USA that some campaigns improve perceptions but only for a time. It appears that CFCs have acquired a bad reputation and it is difficult to break the association with aerosols.

6. ETHICAL

6.1 British Farm Standard

The British Farm Standard is an Assured Food Standard managed by the National Farmers Union as a partnership between everyone in the food industry including farmers, growers, processors and retailers. Separate standards cover beef, lamb, pork, poultry, dairy products, fruit and vegetables and cereals and oils seeds. Products meeting the standard can use the Little Red Tractor (LRT) Logo.

In theory an EU producer could apply for approval but so far none have done so, so the Logo effectively guarantees that produce is British and this is what consumers believe.

Research¹¹ indicates that one in three people now (mid 2001) recognise the LTR Logo, with the proportion higher in the south and among the ABC1 socio-economic group. Of those who recognise the mark, 60% link it to British Farm produce and 1 in 3 to food produced to high standards of food safety, and about half said that, once they were aware of the higher standards associated with it, they were more likely to buy food carrying the mark.

Focus groups associated with this research indicate that shoppers like a single mark of approval that covers all aspects of the countryside and approve of the fact that products are independently inspected and approved. Features that people find attractive are:

- Food is inspected and approved at all stages of production including slaughter, packing and distribution
- Animals are reared on wholesome diets
- Animals are fully traceable
- Animals are reared and grown in Britain
- The scheme is backed by supermarkets and is legally certified.

There is no evidence that consumers are aware of any details of the standards which have to be met to use the LRT Logo and suggestions were made during the course of this work, from within the industry, that the standards are little more than the statutory minimum.

Higher income groups have more understanding of welfare issues while lower income groups are more concerned with presentation and feel more remote from the source of their food.

Retailers approve of a single mark for British Food and would like to see more products covered. Sainsbury's claim that half their customers state that the symbol is very important to them when shopping.

The LRT logo is plain and simple and appears to be catching on quite quickly though it is still too early to be definite.

6.2 Freedom Food

Freedom Foods are dedicated to ensuring that animals reared for food are treated humanely. Producers who meet their standards can use the Freedom Food Logo.

Gallup carried out a survey in 2001 for Freedom Foods Ltd¹². Results were based on 2,044 telephone interviews with adults across the UK. 85% of people would be concerned if livestock farming in UK were to disappear but only 26% think they have any influence over whether or not this happens. When asked which of ten factors were the most important, when purchasing eggs, meat, poultry and dairy products results were as follows:

Rearing method of animals (e.g. free range)	36%
Country of origin	23%
Healthy eating claims	18%
Ingredients and nutritional claims	18%
GM statement	9%
Farm assured Logo	9%
RSPCA Freedom Food Logo	7%
None of them/something else	5%
Don't look for anything	5%
Don't buy them	3%

These results are not entirely consistent with results elsewhere in this document – it is noteworthy that price was not one of the items on the list of factors to choose from.

60% of respondents said that animal welfare was more important to them now than it had been before the foot-and-mouth epidemic.

78% say they would be prepared to pay more for meat that had been reared to higher welfare standards and over half of these say they would be prepared to pay 10-20% more. Again this is not consistent with other results.

This is some indication of attitudes though not specifically related to the impact of labelling.

6.3 Fairtrade

The Logo of the Fairtrade Foundation is applied to coffee, tea, honey, sugar, orange juice, cocoa and bananas produced in third world countries and is an indication that they have been produced under humane conditions and that the producer was paid a fair price.

In a series of surveys, awareness of the Logo has increased from 11% in 1999 to 20% in 2001 with a similar proportion able to select, from a list of 10, the correct slogan to go with the Logo. A further 13% selected a related slogan.

6.4 Rugmark

To be certified by RUGMARK, carpet manufacturers sign a legally binding contract to:

- produce carpets without illegal child labour;
- register all looms with the RUGMARK Foundation;
- allow access to looms for unannounced inspections.

Rugmark has had a full time office in UK for less than a year but there is some indication that 10-20% of retailers are now aware of the label. They want to carry out an awareness survey among consumers now and to follow it up at 18 month intervals. There is, however, little information at present.

7. FOOD LABELLING

7.1 Food Labelling Regulations

The UK food regulations (see guidance notes¹³) require that all food ready for delivery to the consumer or to a catering establishment should be labelled with:

- the name of the food
- a list of ingredients
- the appropriate durability indication (“best before” for most products or “use by” for more perishable products)
- the name and address of the manufacturer or packer or seller

and in certain cases:

- particulars of the place of origin
- instructions for use

They also:

- require an indication of the minimum or maximum percentage of an ingredient where labelling emphasises a low or high amount
- make special provisions for food not pre-packed, confectionery, in small packages or indelibly marked bottles, some catering packs or seasonal selections
- specify additional requirements for food from vending machines or alcoholic drinks
- require warnings with raw milk, skimmed and non-fat milk
- specify additional requirements for food packaged in a gas to extend life
- specify additional requirements for food containing sweeteners, added sugar or more than 10% polyols
- prohibit claims that it has tonic or medicinal benefits and limit claims related to other health benefits
- specify labelling requirements for nutritional information in particular where specific nutritional claims are made
- restrict the use of certain words or descriptions

The regulations do not apply to food imported from other EU states and certain other places where it is suitably labelled for sale in the country of origin.

EU regulations require that packaged food displaying a nutrition claim should be supported by nutrition labelling, the minimum being Energy, Protein, Carbohydrate and Fat contents per 100g. If related claims are made, then Carbohydrates of which Sugars, and Fats of which Saturates, Fibre and Sodium, must be added to the list. Other nutrients such as starch, cholesterol, mono-unsaturates and poly-unsaturates can also be included.

Apart from mandatory labelling schemes there are numerous voluntary schemes covering particular aspects of food some of which are discussed below.

7.2 Voluntary Nutrition Labelling Guidelines

In February 1998 the Institute of Grocery Distribution (IGD)¹⁴ published the results of a three year research programme into voluntary nutrition labelling of food. The results were based on five initial focus groups followed by 2,298 individual interviews with a cross section of the population.

The conclusions were as follows:

- The design of the Standard Nutrition Panel (SNP) can be improved.
- Presenting Calories, Fat and Saturates in a separate box below the SNP helps gauge the number of Calories and amount of Fat per serving more effectively than the SNP.
- Per serving information is more useful than per 100g but both are needed.
- kcal and kj are not widely understood. One value “Calories” (with a capital) would be better understood.
- Use whole numbers rather than decimals, though a minor problem with constituents such as Sodium
- Include Guideline Daily Amounts (GDA) for both men and women for key values. People know reducing fat is “a good thing” but have little idea of a sensible amount to eat.
- Any need to perform even the simplest calculation dramatically reduces the usefulness of information.

7.3 Messages on Food

In 1997 the National Consumer Council (NCC)¹⁵ published a report based on qualitative research about the claims made for food products. The conclusions were as follows:

- Consumers do not distinguish between nutrition claims and health claims
- Consumers categorise claims as factual, explanatory, impenetrable, meaningless, unappealing or esoteric (and only the first two have impact)
- Short or one-phrase claims are most likely to influence them – if they can't understand the claim they ignore it.
- Despite a stated preference for simple phrases, and the view that they ignore claims they do not understand, complex claims may mislead them as well as confuse.
- Consumers need reinforcement of claims independently. (eg. they need to know from elsewhere that poly-unsaturates are better than mono-unsaturates)
- Some consumers cross-refer between claims and other information on the label or package but most cannot decipher the nutrition table or use it to support their decisions.
- There is a considerable time-lag between appearance of information in the public domain and general acceptance of it. There is, however, a slow drip feed effect.
- Many consumers are concerned about healthy eating but are confused by manufacturers claims and “official” healthy eating messages.

A report from the Nordic Countries in 1997⁵² concludes that care is needed to separate safety and nutritional information.

7.4 NCC On-going Research

NCC⁵³ are carrying out a study for the FSA to draw up guidelines for more effective voluntary labelling of foods. This is concerned with both factual labelling and links to health benefits. Their aim is to shape the content for a Code of Practice.

They include within labelling any words, pictures or even the shape of the package, if they are designed to influence the consumer. Thus “Low Fat” is part of the label for a “Low Fat Margarine”.

NCC are also concerned with apparent “Seals of Approval” which do not really mean anything and endorsements by almost unheard of but impressive sounding organisations.

Assurance schemes should offer something more than the legal minimum and they have some reservations about some of the existing schemes.

NCC have commissioned some qualitative consumer research for FSA using small focus groups. The results of this will be published shortly and the findings should be read in conjunction with this report, when they are available. The research has looked at responses to a variety of packs and assessed views of different groups including:

- Diabetics
- Families with Children
- Halal/Kosher
- Allergy sufferers
- Vegetarians
- Fathers

They also looked at low incomes groups.

Among the pack and labels included were:

- Farm Assurance (Little Red Tractor)
- Organic
- Dolphin Friendly
- Healthy Eating (Tesco Finest, M&S Count on Us)
- Tartan Mark

The results indicate that many consumers do not want to be over burdened with information and prefer a “picture” which is easily seen, understood and which gives them some assurance. There was generally low recognition and understanding of information on packs as well as considerable misunderstanding.

Who defines the Logo and what does it really mean? Some Logos are approved and some are merely invented by the manufacturer, and the ability to distinguish these varies. The “Quality” rosette on Fray Bentos did not seem to be believed but the “Heart” on Quaker Oats was, even though it was approved by a little known organisation, Family Heart Association.

Many Logos are not widely known or understood (and may be misunderstood) and in general most consumers do not read labelling carefully. However, there are some consumers who read very carefully, particularly if they have particularly dietary needs – vegetarian, diabetic, nut or gluten allergy.

There is a proliferation of logos which leads to confusion. The Vegetarian Society which is a well regarded authority had a green logo but it was similar to the symbol many manufacturers used to label vegetarian foods and which were not so well validated. They changed to a black Logo to distinguish themselves.

The Little Red Tractor Logo is associated with British Farms but can in theory be applied to imported foods which meet the specified standards. Freedom Foods may be a better guarantee of “ethically” produced food.

7.5 Consumer Attitudes to Food Labelling

In February 2000 a report prepared for MAFF¹⁶ was published based on 1,000 face-to-face interviews.

The importance of various factors in selection of food were as follows:

- Quality 76%
- Price 73%
- Health 45%
- Organic or Country of Origin 11%

Use of labels was reported as follows:

- Never look at labels 32%
- Sometimes look at labels 68%
 - of which mentioned unprompted:
 - fat 39%
 - ingredients 29%
 - sell by/use by date 24%
 - of which mentioned prompted
 - sell by/use by date 76%
 - nutritional information 43%
 - ingredients 43%

Of those who look for information on particular topics the following proportion found it hard to locate:

- GM information 69%
- List of ingredients 48%
- Additives 43%

The following criticism were made of labels:

- Information misleading 38%
- Hard to understand 18%
- Too technical 13%

Labels are used to:

- Check life of product 86%
- Value for money 84%
- How to cook 78%

Checks were made of the following:

- Conditions of workers 14%
- Compatible with religion 11%

Some particular “Healthy Logos” had been noticed:

- Tesco’s Healthy Eating 58%
- M&S Health 34%
- Vegetarian Society 22%

Of those who check food labels for specific items they check for:

- fat 68%
- added sugar 47%
- low salt 29%

Seeing a Logo makes consumers:

- More likely to buy 38%
- No difference 61%
- Would not buy 1%

The following is information that should always appear:

- Sell by/use by date 92%
- Ingredients 83%
- Price 83%

“Fresh” was considered to mean:

- Reference to age 43%
- Produced or picked that day 10%
- Not processed, tinned etc 22%
- Not frozen 12%

“Natural” was considered to mean:

- No additives, colouring etc 47%
- Nothing added 18%
- Unadulterated, not tampered with 12%

Sources of information on topics found on labels:

- Newspapers, magazines 53%
- Radio 51%
- Books 14%
- Internet 1%

Want more information on food labelling:

- Yes 48%
 - More leaflets 24%
 - More TV/Radio 17%
 - More newspaper articles 16%
 - More magazine articles 14%
- No 48%
- Don't know 4%

These figures give some insight into what people expect of labelling and what they use it for. It also shows that dates, price and quality are important but also that nutritional information and ingredients are important. It shows further that some information is difficult to find and sometimes misleading. There is confusion over terms such as natural and fresh. Consumers already get information from the media and half of them want more.

7.6 Some German Attitudes

A study¹⁷ was carried out in 1994 in several German regions. Results based on approximately 2,500 face-to-face interviews are summarised:

- The information on food labelling is important to consumers as it supports their decision-making when food shopping. Their trust in the labelling is high. Endorsements or information validated by a third party are important to consumers and give them a sense of security.
- Legal and other formal details on labelling can lead to precision but not clarity and consumers then misinterpret the information as the actual details may not be understood.
- Consumers are not usually capable of “converting” for example the quantities of recommended daily allowances etc., into amount of food they should eat.

- The study showed that 47% of the consumers with a special food related health requirement found the labelling information provided was sufficient, whereas 35% complained that there were too few details. 18% did not get any useful information from the labelling.
- One conclusion is that if all the information required by everyone were included there would be so much confusion that shoppers would be unable to make a decision.
- Current labelling is a reasonable compromise between conflicting requirements.

7.7 Danish Opinions

A study, sponsored by the Danish Ministry of Food, Agriculture and Fisheries¹⁸ in 1997, was carried out with a group of people who were selected randomly.

- The results showed that consumers make most use of the labelling which can be directly understood. The “use by date” is the information most widely noticed when purchasing food products, followed by information on the contents of fat, the actual product weight and the name of the manufacturer.
- 85% of respondents stated that they had deliberately read at least one or more of the details provided on the labelling during their last purchase. The result is not surprising since consumers had stated that the labelling details were useful, if only for checking the “use by date.”
- Consumers were in general satisfied with labelling. 61% said that it was good and only 16% said it was bad while 19% had no opinion on it. Most of the consumers’ complaints related to incomprehensibility.

In a further study¹⁹ for the same ministry in Denmark, also in 1997, and based on focus groups with consumers who had already demonstrated an interest in food labelling, it was concluded that:

- Consumers make relatively little use of labelling information. When they do read the information it is often to look for the presence of “foreign” substances or additives because of concern over long term health. In this context, “foreign” includes residues from pesticides, hormones, antibiotics, etc., as well as normal permitted food additives.
- Labelling confuses consumers and they have difficulties in “decoding” the details. The discussion showed clearly that consumers wished that the information provided was clearer.
- E-Numbers were found to be confusing

- Consumers want more information than currently provided of the types indicated. The nutritional details were of less interest and only appeared of interest to those consumers who were already strongly aware of healthier diets.

It must be remembered that these comments were made by a sample of consumers already known to have a particular interest in food labelling.

7.8 Better Food Labelling

FSA invited written comments on food labelling from a wide variety of organisations and received responses from about 100 of them as diverse as Campaign for Real Ale, North East Vegans and Pembrokehire Women's Institute. The findings were published in a report in 2000²⁰.

The principal conclusions were:

- Ingredients listing should indicate presence of GM components, declaration of allergens, components from animals and clearer identification of additives
- Country of origin labelling particularly for meat and poultry
- Production methods particularly as concerns animal welfare, environmental concerns, pesticides and growth hormones.
- Standardisation of labels, including mandatory format, minimum font size, standard print faces, colours and symbols
- Date marking including how long food will last when open
- Nutrition Labelling with different types of fat, added sugar and salt being listed.
- Vague claims should be outlawed (e.g. "low", "high", "fat free")

Some of these are already mandatory or often appear voluntarily but they identify areas of concern and topics which are often not displayed clearly.

These comments come from "responsible" organisations and may well have a stronger leaning towards green or ethical issues than consumers in general.

7.9 Interpreting Nutrition Labels

A study was carried out in the by the FDA in Washington in 1998 into the ability of consumers to interpret nutrition labels²¹. Four tasks were tested.

Task 1 – consumers were shown pairs of products and asked to identify nutritional differences between them. Altogether there were 7 differences and on average 78% of them were identified. Healthy, white, younger and better educated respondents all performed better than their counterparts.

Task 2 – consumers were asked to compare a claim about the product and nutrition information and assess whether it was true or not. Overall 58% of judgements were correct with women, 35-54s, white and the better educated, doing substantially better.

Task 3 – subjects were asked, “If you ate three servings of this food in a day, what nutrients should you try to get more of from other foods and what nutrients should you try to cut back on?” Overall respondents scored 45% with the older less educated and non-white groups doing substantially less well than their counterparts.

Task 4 – subjects were asked, “How many servings of this would you need to get all the carbohydrate you need in a day?” Only 20% of answers were correct, with the same differences as for Task 2.

These results show that even when attention is drawn to the task the interpretation of nutritional data is poor. When asked to do a calculation the performance gets worse.

7.10 Health Claims

Another FDA²² study in 1997 looked at the effectiveness of various formats of health claims on the attitude of consumers towards a product. Consumers were asked to compare alternative presentations of health claims about various food products. There were four formats as follows

- A. Just the text of the claim
- B. Text plus an endorsement in words
- C. Text plus a logo claiming approval by the FDA
- D. Short claim on the front of the pack with more detail on the back

For each of the options there was a short and a long version of the text giving eight options overall.

- Product-appropriate claims did not necessarily have a positive effect on attitudes, presumably when the claim was too obvious. If the claim was “new” it was more likely to have a positive impact. Claims which seem implausible were negative.

- The consumer is not always taken in by exaggerated or unlikely claims but will go for plausibility.
- Split messages (Option D) work well on small containers like yoghurt but less well on large ones such as cereals.
- The FDA endorsement was negative
- Short messages were generally more positive.

A number of other studies have looked at the effect of claims on perceptions of products. An academic study²³ in 1997 found that putting for example “cholesterol free” on one pack, suggests that other packs without the claim do contain cholesterol and such claims do influence purchasers. However, claims such as this, of properties common to all brands, are not supposed to be made in the USA. A side effect of this is that it is not permitted to label raisins as “cholesterol free” but this means you deny the consumer the information that raisins are “cholesterol free” while peanuts are not.

Another study²⁴ in 1997 found that claims on packages do not affect overall product beliefs and that consumers do not rely primarily on claims when other nutrition information is available but this may not hold for all allowable claims. The authors point out that their results were obtained in artificial circumstances and may not transfer to an in-store situation.

A further study²⁵ in 1999 was carried out into the interaction between health and nutritional claims and other information on the packet. Consumers read the front of the packet first. This study found that if a package has on the front of it a health claim, or to a lesser extent a nutritional claim, consumers are less likely to examine the rest of the label and hence to read the nutritional information panel. The authors caution against extrapolation of the results to other situations and other designs.

A more recent study²⁶ in 2000, found substantial differences in how consumers respond to information on different ingredients. Thus different levels of fat, from the ingredient panel or in claims, has a significant impact on selection of a product because there is perceived to be a high level of diagnostic correlation between fat and health problems. The fibre content of a product has much less impact on choice as there is perceived to be less correlation.

These papers indicate a somewhat confused picture and suggest that effects are very specific to individual claims, ingredients and designs. The research was, furthermore, carried out in somewhat artificial interview circumstances where respondents were deliberately asked to make choices in situations which do not very closely mimic normal buying conditions.

7.11 Changing Habits

An academic study was carried out in 1997 to determine whether nutritional labelling changes eating habits²⁷. This article assesses whether, in the USA, nutritional labelling affects consumers choice of food. The conclusions were that a proportion of people do read the nutrition labelling and will choose healthier food but only if other things are equal. Few people will sacrifice taste for health or will pay more for it.

Some people behave as if they have a nutritional budget and allow themselves to offset “healthy” items with a certain amount of “unhealthy” food, and nutritional labelling may give them “permission” to do this.

The benefits of nutritional labelling may not be dramatic unless perceived “quality” or “taste” is maintained.

7.12 Lion Quality

Eggs have carried a Lion Mark, which was controlled by the Egg Marketing Board, from 1957. In 1990 this was taken over by the British Egg Information Service and the Lion became a Quality Mark. In 1997 a code of practice was introduced concerning the quality under which eggs are produced and how the hens are treated.

Omnibus research²⁸ has shown that there is a high recall of the Lion Mark among shoppers and it has increased from 59% in 1999 to 85% in 2001 with a particular increase among the younger age band. Over half those questioned recalled the Lion quality message.

The symbol has been around for a long time suggesting that there is a long term build up of recognition. In 1999, prior to an advertising campaign, recognition was lower among the 16-26 year olds who had not been exposed to the history but the campaign brought them up to the overall average.

This is a good simple symbol with a simple message and its image has been developed over a long period.

7.13 Country of Origin

MORI^{29 30} conducted two surveys for MAFF, in 2000, on the country of origin of food. These were both parts of Omnibus surveys with about 2,000 replies each, together with four focus groups.

The main conclusions were:

- 40% of the population never look at labels for country of origin
- From the survey 60% of people say that country of origin labelling is important when buying food. However, in a broader context it is not nearly as important as price or quality when it actually comes to selecting a product, particularly for younger people.
- A high proportion of people think it is the customers' "right" to know where their food comes from even if they do not act on the information
- Current labelling regulations are misleading and few people were aware that food labelled as "Produce of Britain" may have been imported and merely packed here. They do not expect Cornish Pasties to come from Cornwall but do expect Camembert to come from France
- 38% say that country of origin is difficult to find or interpret.

8. PICTOGRAMS AND LOGOS

8.1 Pictograms

A study was carried out in 1997 for the DTI into the effectiveness of pictograms³¹ in conveying consumer information. The study included a survey of pictograms in use in the UK at the time of the study, a review of literature, and experimental assessment of the comprehensibility and effectiveness of a selection of them.

The advantages identified were:

- Pictograms can make warnings more noticeable or “attention grabbing”
- They can serve as “instant reminders” of a hazard or an established message
- They may improve warning comprehension for those with visual or literacy difficulties
- They have the potential to be interpreted more accurately and more quickly than words
- They can sometimes be recognised and recalled far better than words
- They can improve the legibility of a warning
- Pictogram or brief textual information may be better when undertaking familiar or routine tasks (although the opposite will apply for novel or highly complex tasks).

However, there are a number of disadvantages of relying on pictograms:

- Very few pictograms are universally understood.
- Even well understood pictograms will not be interpreted correctly by all groups of consumers and across all cultures, and it always takes many years for any pictogram to reach maximum effectiveness.
- There is the potential for critical confusion (interpreting the opposite or an undesired meaning) which can create an additional safety hazard
- Any advantages in noticeability will be affected by size, positioning and clutter on the packaging, issues which are not currently addressed by standards.

Visual material has to be learned and there may be advantages to selecting pictograms which are easily learned rather than ones which are instantly comprehended on first sight. New pictograms need to be tested carefully.

There is a danger of proliferation of pictograms and consequential confusion.

8.2 Logos

Research has been carried out into recognition of certain symbols. The table below shows the proportion of UK consumers who correctly identified the significance of a variety of different symbols.

	Oct 1996	Nov 1998
British Standards "Kite" mark	82%	83%
British Wool "Wool" mark	84%	85%
European Standards "CE" mark	31%	44%
British Electrical Approvals Board "BEAB"	31%	33%
British Toys "Lion" mark	17%	19%
British Standards "BSxxx" mark	23%	16%
German Environmental "GS" mark	1%	2%
European Electrical "ENEC" mark	2%	2%
German Standards "VDE" mark	3%	2%

This suggests that "being around for a long time" is one of the keys to recognition but also that marks such as the top two, which are both distinctive designs but without words, are particularly memorable. The CE mark, which is of more recent origin, seems to be catching up in awareness.

9. OTHER SUBJECTS

9.1 Tobacco

A 1996 study in Canada³² on response to health warnings on cigarette packets came to the following conclusions:

- The location and colour of health messages does influence smokers' ability to remember them. The message is more likely to be remembered when shown on the top of the package, and when presented in Black and White.
- Messages located on the top of the package, occupying 35% of the space and in contrasting black and white type, were clearly indicated as 'most likely to be read by smokers'.
- Cigarette packaging is considered an important resource for information about health risks associated with smoking. It is a particularly important resource for teens. Virtually all smokers have seen the messages and they are read an average 1.7 times per day.
- Current health messages have effectively been internalised by smokers. 9 in 10 can recall at least one unaided, and over half can recall at least 3. Recall levels are higher among teen smokers. In addition, cigarette package health warnings have had a sizeable influence on smokers' understanding of risks associated with smoking and their general attitudes and behaviour.
- Smokers want to be reminded of the health risks associated with smoking. Current messages are addressing this need and show no signs of wearing out. However, messages referring to lung disease and cancer appear to have more impact and relevance than those associated with heart disease and strokes.
- Cigarette package warnings could benefit from being more closely associated with Health Canada. Although many smokers are already aware that the messages are sponsored by Health Canada, those who are not aware react positively to this information.
- To communicate Health Canada's sponsorship, the lettering should be large, bold, and clear, reflecting the same size as the message itself. Smokers react more positively to the Health Canada designs that stand out rather than those that retreat into the background.

The conclusions are interesting in terms of what people understand and learn from labels but the study does not look at the impact on tobacco consumption.

Since January 2001³³ tobacco companies in Canada have had to use 1 of 16 health warnings on cigarette packets with an image that covers at least half of the pack area. Previous warnings were required to cover only a third of the packet. The images are gruesome including photos of lung tumours, a brain after a stroke and a set of rotting teeth.

A survey was carried out in the late 2001 of 2,031³⁴ adults of whom 633 were smokers. Ninety percent of the smokers say they have seen the new warnings while 21% say that on one or more occasions they have been tempted to smoke but did not do so because of the warnings. Among those who attempted to quit, 38% said the warnings were a motivation.

Imperial Tobacco Canada says that sales of cigarettes have continued to decline as they have done for the last 40 years but there has been no acceleration of the decline since introduction of the new warnings. Despite this apparent lack of “impact”, the three major tobacco companies are continuing to press for removal of these additional health warnings. This view, that there has been no additional reduction in smoking as a result of health warnings on packets, was supported by an expert³⁵ speaking on behalf of the tobacco companies and said by him to be supported by studies between 1977 and 1999.

A briefing by ASH³⁶ (Action on Smoking and Health) contains a summary of various research studies in this area.

- These show that older smokers are beginning to be scared by health warnings.
- Small warnings imply government complicity in suppressing the warning and that the size of the warning reflects the magnitude of the risk
- The use of gold type for the warning is reflective and does not give enough contrast.
- Most smokers have seen the warning but only 29% can say where it is on the packet.
- Australian and Canadian warnings are larger and bolder (pictorial) than British warnings and are more eye-catching.
- 3% of Polish smokers have quit since the recent introduction of warnings on packets and 16% have tried to quit.

Overall it seems that larger and more graphic warnings are noticed more and increase awareness of the issue. The evidence that people stop smoking as the result of seeing the warnings is less clear cut.

9.2 Alcohol

In the USA alcoholic beverages have been required, since 1989, to carry the following messages

GOVERNMENT HEALTH WARNING: (1) According to the Surgeon General, women should not drink alcoholic beverages during pregnancy because of the risk of birth defects. (2) Consumption of alcoholic beverages impairs your ability to drive a car or operate machinery and may cause health problems.

ICAP³⁷ (International Centre for Alcohol Policies) published a report reviewing the findings of research into the effect of this warning and health warnings in other countries.

Support for the warnings is high and it does seem to have some impact on awareness of the issues particularly in the early stages after its introduction. However, there seems to be little evidence the labelling has reduced abusive drinking and there are reports that alcohol consumption during pregnancy is on the increase³⁸. In 1989, before the law came into effect, 22.5% of pregnant women drank alcohol and this fell to 9.5% by 1992 but had risen again to 15.3% by 1995.

Research in Canada³⁹ supports the conclusion that labelling has little effect on abusive drinking and the conclusion was reached that there are other more effective educational processes for reducing alcohol abuse.

The Campaign for Addiction and Mental Health⁴⁰ (CAMH) argues that warnings in other countries have been ineffective for a variety of reasons. In particular:

- warning labels reinforce rather than replace other forms of education and ongoing public education is also needed
- drinking during pregnancy is a minor part of the problem and the other issues should have greater prominence
- the warning labels are poorly designed in almost every respect – type face, colour, position and wording
- labels are more effective when they contain a new message.

They also make the point that, now that government health warnings are commonplace, the absence of one here can be seen as implying the reverse.

9.3 Partially Sighted Consumers

An article in Consumer Policy Review⁴¹ looks at the needs of the 1,000,000 partially sighted people to “read” the critical information on packaging either when shopping or when using the product. As part of the study the needs of normally sighted people was also examined. Although not strictly about a labelling scheme this article has information which should be taken into account in the design of any labelling scheme.

Legibility problems arise because of the following factors:

- Information layout and location
- Font type and size
- Information presented in poorly contrasting colours
- Unclear graphics or diagrams
- Unsuitable packaging materials (shiny wrappings reduce legibility)

Inadequate information for the partially sighted reduces their choice and can lead to accidents if use-by dates are misinterpreted or safety instructions not seen.

There is a problem of too much information on many packages which is worse when the pack is small. More information means smaller typeface and lower legibility. There is a conflict between clear communication, satisfying everyone’s differing needs and meeting increasing legal requirement.

Of the normally sighted population, 56% of the population sometimes have problems reading the weight marks on packages and the figure rises to 81% for those over 65. The problem is exacerbated if the colour of the background is inappropriate. The weight mark is not always suitably placed and half the sample reported that they sometimes had to take the package from the shelf to check the weight. These figures show that it is not just the partially sighted who have problems though of course their difficulties are greater.

The partially sighted have problems reading most of the instructions and other information but this could be alleviated by printing critical information in larger type on a white background and in a more appropriate location clear of other information. In particular sell-by and use-by dates should be given more prominence, as should “not suitable for ...” comments. Sell by dates are often on obscure parts of the packaging such as the knurled part of a bottle cap. Text is more difficult to read on curved, shiny or blistered surfaces (the top of yoghurt pots).

The recommendations include the following which would not only help the partially sighted but everyone else as well and allow us all to make more informed choices:

- Type size of 14 point minimum for key information using bold clear type face
- Wider line spacing
- High contrast, black on white or yellow background. Dark green, blue, red or green on a pale background. Never yellow type.
- Numerals (e.g. 3, 5 8) can be confused in some typefaces – Frutiger is best.
- Do not obscure vital information with price labels.
- Use recognised icons where possible
- Key info should be boxed
- Picture on the left, text on the right
- Use upper and lower case, not all capitals
- Leave space between paragraphs
- Do not justify text
- Avoid shadowing of text
- Avoid splitting words at line ends
- Line length of 50 to 65 characters.
- Use matt surfaces
- Avoid blistered or curved surfaces for text
- Contents of transparent containers can affect legibility
- Do not print on the reverse of labels
- Opening tabs should be clearly differentiated
- Use standard colour codes.

9.4 Tactile Danger Warning for the Blind

Apart from visual warnings dangerous products should have a tactile warning (CHIP regulations) for the visually impaired. This consists of a raised triangle with sides 18mm long (or 9mm when the symbol is integral in flexible packaging). The symbol is placed on a handling surface as near the opening as possible.

An evaluation of the warning⁴² has been carried out by the Royal National Institute for the Blind (RNIB). In a series of tests the subjects were asked to handle 16 packages, 8 of which carried the symbol applied as an embossed plastic stick-on label and 8 which of carried only a blank label. Subjects were asked to identify those carrying the symbol. There were 52 participants, 83% of whom were over 65. Overall 94% of packages were correctly identified under the test conditions. Most of the errors arose because the symbol, although located, was not identified.

The study concluded that although the symbol was identified in the test it is unlikely that it would have been found by chance unless the subject had been looking for it. There is thus a continuing need for “training” so that the visually impaired know that they should look for the symbol. Such training can be provided through normal training schemes for those of working age but for the elderly it is more likely to be a “public information” exercise.

Although it is useful to know that a small symbol, such as this, can be located and identified, the study does not test whether a triangle could be distinguished from a square or circle of similar size, and it did not ask respondents if they were aware of the “Triangle” or took any notice of it before being asked to participate in the study.

9.5 Insecticides

The Environmental Protection Agency in the USA undertook research⁴³ concerning labelling of household cleaners, indoor insecticides and outdoor pesticides. While some of the conclusions are specific to the US labels some are of general interest.

- All the same labelling principles do not apply to all products
- Household cleaners are familiar products and so people tend not to read labels. Any new instructions, or anything different from that which would be anticipated, needs to be highlighted.
- The same applies to indoor insecticides. Outdoor pesticides are more varied and less familiar and labels are more likely to be read. They need comprehensive but simple instructions.
- Labels should say “why” and avoid jargon.
- Ingredients information should be tabular and include the function of key items.

9.6 OTC Medicines

Instructions with medicines are a special form of labelling. AFIPA from France provided some conclusions from a study⁴⁴ they had commissioned on the use of OTC medicines. This shows that although the doctor or chemist is an important source of information before buying such medicines, 71% of respondents also look at the instructions with the medicine before purchasing. 80% of respondents claim to read the whole of the instructions every time they take the medicine. 91%, somewhat more realistically, say they read the instructions to find specific information.

Although the reported figures seem very high they do illustrate the point that instruction labels are very important for some types of products.

9.7 Prescribing Errors

The drug Propulsid is a treatment for heartburn. It is normally safe but not appropriate when a patient has particular conditions or is taking particular other medication. In the year up to June 1998⁴⁵ the proportions of patients on Propulsid in three separate health plans, who should not have been taking it, were 26%, 30% and 60%. In June 1998 a boxed warning was added to the labelling drawing attention to the contra indications. Over the next year the proportion of mis-prescribings were 24%, 28% and 58%.

Other findings have shown that boxed warnings are frequently effective but this highlights the difficulty of transferring findings from one set of circumstances to another.

9.8 Do Product Warnings Increase Safe Behaviour?

An analysis of 15 studies into the efficacy of safety warnings was carried⁴⁶ out. The results showed that, whether or not a warning was effective, was a complex interaction of the warning, the product, the usage situation and user.

Overall warnings have a beneficial effect although it is often more effective to eliminate the hazard.

In some circumstances a warning can actually increase the number of accidents particularly where the warning is poorly designed or inappropriate.

Every new warning needs to be evaluated in appropriate circumstances using an appropriate group of subjects before being adopted.

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