The U.K. Legislative Approach to the Use of Soy Proteins in Food

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ABSTRACT

The food and drugs acts applicable within the U.K. provide a framework within which the sale of all foods is controlled. In particular the main clauses place responsibility for safety and avoidance of deception firmly on the manufacturer and seller of the food. The significance of compositional regulations, made under powers contained in the acts, is illustrated by the various meat product regulations and their relevance to the use of soy materials. Food labeling regulations also are discussed. The directions in which the laws may have to be revised to accommodate the introduction of new protein rich foods are outlined and the relevance to soy products is discussed.

INTRODUCTION

As with so many aspects of law and institutions in the U.K., the food laws have evolved and developed to meet specific needs. They present a patchwork in which it is often difficult to detect the logic. Yet a framework has been created, within which general acceptance and observance by industry is the norm.

The post war period has seen rapid expansion of the food processing industry in the U.K., to a more scientific approach to innovation. Innovation itself creates fresh requirements for legislation. The properties exhibited by soy proteins are a challenge to ingenuity in the construction of new foods. In this respect, U.S. developments have exerted both an indirect influence and, through associated British companies, a more direct effect in the U.K. The requirements of such new developments would in the past, if sufficiently important, have found their way into food legislation through the complex but effective consultative machinery operated through the Ministry of Agriculture, Fisheries, and Food and the Department of Health and Social Security. In this operation, the independent advisory bodies, the Food Standards Committee and the Food Additives and Contaminants Committee, play a significant and, occasionally, a pioneering part.

Currently the accession of the U.K. to the European Economic Community, with its objectives of harmonization of food laws, creates fresh problems in foreseeing the legislative framework within which novel developments of foods will have to fit. Directives and regulations which are required to reconcile differing national laws and practices may all too easily turn out to be uneasy compromises. Harmonization of the food laws of the nine countries is a mammoth task, and there has been little progress so far in the area related to the subject of this paper. So there is value in considering separately the current U.K. legal situation and that likely to arise in the immediate future. Whatever measures may be adopted by the U.K. in the future may well significantly influence European opinion and developments. This paper will briefly review the use of soy products in foods in the light of current U.K. laws, U.K. consumer needs, and areas of U.K. law where proposals to cope with new processes and products might be brought forward in the near future.

GENERAL CONTROL

The Food and Drugs Act 1955 (1) provides in Section 1-1 that:

> No person shall add any substance to food, use any substance as an ingredient in the preparation of food, abstract any constituent from food, or subject food to any other process or treatment, so as (in any such case) to render the food injurious to health, with intent that the food shall be sold for human consumption in that state.

Furthermore in Section 1-5 it is stated:

> In determining for the purposes of this Act whether an article of food is injurious to health, regard shall be had not only to the probable effect of that article on the health of a person consuming it, but also to the probable cumulative effect of articles of substantially the same composition on the health of a person consuming such articles in ordinary quantities.

These sections leave no doubt that responsibility rests on the manufacturer for the safety of any food or food component which he produces and sells. Although ministers may make regulations to prohibit the use of harmful substances or processes to provide further protection for the public, such regulations, applicable to specific areas, in no way weaken the general application of the provisions of Section 1 of the Act quoted above.

Various antinutritional factors are known to occur in the raw soy bean (2). Animal tests can be used for these factors and so used as an index of their elimination. Fortunately, the normal processes of oil extraction and heat treatment appear reasonably effective in reducing these factors to an acceptably low level. Indeed, the record of soy products throughout the world in respect of toxic hazard is generally good. The freedom that manufacturers have to use the various soy products requires, however, continual vigilance to ensure the destruction of known toxic factors and to take action in the event of any new discovery which suggests the occurrence of new toxic factors, either in the raw bean or as a result of processing.

It must be stressed that the problem of demonstrating the safety of food components is, in many ways, more complex than additive testing. Foods which may constitute a significant proportion of a diet cannot be tested with animals or in humans at consumption levels many times that which is expected in practice. So the detection of abnormal responses requires much more sensitivity, involving metabolic studies and refined biochemical techniques.

NUTRITIONAL CONSIDERATIONS

It is a curious anomaly that, while protein deficiency has been stressed repeatedly as a world nutritional problem, it is almost certainly of negligible importance now and in the foreseeable future in the countries of Western Europe and the U.S. In the U.K., the Panel on Recommended Allowances of Nutrients in its 1969 Report (3) made clear that ordinary diets in the U.K. contain amounts of protein substantially greater than the minimum required for main-

tenance and growth. The Panel considered that a protein level contributing 10% total energy requirement as protein was needed to make the diet palatable. So its recommended daily intake of protein for the various categories of the population was substantially greater than the physiological need. The excess, expressed as a percentage of the average physiological need, ranged from 33% for the lactating mother, through 40-45% for the bulk of the population, to 100% for an active man in the 18-35 age group.

Diets can be constructed which indicate the consequences of a limitation of selected items in food supplies, arising at some time from world shortages. In these circumstances perhaps cereals and potatoes would play a more major part, with animal products reduced in quantity. No changes of this type can be foreseen at present which would reduce protein intake in the U.K. to a critically low level.

So the development of new protein rich foods for the U.K. cannot be regarded as necessary to secure adequate protein nutrition, in the narrow terms of physiological need. A much stronger case can be made that the new products could serve to maintain the attractiveness of the diet by the contribution they make to flavor and texture and by meeting the demand for continued availability of certain types of foods, using different components.

Since protein intake in the U.K. exceeds need, it is not possible to regard enhancement of the limiting amino acid or acids of a soy component as having any strict nutritional advantage. It is possible to argue that, if soy products are used to replace meat in the diet, the soy protein should be nutritionally equivalent to meat protein. In view of the large excess of protein consumed in even poor U.K. diets, it is difficult to justify this point of view.

There are stronger grounds for expecting a new product, which is intended to replace a long established major dietary component, to bring with it those essential nutrients other than protein which are normally present in the product being replaced. Precedents for such an approach are provided by The Margarine Regulations 1967 in respect to vitamins A and D and also by The Bread and Flour Regulations 1963. Even in these instances, it is not necessary, and may even mislead, to extend any such requirement to nutrients plentifully supplied elsewhere in the diet or to nutrients occurring in only minor amounts in the component which a new product is intended to replace.

It is tempting to claim nutritional advantages for foods, merely because of the presence of certain nutrients. Such claims are controlled in the U.K. by Regulations 21 and 22 of The Labelling of Food Regulations 1970, as modified by the Amendment Regulations 1972 (1). Restraint in advertising also is exerted by Codes of Practice. Even within the framework provided by these Regulations and Codes, it may be in the long term interest of those concerned with introducing food based on soy (or other protein rich materials) to exert restraint in exploiting nutritional arguments. By limiting claims to those which have meaning in the context of the total diet, a contribution is made to nutritional education. Such an approach also avoids any need for a more restrictive control of nutritional claims on labels and in advertising.

THE FOOD LABEL AND IDENTITY OF THE PRODUCT

Two other sections of the Food and Drugs Act 1955 provide the basis from which to consider the identity of new products and to see how they should fit into the pattern of food products generally.

Section 2-1 states:

> If a person sells to the prejudice of the purchaser any food or drug which is not of the nature or not of the substance, or not of the quality demanded by the purchaser, he shall be guilty of an offence.

Section 6-1 states:

> A person who gives with any food or drug sold by him, or displays with any food or drug exposed by him for sale, a label, whether attached to or printed on the wrapper or container or not, which (a) falsely describes the food or drug, or (b) is calculated to mislead as to its nature, substance or quality, shall be guilty of an offence, unless he proves that he did not, and could not with reasonable diligence have ascertained, that the label was of such a character as aforesaid.

Section 6-2 sets out parallel provisions concerning advertisements.

The need for the consumer to be aware of what he is purchasing is regarded as a basic right by most persons concerned with consumer protection in the U.K. It could equally be argued that it is essential for the food industry to identify its products clearly, thus facilitating the sale of products of high quality, as well as those products of adequate quality which must be judged by the consumer in terms of value. To clarify what are reasonable requirements for this purpose, the food manufacturer now has the guidance of the Labelling of Food Regulations 1970, as amended 1972. Two provisions have special relevance to the use of soy products, where they are designed to resemble familiar foods in any way, and where they are identified by familiar names. For all prepacked foods, the Regulations require the label to carry a true statement specifying an "appropriate designation" of the ingredient in a food of one ingredient. In foods with two or more ingredients an "appropriate designation" or the "common or usual name" of the food is required.

Generally, for foods it is left to the manufacturer to select the appropriate designation or the common or usual name. For new foods, with which the consumer is unfamiliar, this is a heavy responsibility and one which the enforcement authorities (in the U.K. the main local government area authorities) may contest in the courts. The term "appropriate designation" is defined in Regulation 3 as:

> as respects any food, a name or description or a name and description sufficiently specific, in each case, to indicate to an intending purchaser the true nature of the food to which it is applied.

The difficulty of choosing a name for a new product which conforms to the Labelling Regulations but which is also acceptable to enterprising, but sometimes short sighted marketing executives, is evident. It is perhaps doubtful if the term "textured vegetable protein" is sufficiently specific. The Regulations go on to provide, however, that, where a name or description is specified in a Regulation made under the Act or where there is a compositional standard, the name or description used is deemed to be the appropriate designation. Therefore, order can be created, in an area where chaos readily could occur, by a suitable choice of names and descriptions in a Regulation. The names must then be used on the label, although further descriptions also may be included. It remains to be seen whether, for novel foods which have soy protein products as main ingredients, Regulations will be made which obviate the need for a choice of designations by manufacturers.

The second provision for prepacked foods, also designed to inform the consumer, is the requirement (except for a restricted list of foods), to display "an appropriate designation of each ingredient in the form of a list." Water is not regarded as an ingredient, and the list normally is required to be given in order of proportion by wt. While such a list serves a useful purpose for any product in which meat and textured soy protein are both present and informs the consumer as to which is in the larger amount, it is by no means fully informative. Although in the past the compul-

sory declaration of the quantities of key ingredients in foods containing several components has not been required, the new situation, which will be created by the emergence of products containing some meat and some material which resembles meat, may well lead to a reconsideration of the position.

MEAT PRODUCTS

In the U.K. the composition and also the names to be used as appropriate designations of almost all meat products are governed by a series of regulations (1). These are: The Canned Meat Product Regulations 1967, together with Amendment Regulations 1968; The Meat Pie and Sausage Roll Regulations 1967; The Sausage and Other Meat Product Regulations 1967, together with Amendment Regulations 1968; and The Fish and Meat Spreadable Products Regulations 1968.

Each of these specifies minimum quantities of meat for appropriately named products. It is undesirable that undue restriction should be placed upon the sale of products containing no meat, which, if there is any risk of confusion with meat products, are clearly designated to make the absence of meat evident. These products may well be highly acceptable to groups such as vegetarians, those with some dietary restriction originating from their religion or from a metabolic disability, or even those who regard a reduction of their meat consumption as a desirable objective. Products containing the required minimum of meat to which soy products are added in forms which in no way resemble meat present no legislative or consumer problems –although they may irritate the analyst. The soy component will appear in its appropriate place in the list of ingredients.

More difficult is the product with the required minimum meat content but in which a textured soy component may give the impression of a much higher meat content. For such products, the consumer surely is entitled to expect the label to make clear the extent to which the apparent meat content is due to meat itself and how much is textured soy product.

Finally there is the question of how far, if at all (assuming adequate information is given to the consumer), the minimum meat content specified by existing regulations for a named meat product should be allowed to be reduced, provided that at least an equivalent amount of a soy textured component is substituted. Much depends upon whether products in which substitution is intended can, in all major respects, be regarded as equivalent to the preexisting meat products. If this is so, the grounds for allowing such products to be sold, with adequate labeling, are strengthened. If, however, substitution by soy products becomes identified with poorer quality by the consumer–as was true for many years for margarine in comparison with butter–then the grounds for restrictive legislation become much stronger. As in many areas of novel food developments, much depends upon the priority given to long term objectives by the food industry.

CATERING AND THE LAW

Most of the cases involving food laws which come before the courts are concerned with food manufacture and the retail sale of food in supermarket and shop. The Food and Drugs Act 1955 and the Regulations made under its powers have equal validity for sales by a caterer. This is still true in many cases of institutional catering, where there is no actual payment or cash transaction involved. The present limited scale of enforcement of the law in respect of catering sales is no indication that they are not equally subject to the same laws. This is of particular significance for the use by caterers of substitute foods, based perhaps on soy components, where the soy addition may be made in the kitchen.

FOOD STANDARDS COMMITTEE REVIEW

A general review of legislative provisions for novel proteins currently is being carried out by the Committee. This is at an advanced stage and should soon lead to a report.

The brief comments on the legal provisions affecting the use of soy products represent a personal view. I have, however, benefited over the years in which I have served as chairman of the U.K. Food Standards Committee from many discussions with officials, particularly of the Food Standards Division of the Ministry of Agriculture, Fisheries and Food, with members of the food industry, and with my colleagues on the Committee. I would like to express my thanks to them for the part they have played in forming my general views, which are reflected in this paper.

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