# Food standards and nutrition

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## *The Food and Drugs Act* 1955

This Act contains a number of general provisions that relate directly or indirectly to nutrition. Section 1 provides that no person shall add anything to or abstract anything from food, or subject food to any other process or treatment, so as to render it injurious to health. Section 2 makes it an offence to sell food to the prejudice of the purchaser that is not of the nature, substance or quality demanded. Section 6 prohibits the use of labels or advertisements that falsely describe a food or are calculated to mislead as to quality, which is expressly stated to include 'nutritional or dietary value'. It is no defence to include in such labels or advertisements an accurate statement of the composition of the food; thus a label or advertisement can be at the same time misleading and accurate. Sections 4 and 7 empower the making of regulations relating to the composition and description of food.

It might be supposed that these widely drawn provisions would be sufficient to protect the public interest and in fact a Departmental Committee reported nearly forty years ago that there was no evidence that a lack of specific food standards had resulted in malnutrition (Ministry of Health, 1938). However, experience has shown that effective enforcement can be very difficult in the absence of regulations which specify more closely the standards of composition, description, labelling and advertising of food that are required in order to comply with the general provisions of the Act. The difficulty that a lay bench might have in adjudicating on nutritional problems, possibly in the face of conflicting expert evidence, can be imagined. Standards have therefore been established by subordinate legislation under the Act in order to avoid the confusion and uncertainty among consumers, enforcement authorities and manufactures alike that might otherwise prevail.

## *The Food Standards Committee (FSC)*

For 29 years this committee has been advising Ministers in the exercising of their powers to make food standards, that is the Minister of Agriculture, Fisheries and Food, the Secretary of State for Social Services, the Secretary of State for Scotland and the Head of the Department of Health and Social Services for Northern Ireland (Ward, 1976). Although its members are appointed by Ministers, and the Ministry of Agriculture, Fisheries and Food provides the secretariat, the

FSC is an independent body. It comprises three persons from the scientific field, three from the food industry and three generally representative of the public interest, including enforcement, with an independent chairman from academic life (Table 1). Expert assessors may be appointed *ad hoc* to assist with specialist advice. Advice on nutritional problems may also be sought from the Committee on Medical Aspects of Food Policy (COMA) of the Department of Health and Social Security. Subjects for review are remitted by Ministers to the FSC whose task it is to advise on the need or otherwise for new or amended regulations and, if such are required, how they should be drawn. Representations are invited and received from a wide variety of interests, including local authority organizations, industry, consumer bodies, professional and learned societies and individuals. The FSC reports usually include a concise account of the composition of the food or foods under review, with a section on nutrition where appropriate, together with a description of current methods of production. These reports are often useful sources of information for the food scientist and nutritionist that is not otherwise readily available. It seems a pity that the reports are so little known to the general public or even the scientific community, many of whom appear to be unaware of the very existence of the FSC! Once a report has been published the FSC role comes, in general, to an end. It is for Ministers to decide what further action, if any, is to be taken and specifically if any or all of the Committee's recommendations are to be reflected in regulations. Some 65 reports have been published (not counting some before 1964 relating solely to food additives), and have included, in the last 10 years, such varied topics as cream, soups, jams, condensed milk, vinegars, offals and meat products, cocoa and chocolate products, bread and flour, novel protein foods, soft drinks, yogurt, labelling and date marking. Reviews now in progress include beer, labelling, infant foods, water in food and meat.

Table 1. *The Food Standards Committee**

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| A. G. Ward (Chairman) | Professor of Food & Leather Science, University of Leeds |
| R. J. L. Allen | Group Research Director, Beecham Group Ltd |
| M. A. Chapman | Chief Trading Standards Officer, Gloucestershire County Council |
| J. G. Collingwood | Director and Head of Research, Unilever Ltd |
| R. A. Dalley | Public Analyst for West Yorkshire Metropolitan County Council |
| H. Egan | Government Chemist |
| R. Passmore | Reader in Physiology, University of Edinburgh |
| Mrs. G. L. S. Pike | Chairman, Women's Forum |
| Miss R. Stephen | Executive Secretary, Association of Professional, Executive, Clerical & Computer Staff |
| F. Wood | Development Director, CPC (United Kingdom) Ltd |

*Membership at December 1976.

## *Food standards of direct nutritional interest*

Many food standards have some connexion with nutrition, but in the following paragraphs I discuss examples drawn from current regulations and FSC reports that are likely to be of more specific interest to nutritionists.

*Bread and flour.* The Bread and Flour Regulations currently require the

addition to all flour except wholemeal of certain nutrients so as to restore the levels found in 80% extraction flour, namely (mg/100 g) iron not less than 1·65, thiamin 0·24, nicotinic acid (or amide) 1·60. In addition, most flours must be fortified with 120 mg calcium (as chalk)/100 g. The FSC (1974*a*) has endorsed a recommendation by the Advisory Panel on Bread and Flour of COMA that iron and thiamin should continue to be added to flour at these levels, but that the requirement to add nicotinic acid should end. Further work is recommended with forms of iron that may be better absorbed than those currently specified (ferric ammonium citrate and reduced iron). The Panel also advised against the addition of a range of other nutrients that had been considered, including riboflavin, pyridoxin, folic acid and vitamin $B_{12}$.

The case of calcium is more complicated and the addition of chalk to flour has a curious history. In the 18th century it was a common adulterant and the use of chalk and other 'whiteners' in flour was condemned by an Act of 1758. In 1943 failure to add 7 oz to each 280 lb sack was made a penal offence, with two objects in view: to protect against possible adverse effects of phytic acid in high extraction wartime bread and to raise the general level of calcium in the diet. Twenty years later the FSC decided that although the addition of calcium was probably no longer necessary it should be continued until the possible effects of recent reductions in the vitamin D content of infant and welfare foods could be assessed (FSC, 1963). Finally, in 1974 the Advisory Panel recommended that chalk should continue to be added mainly because of recent evidence of a relationship between the hardness of the public water supply and mortality from cardiovascular disease. The FSC accepted this recommendation while expressing the view that the need for the addition should be kept under review.

The FSC rejected a proposal to allow the addition of lysine to bread as unnecessary in the context of the British diet. They recommended that in addition to the present category 'high protein bread' (not less than 22% protein; cf. about 13% in ordinary bread) the description 'extra high protein bread' should be allowed where the protein content exceeded 32%. Slimming claims for low density bread should be disallowed.

*Soft drinks.* In the FSC report on the Soft Drinks Regulations (Food Standards Committee, 1975*a*, *b*) findings are presented on the vitamin C content of fruit juices and on consumption levels, from which it was concluded that except for apple juice, both fresh and processed fruit juices contribute significantly to the vitamin C intake. It was recommended that in order to aid consumer comparisons the vitamin C contents of drinks for dilution and ready-to-drink drinks should be expressed on the same (ready-to-drink) basis. The value of fruit juices as a palatable source of potassium for patients on diuretic therapy was also pointed out. The FSC expressed the view that although most 'soft drinks . . . are of nutritional significance mainly as a flavouring for dietary water' they served a 'useful function by encouraging an intake of this essential substance'. Some classes of soft drinks such as blackcurrant syrups and formulated drinks with added ascorbic acid were nevertheless identified as valuable sources of vitamin C.

The FSC also reviewed the regulation that requires the addition to most soft drinks of specified minimum amounts of 'sugar' (usually sucrose). In the light of the recommendation of the Advisory Panel of the Committee on Medical Aspects of Food Policy (Nutrition) (Department of Health and Social Security, 1974) that the consumption of sucrose should be reduced, and evidence as to the role of sucrose in the etiology of dental caries (World Health Organization, 1972), they concluded that it was no longer appropriate to require manufacturers by law to add sucrose to soft drinks.

Lastly the FSC saw no need to change the maximum energy levels now prescribed for 'low calorie' soft drinks (7·5 calories/fl oz for drinks for dilution, 1·5 calories/fl oz for ready-to-drink drinks) but recommended that these limits should in future be defined as SI units.

*Milk products.* The Condensed Milk Regulations and the Dried Milk Regulations require partly skimmed products of these classes to be labelled 'Should not be used for babies except under medical advice' and skimmed products to be labelled 'Unfit for babies' or 'Not to be used for babies'. Although the Food Standards Committee (1969) recommended no change, it would seem that these mandatory warnings, which date back to the 1920s, will be phased out by the recently-made Condensed and Dried Milk Products Regulations.

*Novel protein foods.* In their report on these comparatively recent additions to the national diet (Food Standards Committee, 1974*b*) the FSC recommended that foods so described should contain at least 50% dry weight of protein (about 17% hydrated). They accepted the principle that because novel protein foods largely substitute for meat they should supply appropriate quantities of at least the more important nutrients of meat. The FSC accordingly recommended that novel protein foods made from field beans or soya should be fortified so as to contain not less than 2·6 g methionine/100 g protein and 10 mg iron, 2 mg thiamin, 0·8 mg riboflavin and 5 μg vitamin $B_{12}$/100 g dry matter, with adjustments as necessary for novel protein foods made from other sources. Other recommendations related to the proportion of novel protein food to be allowed in meat products (not more than 30% of the statutory minimum) and the proper description and labelling of these products.

*Labelling and advertising.* Reports by the FSC have been published on food labelling (Food Standards Committee, 1964) and claims and misleading descriptions (Food Standards Committee, 1966) and some of the FSC recommendations have been implemented in the Labelling of Food Regulations now in force. These regulations include complex provisions relating to nutritional and dietary claims in labels and advertisements. Benefits claimed for a food must derive from that food and not depend on something else added (e.g. milk added to a cereal). Energy claims are prohibited unless the energy provided by the quantity of the food usually eaten is 'significant' and the energy content must be declared on the label. A claim that a food is a source of protein can, in general, only be made if at least 12% of the energy comes from protein. Claims that a food contains vitamins or minerals are allowed only in relation to those specified in the

regulations, namely biologically active carotenoids, retinol, thiamin, riboflavin, nicotinic acid, vitamin C, vitamin D, calcium, iodine and iron and the amounts present must be declared. Claims are further regulated by a Code of Practice (Ministry of Food, 1949) which relate permissible claims to the fraction of the daily requirement of the vitamin or mineral provided by the quantity of the food usually consumed in a day. For claims that the nutrient is present in a food the qualifying minimum fraction is one-sixth, for claims as a 'rich' source one-half and for preventive or curative claims the whole of the requirement.

A food must not be claimed to have specific weight-reducing properties but claims (if they can be substantiated) that a food is an aid to slimming are admissible provided that it is made clear that to be effective it must be used as part of a 'calorie controlled' diet; the energy content must also be declared. Slimming claims for vitamin and mineral preparations are forbidden. Claims to be 'starch reduced' can only be made for a food if the reduction is 'substantial' and the food contains less than 50% dry weight of starch. Foods represented as specially prepared for diabetics must contain 'substantially' less carbohydrate than comparable non-diabetic foods, and the carbohydrate and energy contents must be declared. Sorbitol, which is widely used in diabetic foods, is not a carbohydrate as defined in the regulations. The FSC has recommended that the joule should replace the calorie in all statutory energy declarations and in expressions such as 'low calorie' and 'calorie controlled' (Food Standards Committee, 1976).

Claims that a food has tonic, restorative or medicinal properties that would benefit invalids or cure, alleviate or prevent disease can only be made if it contains a sufficient amount of a substance (which could be a nutrient) that would confer such properties. The concentration of the active ingredient(s) and the recommended dose must be declared. Tonic claims based on alcohol, carbohydrate, protein or protein hydrolysate or purine derivatives are specifically prohibited.

As will be seen, an element of nutritional labelling (declaration of energy and nutrient contents) is mandatory when the claims described in the foregoing paragraphs are made. There is also some voluntary nutritional labelling, for example with breakfast cereals. Nutritional labelling is much more common and more detailed in the United States, where elaborate regulations are in force (Food and Drug Administration, 1976). Opinion among United Kingdom consumers as well as manufacturers appears to be divided on the advantages of nutritional labelling (Allen, 1975).

These and other aspects of food labelling and advertising are currently under review by the FSC.

## *Discussion and conclusions*

It is sometimes suggested that food standards are becoming over-elaborate and more detailed than is necessary for the reasonable protection of the consumer, but the size and complexity of the food processing industry (Allen, 1973) must be borne in mind. Standards for standard's sake are a waste of resources and certainly to be avoided where the general provisions of the Act have proved adequate in the public

interest. In labelling, too, an excess of mandatory detail can literally obscure the really important items of information. These are the kind of practical considerations which the FSC tries to keep in mind in the course of every review. But standards have a positive role to play as well as fulfilling the more negative purpose of preventing abuse. They can set minimum standards of nutritional quality that act as benchmarks for good manufacturing practice. Standards can help to protect the conscientious manufacturer from unfair competition that by sheer economic pressure may make it very difficult for him to maintain quality. This can be a real problem where, as so often happens, consumers buy without regard to nutritional considerations. Nutritionists should become more interested generally in food standards and should not hesitate to make their views known when standards with a significant nutritional impact are in preparation. The established consultative process gives ample opportunity for this.

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