

## 7 Legislative factors and product specifications in the marketing of 'light' foodstuffs

**Abstract** In the second half of the twentieth century, a new paradigm in food consumption emerged – expressed in the quest for low-calorie foods, with the objective of meeting new aesthetic standards, but also countering the development of obesity-related diseases. The food industry has been able to grasp consumers' current needs with the introduction of reduced-calorie foods that, unlike other categories of products, have been showing an increasing sales trend. In this paper, after analysing the specifications, composition and production characteristics of low-calorie food products, we have attempted to clarify the effectiveness of said foods and the way they are perceived by consumers, in light of developments in the legislation regulating the marketing of reduced-calorie foods.

### The development of light foodstuffs

The food industry has always been very dynamic, mainly because the supply system is required to meet the changing and increasingly innovative requirements of demand. Indeed, in the last three years, the Italian food industry has put more than 4,000 products on the market, products that are either entirely new or that bring new features to existing ones<sup>i</sup>. As a result, the nutritional and composition characteristics of many of the goods forming the present-day family shopping basket are now different from the past.

As regards demand, it should be stressed that the nutritional aspect of food is considered less and less frequently by consumers in their overall expenditure: as a matter of fact, it decreased from 26.1% in 1983 to 17.7% in 2007<sup>ii</sup> (*Federalimentare*, 2008). Nevertheless, the requirements are more and more detailed and, among them, the quest for health and wellbeing appears to be a focal point of innovation<sup>iii</sup>. From 2003 to 2008, the volume in the sales of health foods recorded a growth rate of 59% compared to the other clusters being examined, showing that consumers' needs were more oriented to lighter and healthier products<sup>iv</sup>. Furthermore, according to the Nielsen data, in the first half of 2017, the "health-shopping cart" sky-rocketed, registering a percentage of 28.3% on the total impact of food turnover (Osservatorio Immagino Nielsen Gs1 Italy, 2017).

Among health foods, 'light' products stand out for their strong presence on supermarket shelves, under different names but all pursuing the same objective: sales promotion based upon the single message of emphasising lightness and the reduced daily energy value in terms of kilocalories.

The new attitude of consumers is undoubtedly positive, since it is aimed at correcting bad eating habits and thus avoiding: prolonged weight gain ending with being overweight or obesity; and the development of serious disorders leading to health problems. As a matter of fact, in recent years, not only have the quantity and quality of foodstuffs consumed changed, so too has the global energy balance. This is represented by the overall daily calorie intake, which has grown from about 2,546 kilocalories per person at the beginning of the 1950s to 3,000 in 1983, registering an increase of almost 18%. Nowadays, thanks to more sensible eating habits, and the rise of hedonistic patterns that increase weight consciousness, an average daily calorie intake of about 2,200 per person has been reached<sup>v</sup>.

However, while the overall individual energy intake has been reduced, the pursuit of 'light' products is not always straightforward. This is because it is related to information about chemical composition and the amount of nutrients present in food, which is not always easily accessible to most consumers.

To this end, the characteristics of a food can be grouped into three main categories: *search*, when verifiable by the consumer at the time of purchase<sup>vi</sup>; *experience*, when they can be ascertained only after consumption<sup>vii</sup>; and *credence*, when they cannot be verified at the time of purchase or after consumption<sup>viii</sup>.

Setting aside the features that can be perceived at the time of purchase (*search*), it should be observed that the consumer can achieve awareness of the other two through labelling systems that communicate a product's composition and nutritional content.

The food industry has interpreted consumers' need for information correctly, and has created an increasing number of messages – and nutrition and health labels – using slogans referring to the food's lightness and properties. However, the desired results are not always reached, and the purchase decision is not always facilitated by the above-mentioned slogans. For transparency reasons, in 2006 the European Parliament and the Council issued Regulation No. 1924 of 20 December on nutrition and health claims made on food products, with the objective of providing a higher level of consumer protection, guaranteeing at the same time the free movement of goods and homogeneous conditions of competition.

In this paper, besides specifications related to 'light' products, the analysis carried out took into account the nutritional messages provided through sale of foodstuffs, in light of the most recent regulatory evolution. From a survey conducted across several department stores, it emerged that the use of nutrition claims is not always adequate to support customers' purchase decisions. In fact, product labels can often be misleading, even when the information therein is authorised by the legislator. Therefore, to keep pace with the food industry's evolution, it is recommended that attention be placed on applying Regulation (EC) No. 1924/2006, which was modified by and incorporated within Dir. 2011/1169/CE. In other cases, misinterpretation is due to labelling containing omissions, enhancing features that are not scientifically proven or not specific of the product advertised.

In this context, this chapter was conceived and developed to review the state-of-the-art light foods, so as to deepen understanding and knowledge in the field. This was also done through a comparison of a set of light foods with their traditional equivalents in order to investigate issues related to composition, advertisement,

packaging and labels. With regard to the latter point, the study aimed to verify the effectiveness of the “Claims Regulation”, now contained within Dir. 2011/1169/CE, with regard to the use of ‘light’ (and synonyms) nutrition label.

### **The framework of nutritional messages in the international context**

The growing attention awarded to nutrition has considerably increased awareness of nutrition and health claims on packaging and in advertising campaigns. The rapid spread of ‘light’ or reduced-fat products has highlighted the necessity at international level to elaborate regulations with the aim of ensuring accuracy in the message delivered by this type of products. United States’ rules for the use of the word ‘light’ have been set since the beginning of the 1990s by *The Nutrition Labeling and Education Act*<sup>ix</sup>. In contrast, the European Union only recently stepped up. Since 1979, the European Parliament and the Council have issued a series of regulations to ensure the accuracy of nutrition and health claims, with special regard to healthy diets centred around low-energy foods. As a matter of fact, Directive 2011/1169/CE<sup>x</sup> establishes that all labels in pre-packaged foodstuffs marketed at Community level must be characterised by a list of the ingredients contained (see Table 1). Furthermore, this Directive transposes Directive 90/496/EEC<sup>xi</sup> and establishes that all products, packed or promoted through nutrition claims, are equipped with nutrition labels. These are designed to report the energy value and quantity of nutrients and related components<sup>xii</sup> (see Table 2).

**Table 1: Mandatory nutrition labelling for foodstuffs, Dir. 2011/1169/CE**

	<b>Content</b>
<b>Sales name<sup>xiii</sup></b>	<ul style="list-style-type: none"> <li>- The name of the food shall be its legal name. In the absence of such a name, the name of the food shall be its customary name, or, if there is no customary name or the customary name is not used, a descriptive name of the food shall be provided;</li> <li>- The use in the Member State of marketing of the name of the food under which the product is legally manufactured and marketed in the Member State of production shall</li> </ul>

	be allowed.
<b>List of ingredients<sup>xiv</sup></b>	- The list of ingredients shall be headed or preceded by a suitable heading which consists of or includes the word 'ingredients'. It shall include all the ingredients of the food, in descending order of weight, as recorded at the time of their use in the manufacture of the food <sup>xv</sup> .
<b>Quantity or category of ingredients<sup>xvi</sup></b>	The indication of the quantity of an ingredient or category of ingredients used in the manufacture or preparation of a food shall be required where the ingredient or category of ingredients concerned: <ul style="list-style-type: none"> <li><i>a) appears in the name of the food or is usually associated with that name by the consumer;</i></li> <li><i>b) is emphasised on the labelling in words, pictures or graphics; or</i></li> <li><i>c) is essential to characterise a food and to distinguish it from products with which it might be confused because of its name or appearance.</i></li> </ul>
<b>Net quantity<sup>xvii</sup></b>	- Units of volume in the case of liquids; - Units of mass in the case of other products.
<b>Minimum/maximum durability<sup>xviii</sup></b>	- In the case of foods which, from a microbiological point of view, are highly perishable and are therefore likely after a short period to constitute an immediate danger to human health, the date of minimum durability shall be replaced by the 'use by' date.

Source: Information taken from Dir. 2011/1169/CE and reorganised by the author.

Directive No. 1169/2011, which regulates food labelling, specifies that the nutritional label is mandatory as of December 2016 regarding the declaration of caloric content (kJ/kcal), fat, saturated fat, carbohydrates with specific reference to sugars, and salt, expressed in amounts per 100g or per 100ml or per portion.

**Table 2: Standards for nutrition labelling, Dir. 2011/1169/CE**

<b>Energy</b>	<b>kJ/kcal</b>
<b>Fat</b>	<b>g</b>
<i>of which</i>	
— saturates,	<b>g</b>
— monounsaturates,	<b>g</b>
— polyunsaturates,	<b>g</b>
<b>Carbohydrates</b>	<b>g</b>
<i>of which</i>	
— sugars,	<b>g</b>
— polyols,	<b>g</b>
— starch,	<b>g</b>
<b>Fibre</b>	<b>g</b>
<b>Protein</b>	<b>g</b>
<b>Salt</b>	<b>g</b>
<b>Vitamins and minerals</b>	<i>any added vitamin and mineral if that substance is subject to a nutrition declaration<sup>xix</sup>.</i>

Source: Author's elaboration of Directive 2011/1169/CE.

In 1997, the guidelines for the use of nutrition and health claims<sup>xx</sup> were published by the *Codex Alimentarius* Commission, which was funded by the FAO and the WHO in 1963 with the purpose of underlining the general guidelines for promoting consumers' health and fair trade at international level<sup>xxi</sup>.

In accordance with the CAC/GL 1-1979<sup>xxii</sup> issued by the Commission, a nutrition claim means “any representation which states, suggests or implies that a food has particular nutritional properties including but not limited to the energy value and to the content of protein, fat and carbohydrates, as well as the content of vitamins and minerals”. Rules that allow for claims about the content of specific foodstuffs as well as comparative claims are laid down in the guidelines. The latter are labels comparing the presence of nutrients or energy value of two or more foodstuffs.

The issue of such a document and diffusion of attention-grabbing claims like those designed for ‘light’ foods have caused for specific norms to enter into force and be adopted by EU Member States. This was done to regulate the application of those claims and labels, so as to: allow for their correct use; avoid broadness of certain messages with subsequent misinterpretation, and favour the correct communication to consumers.

Therefore, to guarantee consumers’ protection and prevent different regulations in force in European countries from hindering the free movement of foodstuffs, the European Commission, in the White Paper on Food Safety of January 2000, proposed the introduction of specific legislation on nutrition claims<sup>xxiii</sup>.

In this regard, the United Kingdom’s Consumer Association performed a survey in 2000 and documented that, on average, British consumers do not fully understand the information provided by nutrition labels. For examples, the majority of respondents were not aware of the true meaning of ‘fat-free’, ‘low-fat’, and ‘90% less fat’ labels<sup>xxiv</sup>, and so misinterpreted the information provided through those labels.

The first step for community regulation on nutrition labelling led to the drafting of a *Discussion Paper*<sup>xxv</sup> by the Directorate-General for Health and Consumers (DG SANCO) of the European Union. This allowed for the groundwork for a shared definition of nutrition claims and their field of application between more than 90 agents, including Member States, consumer associations and food industries.

Particularly noteworthy are some considerations on the suitability of the ‘diet’ label, which is often used as a synonym of ‘light’ but can be easily confused with the word ‘dietary’, specifically disciplined by Directive 89/398/CEE. The concept of ‘dietary foods’ is used to refer to foods for people with a specific diet.

At the end of the consultation, and after three years of work, in July 2003 the European Commission submitted the proposal for the regulation on nutrition and health claims<sup>xxvi</sup> to both the Parliament and Council.

In August 2005 the *BEUC*, the European Organisation coordinating the consumers’ associations of each Member State, published the results of a survey on European consumers’ perception of foodstuff labelling<sup>xxvii</sup>, to allow stakeholders to revise the proposal to assess consumers’ awareness. The survey highlighted that, though three quarters of respondents had claimed to be interested in nutrition and the pursuit of a balanced diet, the nutrition labels had been read and understood by only 20% of respondents.

Furthermore, more than half were in favour of nutrition labels that were easy to identify and understand: this proved to be great support in the purchasing choice, especially if linked to a popular brand.

The legislative process came to an end in December 2006 and Regulation 1924/2006<sup>xxviii</sup> was approved. It entered into force in all Member States twenty days after its publication in the Official Journal of the European Union, though its application dates back to July 2007. Its purpose was to bring clarity to the various and diversified world of nutrition labelling by reconciling the opinions of the Member States and the international provisions of the *Codex Alimentarius*.

Finally, the difficulty of such an attempt – made more serious by the rather slow pace of the legislative process – gives rise to concerns about the Regulation's effectiveness, especially in light of what is being offered nowadays on supermarket shelves. In the opinion of this team of authors, the cases analysed hereinafter regard 'light' products only, show that the development of healthy eating habits in consumers, and of accuracy and transparency in producers' advertising, is still far from being achieved.

## Legislation and definition of light products

### *The definition of 'light' in Regulation 1924/2006 from the perspective of product specifications and nutrition factors*

Regulation No. 1924/2006 was passed to control the use of nutrition messages, stating that these must be consistent with the labels permitted by the legislator and, in some cases, must be specifically authorised. In the Annex, the definition of the 'light' nutrition label and related conditions for use are provided: "a claim stating that a product is 'light' or 'lite', and any claim likely to have the same meaning for the consumer, shall follow the same conditions as those set for the term 'reduced'; the claim shall also be accompanied by an indication of characteristics which makes the food 'light' or 'lite'". In essence, the provision follows the *Codex Alimentarius*' 1997 Guidelines, disregarding the Nutrition Labelling and Education Act<sup>xxix</sup>, according to which a 'light' foodstuff's rate of reduction is greater than that of one bearing the label 'reduced'. The latter is allowed by European regulation for products in which the nutrition substance is present with a quantity at least 30% less than a similar product.

The Regulation also permits the use of the word 'reduced' for the calorie content<sup>xxx</sup>. This fully corresponds to the definition provided by expert Italian nutritionists, according to whom 'light' foodstuffs feature a reduced calorific value with respect to their traditional equivalents, due to a variation in the chemical composition<sup>xxxi</sup>. Therefore, while the Regulation identifies a reduction in energy as one of the prospective characteristics that allows the use of the corresponding claim, industry experts regard it as the only true difference between 'light' and traditional foodstuffs. This is fully supported in the US regulation, according to which the 'light' label can only be applied to fats if it complies with the provisions for the smaller energy amount, if the product also presents a reduced calorie and

fat content, and reduces salt below the mandatory percentage. In any case, until now most products marketed as 'light' pursue the objective of reducing the total daily calorie intake and, therefore, suggest a reduced contribution of calorific substances, that is, in order: fats (9 kcal/g), alcohol (7.1 kcal/g) and sugar (4 kcal/g). This result can be reached using different production techniques: replacement of fats, or addition of air (foaming method) or water. The replacement technique requires identification of the nutrition components with the smaller energy content or – where possible – zero calories. Those components allow the chemical substances removed to be replaced without altering the product's texture or flavour, in order not to prejudice its price positioning or organoleptic assessment. In the case of fats, restructured proteins, whey derivatives, vegetable proteins, modified starches and others (to partially make up the calorie deficit) are used as substitutes. However, to leave the quality perception of the foodstuff unchanged, additives such as flavour enhancers, emulsifiers or preservatives are utilised. The latter in particular become necessary when water is added to the product, as it is more easily perishable. Intensive sweeteners and polyols (e.g. sorbitol, xylitol, and mannitol) are often used to replace sugars, especially sucrose. When their application is targeted at weight management, their scarce contribution must be pointed out, since in the case of sucrose, the calorie make-up is around 1.6 kcal per gram of sugar replaced. By contrast, the calorie make-up would result in an average reduction of 80 kcal/day in the case of a hypothetical replacement of all simple sugars, corresponding to around 50 grams in an average diet of 2000 kcal per day<sup>xxxii</sup>. Artificial sweeteners must be authorised in advance by the Ministry of Health, which determines the recommended amounts. These substances are likely to alter the flavour of food and enhance the perception of sweetness, inducing the consumer to prefer more and more 'sweetened' products, even though the abuse of such substances has been proven to lead to gastrointestinal disorders. Finally, the more complicated manufacturing processes involved in the production of 'light' products often imply the loss of some important components, such as vitamins and fatty acids, which are vital for a balanced and healthy diet.

Therefore, the differences between the legal provisions adopted by the European Community and the definition shared by nutritionists regarding 'light' products, in addition to the multiple alterations these have undergone to obtain a satisfying and durable flavour, give rise to some concerns about the comprehensiveness of Regulation 1924/2006 in terms of consumer protection. According to the Regulation, a 'light' foodstuff does not necessarily have to provide less energy power than a traditional one: in theory, an ingredient that increases the total calories without breaching legislation could replace the reduced nutrient. Moreover, as mentioned previously, the processes undergone by the product may have caused the loss of some important substances, so that its overall energy value is reduced. However, the legislation in question seems to disregard this issue, which may nevertheless be important in allowing the consumer a correct economic assessment of the product. Finally, daily evidence shows that products bearing the 'diet' label as a synonym of 'reduced fat' are still widespread, though Regulation 1924/2006 does not provide for this sense – the reason being that the products that can be labelled as 'diet', according to the European law<sup>xxxiii</sup>, are intended for consumers with specific



nutritional needs, either because they are affected by metabolic disorders, or because their condition is such that they might benefit from a moderate intake of certain substances in foodstuffs. Moreover, the Directive itself forbids the use of the word ‘diet’ for the labelling of commodities. ‘Light’ products, therefore, differ from the dietetic ones, because they target consumers who merely wish to lose weight and do not suffer from disorders.

The issues emerged require an in-depth analysis through field research on ‘light’ products and, where necessary and possible, dialogue with producers.

## Results and discussions

‘Light’ foods are awarded a smaller calorie contribution by consumers who are convinced that they represent a healthier choice compared to traditional ones. This is also because consumers are attracted to and value the benefits of a food promoting lightness, wellbeing and health<sup>xxxiv</sup>. In the previous sections, some issues have already been addressed, such as light foods’ compositions and how reliable the association of light and weight loss can be. To deepen the understanding and knowledge around this point, some categories of foodstuffs have been examined, comparing traditional and ‘light’ products. The standards considered are: the message delivered by the packaging, if aimed at emphasising the product’s lightness; correspondence with legislative provisions; the nutritional values, and the price. In Tables 3, 4, 5, and 6, the results of the research were presented by providing examples of best and worst practices.

Table 3: Traditional sugar (Product 1), sugar with artificial sweeteners (Product 2), and pure sweeteners (Product 3). Values are expressed per 100 g of product.

	<b>Product 1</b>	<b>Product 2</b>	<b>Product 3</b>	<b>Product 4</b>
Composition	Sucrose (cubes)	Sugar Acesulfame k Flavourings (cubes)	Brown sugar Acesulfame k Flavourings (cubes)	Lactose Sucralose Adjuvants E468 Leucine (tablets)
Energy	400 kcal	396 kcal	396 kcal	343 kcal
Protein	0	0	0	0.1
Carbohydrates	100	99	99	86
Fat	0	0	0	0
Claim	Sugar for beverages or others	The flavour of sugar with 75% fewer calories	The flavour of sugar with 75% fewer calories	---
Amount per package	168 cubes	204 cubes	204 cubes	120 tablets

Price (Euro/kg)	1.23	8.62	15.48	441
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**Source: Our elaboration of the information provided on packages and nutrition labels**

As can be noted from Table 3, equal amounts (in weight) of the first three products provide the same amount of energy. It is clear that, in order to obtain the same sweetening effect, a smaller amount of Product 2 or 3 should be used. Given the need for different amounts of products to obtain the same sweetening power, one could assert that the first two products are similar in price range, though artificial sweeteners cost 3 to 5 times less than natural ones. However, from the comparison between the second and third products, it is difficult to justify the difference in price (+44.3%). This should be attributed to the products produced by the same company, in the same format (cubes), which would result in comparable costs for production. The mark-up could be attributed to the presence of brown sugar (the only element that distinguishes the two foods), though the price of brown sugar does not exceed 4 €/kg, unless in the case of organic products. Moreover, acesulfame-k is an artificial sugar – that is, synthetic – with a bitter aftertaste that is not always pleasant. One may then wonder why this product is so costly since, while reducing the number of calories, it is likely to increase the intake amount, which compromises the overall energetic result. With regard to the final product in the list, the price per kg is the highest of all the sweeteners on the market: this can be only partially attributed to production costs. However, both claims and labels comply with the regulations in force.

Table 4: Classic and reduced-salt granular stock cubes (values per 100 g of product)

	<b>Product 1</b>	<b>Product 2</b>	<b>Difference</b>
Energy	257 kcal	316 kcal	+22.96%
Protein	17 g	16 g	
Carbohydrates	2.1 g	11 g	+423.8%
- <i>sugars</i>	0 g	8.6 g	
Fat	20 g	23 g	
- <i>saturated</i>	12 g	14 g	
- <i>monounsaturated</i>	8 g	9 g	
Fibre	0.2 g	0.5 g	
<b>Salt</b>	<b>58.8 g</b>	<b>39.4 g</b>	<b>-33%</b>
<b>Stock cube price (by comparison) (Euro/kg)</b>	<b>9.90</b>	<b>8.90</b>	<b>-10.10</b>
Claim	Rich in flavour	Flavour and lightness -30% salt	

**Source: Our elaboration of the information provided on packages and nutrition labels**

In the case of granular stock cubes (reported in Tab. 4) the *claim* is focussed on the salt content, which accounts for 30% less than the traditional equivalent. The comparison shows that the salt contained in Product 2 ('light') is 39.4 g, meaning a reduction of around 33% compared to Product 1. As a result, they comply with Dir. No. 2011/1169/EC, which allows the 'reduced / light' label on foods where the amount of salt is less than 30%. Moreover, in the 'light' granular stock cube, the amount of sugar is higher than 43%, so that the total calories are increased by 22.96%. This is an example of labelling with a claim of lightness that should refer only to the amount of salt and not to the product's total calorie value. This aspect conflicts with the most reliable nutrition labels, which confer on the product the feature of reduced calories compared to its traditional equivalents. US legislation on the matter states that the reduction in mineral salts shall always be accompanied by a suitable reduction of the calorie contribution.

Obviously, the claim 'light' used by the granular stock cubes directly impacts on the sale price, which is indeed more than double the classic one. It is surprising that such price disparity is not found in the stock cube, in which a salt reduction of 30% actually corresponds to the values on the label, but does not impact the price of its 'light' equivalent, which is lower (9.90 €/kg for the classic and 8.90 €/kg for the 'light' version).

Labelling mistakes were found in some of the products surveyed on supermarket shelves – these were considered examples of worst practice. This was the case for crisps labelled 'light' and 'low-calorie' without specifying the substance reduced. From data on snack food from the Italian National Research Institute for Food and Nutrition (hereinafter INRAN), an average reference value of 507 kcal per 100 g is shown for crisps, while the above-mentioned package reported 491 kcal. Therefore, compared to the relevant category, a decrease slightly over 3% is shown – far less than the 30% required for the 'light' label (7).

In Table 5, a best practice case is presented and discussed, as the product ('light' cheese slices) fully complies with the regulation related to the values reported. The food product considered is indeed characterised by a fat content 51.43% lower than the conventional equivalent. In addition to this, the product is marketed at a price reduced by 5.52%, due to the reduction in the nutrition value of the 'light' version.

Table 5: Classic and 'light' processed cheese slices

	Product 1	Product 2	Difference
Energy	225 kcal	174 kcal	-22.67%
Protein	18 g	17 g	
Carbohydrates	4.2 g	7.8 g	+85.71%
- sugars	4.2 g	5.6 g	
<b>Fat</b>	<b>14 g</b>	<b>6.8 g</b>	<b>-51.43%</b>
- saturates	9.2 g	4.5 g	

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Fibre	3 g	3 g	
Salt	3.11 g	2.26 g	
Calcium	580 mg	560 mg	-3.45%
<b>Price (Euro/kg)</b>	<b>7.25</b>	<b>6.85</b>	<b>-5.52%</b>
Claim	Processed cheese slices	Light processed cheese slices	50% less fat than the classic

**Source: Our elaboration of the information provided on packages and nutrition labels**

As part of the research development, a foodstuff in the crackers category was identified. The product is labelled as 'light flavour', claiming a fat content 50% lower than the average of the most popular products, according to Information Resources Inc. (IRI), a renowned market research company located in Chicago, USA. In this regard, it is noted that only thorough research on the Internet allowed the team of authors to fully read up on this authoritative source on food composition. This is reflected in consumers experiencing the same difficulty finding and accessing this and other similar data sources on foods and food nutritional contents. Therefore, it would be preferable to report its full name or, better yet, to refer to more reliable sources. Moreover, according to INRAN, the average fat content in crackers should be 10 g per 100 g of edible product. It follows that the foodstuffs identified in the supermarket with a label reporting 5.9 g would not fall within the 50% the product claims to belong to.

Table 6: 'Light' and classic spreadable cheese

	<b>Product 1</b>	<b>Product 2</b>	<b>Difference</b>
Energy	278 kcal	173 kcal	-37.77%
Protein	4.5 g	6.8 g	+51.11%
Carbohydrates	2.7 g	4.1 g	+51.85%
- <i>sugars</i>	2.7 g	4.1 g	
<b>Fat</b>	<b>27 g</b>	<b>14 g</b>	<b>-48.15%</b>
- <i>saturates</i>	19 g	9.4 g	
Fibre	0.1 g	0.3 g	
Salt	0.75 g	0.72 g	
<b>Price (Euro/kg)</b>	<b>7.36</b>	<b>7.95</b>	<b>+8.02%</b>
Claim	Classic, fresh, no preservatives. Unrivalled taste	Light but tasty (40% less fat than the 250g pack)	

**Source: Our elaboration of the information provided on packages and nutrition labels**

In Table 6, the characteristics of a fresh spreadable cheese in its classic and 'light' formats are listed. Full legislative compliance emerges from the analysis since the decrease in fat is higher than the claimed 40% and the total calories are reduced by over 30%. We would point out the message in the claim: the nutrition information of the 'light' product refers to packaging formats that are different to the one on display, which could be misleading for the consumer, who, without realising, is likely to compare fats between different packaging and formats, and therefore between different foodstuff portions.

## Conclusions

Reg. No. 1924/2006 was designed to avoid the misunderstanding and misinterpretation of information about foods' nutritional content by European citizens – foods that are marketed normally, and enjoy special properties, though are not classified as targeting specific diets.

The analysis of the nutrition claims and labels on some 'light' foodstuffs highlighted some communication gaps related to both the structure of the above-mentioned regulation and the behaviours of companies. However, the full compliance of food nutrition information with the regulatory requirements for applying the 'light' label is not always reflected in consumers actually receiving and understanding that information. This could be attributed to claims only referring to single ingredients that, though reduced, do not necessarily contribute to the global decrease of the food's overall calories. Indeed, this may increase when the reduction is offset by other ingredients with a greater calorie content, as occurs with salt. In some of the 'light' products analysed, the calorie reduction was found to be too small to justify the increase in the sale price.

Furthermore, labels were found containing omissions, such as foods that had been labelled as 'light' but the reasons for and the ingredients causing said lightness had not been stated. Obviously, the labelling of such products is not compliant; hence producers must amend it.

As far as the impact of the 'light' claim on nutritional education is concerned, 'light' food products may lead consumers to increase consumption compared to conventional ones due to the smaller calorie contribution of those products. This may cause negative repercussions on eating habits, which is worrying, especially when it comes to foods for infants and children. Additionally, the introduction of 'light' foods in the daily diet cannot correct wrong behaviours or eating disorders that require specific treatment.

Other misleading factors occur at the time of purchase and are related to: the impossibility of comparing a 'light' product to the traditional equivalent and subsequently highlight the calorie reduction, and knowing which manufacturing process makes the product lighter as a whole. However, differences in the application of claims were found from country to country due to the great variability of food-

stuffs for sale. They are provided with highly diversified characteristics, but nevertheless enjoy freedom of movement thanks to the principle of mutual recognition.

A key role in guaranteeing transparency is played by the European Food Safety Authority (EFSA), which must carry out several tests and assessments before approving the industrial claims, though those currently in use will remain in the market for another 15 years.

This paper was intended as the start of a specific analysis on 'light' foods, though further research is still needed to perform in-depth analyses of consumer perception and methods of use of those foods.

Finally, it can be concluded that some nutrition labels showed misuse of claims, which implies that the goal of a healthy diet is still far from achievement. Labeling of 'light' foodstuffs needs to be monitored to protect consumers from misleading information. Misleading information will only result in making consumers' pockets lighter, not their diet, affirming the Latin proverb "*vulgus vult decipi, ergo decipiatur*" – the world wants to be deceived, so let it be deceived.

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## References

<sup>i</sup> Various Authors, Acts of the Conference on Sensible Nutrition Choices, by *Federalimentare*, entitled "*Apertamente. Gusto Responsabile*", Rome, 5 November 2008, [www.federalimentare.it](http://www.federalimentare.it).

<sup>ii</sup> Various Authors, "*1983-2008: i 25 anni che cambiano il modo di fare la spesa da parte degli italiani*" (on the changes in the purchasing patterns of the Italian shoppers from 1983 to 2008), Rome, 5 November 2008, [www.federalimentare.it](http://www.federalimentare.it).

<sup>iii</sup> For a detailed analysis of the food consumption's determining factors in the advanced economies, see Nomisma (by), *La qualità per competere. Primo rapporto INDICOD, Nuove sfide per l'agroalimentare italiano*, Agra Editrice, Rome, 2003, 39-66.

<sup>iv</sup> *ANCC-COOP*, Report by Coop on food consumption and distribution, redacted in 2008. *Consumi e distribuzione. Aspetti, dinamiche e previsioni*, available on [www.e-coop.it/CoopRepository/COOP/CoopItalia/file/fil00000058567.pdf](http://www.e-coop.it/CoopRepository/COOP/CoopItalia/file/fil00000058567.pdf), p. 92. According to the report, dietary products, food supplements, isotonic and mouthwashes belong to the health basket.

<sup>v</sup> Various Authors, "*1983-2008: i 25 anni che cambiano il modo di fare la spesa da parte degli italiani*", Acts of the Conference by *Federalimentare* entitled "*Apertamente. Gusto Responsabile*", Rome, 5 November 2008, [www.federalimentare.it](http://www.federalimentare.it).

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- <sup>vi</sup> Stigler G., “The Economics of Information”, *Journal of Political Economy*, vol. 69, 1961.
- <sup>vii</sup> Nelson P., “Information and Consumer Behavior”, *Journal of Political Economy*, vol. 78, 1970.
- <sup>viii</sup> Darby M. R. and Karni E., “Free Competition and the Optimal Amount of Fraud”, *Journal of Law and Economics*, vol. 16, 1973.
- <sup>ix</sup> Nutrition Labelling and Education Act (NLEA), Public Law 101-535, 1990.
- <sup>x</sup> Directive of the European Parliament and of the Council of 20 March 2000, No. 13, published in the O.J.E.U. of 6 May 2000, No. L 109 p. 29, as amended. Said Directive has consolidated Directive 79/112/EEC, repeatedly and substantially amended.
- <sup>xi</sup> Directive of the European Parliament and of the Council, of 24 September 1990, No. 496, published in the O.J.E.U. of 6 October 1990, No. L 276 p. 40, amended by Directive No. 2003/120/EC.
- <sup>xii</sup> Art. 6 Directive 90/493/EEC.
- <sup>xiii</sup> Art. 5 Directive 2000/13/EC.
- <sup>xiv</sup> Art. 6 Directive 2000/13/EC.
- <sup>xv</sup> Derogations apply to said list, so that in special product conditions, the ingredients are not mandatory.
- <sup>xvi</sup> Art. 7 Directive 2000/13/EC.
- <sup>xvii</sup> Art. 8 Directive 2000/13/EC.
- <sup>xviii</sup> Art. 9 Directive 2000/13/EC.
- <sup>xix</sup> Annex VIII Directive 2011/169/EC.
- <sup>xx</sup> Guidelines for use of nutrition and health claims, CAC/GL 23-1997, adopted in 1997, revised in 2004 e amended in 2001 and 2008. The revision in 2004 included the regulation of health claims.
- <sup>xxi</sup> [http://www.codexalimentarius.net/web/index\\_en.jsp](http://www.codexalimentarius.net/web/index_en.jsp)
- <sup>xxii</sup> General Guidelines on Claims, revised in 1991.
- <sup>xxiii</sup> Commission of the European Communities, White Paper on Food Safety, Brussels, 12 January 2000, COM (1999) 719 final, Paragraph 101 p. 32, Action no. 65.
- <sup>xxiv</sup> Commission of the European Communities, Proposal for a Regulation of the European Parliament and the Council on nutrition and health claims made on food, Brussels, 16 July 2003, COM (2003) 424 final, 2003/0165 (COD), p.6.
- <sup>xxv</sup> See note 13.
- <sup>xxvi</sup> Commission of the European Communities, Proposal for a Regulation of the European Parliament and the Council on nutrition and health claims made on food, Brussels, 16 July 2003, COM (2003) 424 final, 2003/0165 (COD).
- <sup>xxvii</sup> BEUC – Bureau Européen des Unions De Consommateurs, The European Consumers’ Organization, *Report on European Consumers’ Perception of Food-stuffs Labelling*, Results of Consumer Research conducted on behalf of BEUC from February to April 2005.
- <sup>xxviii</sup> Regulation (EC) n. 1924/2006 of the European Parliament and of the Council of 20 December 2006 on nutrition and health claims made on foods, *Official Journal of the European Union*, L.12, 10/01/2007.

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<sup>xxix</sup> The Nutrition Labeling and Education Act establishes a higher reduction in calories, fats and salt than the one permitted for the use of the term “reduced” (50% against 25%), and provides a more detailed discipline of nutrition claims.

<sup>xxx</sup> Regulation 1924/2006 – Annex, listing the authorized nutrition claims and the condition for use.

<sup>xxxi</sup> Pinto A., Giusti A.M., Cannella A., “*Alimentazione all’inizio del terzo millennio*”, in Mariani Costantini A. et al., *Alimentazione e Nutrizione Umana*, Ed. *Il Pensiero Scientifico Editore*, Rome, 2006, p. 66. Also see Roggi C., Turconi G., *Igiene degli alimenti e nutrizione umana. La sicurezza alimentare*, Ed. *EMSI, Edizioni Mediche Scientifiche Internazionali*, Rome, 2003, p. 459.

<sup>xxxii</sup> Brighenti F., “*Carboidrati e fibra*”, in Mariani Costantini A. et al., *Alimentazione e Nutrizione Umana*, Ed. *Il Pensiero Scientifico Editore*, Rome, 2006, p. 307.

<sup>xxxiii</sup> Dir. 89/398/CEE.

<sup>xxxiv</sup> Kapsak W.R. et al., “Consumer Perceptions of Graded Graphic and Text Label Presentations for Qualified Health Claims”, *Food and Science Nutrition*, 2008, 48, 248-256.