IFST: Professional Conduct Guidelines

These are the Professional Conduct Guidelines, which provide, in relation to the IFST Code of Professional Conduct, definitions, amplification, detailed interpretation and the application of principles to foreseeable situations. They form an extension to the Code itself, and an undertaking by an applicant to adhere to the Code covers adherence to these Guidelines.

GUIDELINE NO. 1 WHOLESOMENESS OF FOOD

1. INTRODUCTION

One of the characteristics distinguishing a profession from an occupation is a recognition that the profession must be practised for the benefit of the public as well as that of the practitioners.

Clause (6) of the Code of Professional Conduct requires members "to take legitimate steps through proper channels to ensure (or assist in ensuring) the wholesomeness of any food with which he or she is concerned". This clause relates to that area where the work of the profession most directly affects the public interest, i.e., the food actually purchased and consumed by the public. It is both the most important and most complicated clause of the Code to interpret and explain. It includes many issues and implications, some of them subject to emotional attitudes and overtones, and indeed to scaremongering.

Food scientists and technologists must maintain scientific objectivity; not only in ascertaining facts, but in interpreting facts, in assessing the significance of interpretations, and in drawing conclusions. Current decisions, of course, must be made in the light of currently available knowledge, but this presents only a partial picture which, because partial, may be distorted; and, as new knowledge is gained, it may confirm the correctness of the decision or may so alter the picture as to require a fresh decision. In assembling "the facts", care must be taken to distinguish established facts from unconfirmed hypotheses, and from speculation or opinion masquerading as fact. Care must also be taken to ensure that facts are not being selected, consciously or unconsciously, in order to support a predetermined conclusion, or to disguise a hazard, or to warn of a hazard the reality of which has not been established. (See also Guidelines Nos.2 and 6).

2. 'WHOLESOMENESS' AND FOOD LEGISLATION

What does clause (6) mean when it refers to 'wholesomeness' of food? This word was selected as a convenient single term to embody a large number of aspects or attributes of a food.

'Wholesomeness' of course must include compliance with the food legislation of the country for which the food is intended, and it may be asked why clause (6) was not merely stated in terms of compliance with food legislation.

Firstly, food laws do not and cannot include explicit details of the application of the principles embodied to every conceivable set of circumstances, particularly those involving new technological developments since the law was framed. In many cases, therefore, the law has to be interpreted in its applicability to a particular set of circumstances, and there can be (and often are) genuine differences of opinion in interpretation. In these cases, if the only ethical guidance provided by the Code to members, whether in industry or in enforcement, were the statement "comply with food legislation", this would be to beg the question.

Secondly, food legislation is not immutable. It is a dynamic system, with continual reviewing and introduction of new or modified laws, arising both from new science and technology and/or from new or changing social requirements. Food scientists and technologists in industry, in research establishments, in enforcement, in government, all have a duty to contribute, through various channels, to the discussion leading to the framing of new or revised food legislation. If the only ethical guidance given by the Code were "comply with food legislation", this would again be to beg the question.

3. ASPECTS AND ATTRIBUTES INVOLVED IN WHOLESOMENESS

These are consumer satisfaction, compliance with compositional standards, hygienic conditions of manufacture, nutritional value, and absence of injury to health.

Consumer Satisfaction

Any purchaser of an article has certain expectations (which may derive from previous experience of purchase of another specimen of that article or of an article of a similar character, or from what the manufacturer says about the article, or from opinions expressed by others, or some combination of these). Reasonable expectations are not unconnected with price. The purchaser of a small hatchback car cannot reasonably expect a Rolls-Royce specification, but may reasonably expect that the hatchback purchased will be a good well-produced, non-defective specimen of its specification. Having regard to these considerations, if the article purchased significantly fails to live up to reasonable expectations, the purchaser is justified in complaining.

With specific reference to food products, the satisfaction of the reasonable expectations of the consumer is one element in the concept of wholesomeness as envisaged in clause (6). One must however exclude considerations of individual personal preference (for example, the fact that a consumer might prefer Brand A's hot curry to Brand B's mild curry does not imply that Brand B's curry is unwholesome or a justifiable cause for complaint; but either might merit complaint if it had a rancid off-flavour, was micro-biologically spoiled, or contained foreign matter; furthermore, a mild sample of Brand B's curry might merit complaint if it was sold with the claim that it was a hot curry and/or if previous purchases has always been much hotter than the current purchase).

One must also exclude opinions of classes of consumers to whom a product is not primarily directed. For example, a product designed to appeal to the tastes of children is not open to criticism merely because it may not appeal to adult tastes, (or vice versa).

Satisfying the reasonable expectations of consumers involves not merely the character of the product at the time of manufacture, but also at the time of consumption.

It must be recognised that, even in the best operating practice, in a product which is basically and normally wholesome, isolated defective specimens may occur, by human failing, accidental or otherwise, or by the operation of the laws of statistical probability. Exceptional instances of this kind, however considered legislatively, should not be regarded as evidence per se of failure to observe clause (6) of the Code.

To sum up, this aspect of wholesomeness requires a selection of raw materials, an ingredients formulation, processing methods in accordance with good manufacturing practice, appropriate packaging and labelling, effective quality control procedures, a distribution system and cycle, and appropriate storage, handling and preparation instructions, which, taken together, will consistently yield products such as to provide consumer satisfaction at the time of consumption.

Compositional Standards

The raw materials and their proportions in a food product must be such as to ensure compliance with any relevant compositional standard prevailing in the country for which the food is intended; manufacturing methods should be in accordance with good manufacturing practice and such as to ensure that the ingredients formulation is consistently adhered to; and appropriate quality control checks should be carried out. Similar steps should be taken to ensure compliance with any relevant legislation on the types and/or quantities of additives used.

Hygienic Conditions of Manufacture, Storage and Handling

Good manufacturing practice should be followed in the hygiene of the production environment; in hygienic design and operation of production plant; in precautions to prevent contamination of food materials and products; in effective preservation processes; in cleaning procedures and good housekeeping practices; and in storage and distribution conditions to inhibit the growth and multiplication of pathogenic or spoilage microorganisms. Similar precautions should be taken and diligence exercised in retailing and catering.

Absence of Injury to Health

This is an aspect of wholesomeness in which it is particularly difficult to draw sharp and clear lines. This is because of the following factors:-

- In no aspect of life is there such a thing as 100% certain safety.

- Clear, high-probability risk is relatively easy to prove, but it is very difficult and often impossible to prove the virtual absence of risk.

- Any food substance (even water) ingested to excess may be harmful.

- A substance in food, which may not adversely affect the population as a whole, may adversely affect an identifiable section of the public, or certain individuals (for example individuals with metabolism abnormal in some respect). Likewise, there are few if any food substances which have not been alleged to be responsible for an allergic or intolerance reaction by someone somewhere.

- Real life, in all its aspects, does not consist of avoiding risks altogether (which is impossible). It consists partly of accepting certain kinds of risk in order to gain some desired end, and partly of accepting lesser risks as a means of avoiding greater ones. We could avoid all risks from food by not consuming any!

In considerations of this kind, the choice is frequently not clear-cut or easy to make. Either the probability or the seriousness (or both) of alternative risks may be insufficiently known - and yet often a choice has to be made, on admittedly incomplete knowledge, and in the light of the best information available.

The balancing of one risk against another may understandably be the subject of considerable debate, which, however, must take full account of the known facts and their significance, of the relevant areas where knowledge is lacking, and of the best expert judgment as to the likely consequences of either alternative.

Unfortunately, in considering the merits of alternatives, the debate may often be distorted by the exaggeration of the risks of one choice, usually accompanied by a complete ignoring of any risks in the alternative choice(s). This is usually the result of activities of publicists, greatly amplified by the media. Moreover, since highlighting the supposed dangers of what manufacturers and technologists are doing, appears to have far greater publicity value than any indication that current practice is less hazardous than the alternative, it is usually current practice which attracts the scare-stories, while the risks of alternatives are ignored. This may and does sometimes alarm the public which in turn may lead legislators into hasty action, often different from that which might result from completely objective considerations.

It is also unfortunately the case that some scientists sometimes provide, advertently or inadvertently, ammunition to those whose activities distort the debate; for example, by publicising conclusions that are unsupported or inadequately supported by facts; by making, with appropriate qualifications and provisos, guarded statements which however lend themselves to being generalised entirely out of context and in a sensationalist way by others; by

making apparently authoritative pronouncements outside the area of their particular scientific expertise. (N.B. The subject of statements made in a professional capacity in general, and the particular aspect of the communication of technical information to the media and to the public, are concerned with clause (5) of the Code of Professional Conduct, and are the subject of Guideline No.2).

Entirely unknown or unsuspected hazards may exist which future research may reveal. Clearly, it is impossible to take such unknowns into account when choosing a current course of action. Equally clearly, it would be impossible to attribute blame retrospectively to an individual for a current course of action involving a currently unknown hazard.

New external or environmental circumstances in the future may give rise to entirely new hazards, the existence of which may not be recognised until later still. In the period intervening between creation and recognition of such a new hazard, considerations similar to those of the preceding paragraph apply.

The types of possible hazards are as follows, and it is strongly emphasised that the order in which these are listed does not imply any particular order of importance or relative degree of hazard.

Microbiological hazards - which may arise from the use of unsound raw materials, changed practices in raw material production, unhygienic factory practices, inadequate preservation processes, inadequate measures to safeguard against post-process reinfection, unsatisfactory storage conditions, or unhygienic practices in handling in preparation for consumption, or some combination of these factors. (N.B. Microbiological spoilage of a non-hazardous character may be caused by similar factors, but that relates more to the 'consumer-satisfaction' aspect discussed previously).

Natural toxic substances - substances naturally present in some food materials, the ingestion of which at likely levels of consumption may be hazardous.

Pesticide and other horticultural or agricultural residues - which may be present in food raw materials. This type of potential hazard is complicated by such factors as the use (often unannounced) of new pesticides, growth promoters, etc.; the difficulty of controlling agricultural practice or strict adherence to recommended spraying times, application rates, etc.; the still greater lack of information on or means of controlling treatment practices in relation to food materials not grown under control of or contract to the food manufacturer, but purchased via the respective commodity markets.

Substances intentionally incorporated in foods - for a variety of technological purposes. It is fair to say that, in advanced countries, the safety-in-use of such substances is intensively researched, scrutinised and legislated for. In some instances, there may be a known risk involved in a substance, but one which is significantly less than another risk which its use eliminates.

Toxic substances arising from processing-originating from non-toxic constituents which may react at some stage of processing, to make one or more new constituents likely to be a toxic risk if present in sufficient quantity. Vigilance is required in considering the reactions which may occur and the extent to which toxic compounds might result from such reactions. Adequate safety testing of food requires that, wherever a reaction resulting in a toxic compound is suspected, tests should be carried out on the processed food and not solely on the original components.

Novel foods or food ingredients and new food processing techniques. The high degree of safety of currently available foods rests largely on accumulated experience over a long period of the consumption of these foods or of their ingredients, without harmful effects; and on long experience of the processes by which they are made. Foods which have either not previously formed a part of human diets or are made by novel processes for which there is no previous

experience to draw on, require stringent safety testing before being released for general consumption.

Environmental contaminants - including such things as pest infestation, trace metal pick-up, foreign odours, adventitious foreign matter against all of which the best available precautions and measures of good manufacturing practice should be taken.

Anti-nutritional factors - natural substances in some food materials which may interfere with metabolic processes (for example, trypsin inhibiting factors in certain legumes, which inhibit the conversion of ingested protein to amino-acids, unless the inhibitors are destroyed by appropriate processing).

Adverse interaction of medicinal drugs and foods. Instances are known, and with the development of new drugs, other instances may arise, of hazard due to interaction of drugs and constituents of food. The existence of such an adverse reaction does not imply that a food implicated can be considered unwholesome or injurious to health. In such instances, the onus is on the medical profession, in prescribing such drugs, to give specific warning and dietary instructions to patients concerned.

Having regard to all the factors outlined relating to hazard, and the types of hazard which have to be considered, it is possible to list ethical principles on which action should be based:-

Products should be manufactured in compliance with any relevant explicit or implied legislative requirements. Where the applicability of legislative requirements in a particular case is uncertain, and needs interpretation, the interpretation should take full account of the other ethical principles indicated.

The best available measures and precautions of product/process design and good manufacturing, retailing or catering practice should be used to safeguard against preventable known hazards, with monitoring to check the effectiveness of the measures and precautions.

*In the absence of compelling data to the contrary, the requirements of ethics are more successfully satisfied when the food supply is increased to the advantage (i.e. survival and adequate nutrition) of the population than when the food supply is decreased to achieve an indeterminate increment in safety.

*When faced with alternatives, we should choose that alternative whose worst outcome is better than the worst outcome of any other alternative; where 'outcome' involves the cumulative net balance of risks and benefits to the population as a whole, assessed in the light of available knowledge and a reasoned analysis of its implications.

[*These principles were proposed by the Citizens' Commission on Science, Law and the Food Supply, Report on Current Ethical Considerations in Determination of Acceptable Risk with Regard to Food and Food Additives (March 1974).]

Nutritional Value

The total diet of any consumer should be such as to provide an adequate balance and amount of known nutritional requirements. Each consumer's choice of a number of foods, and of quantities of each, however, represents one of a virtually infinite number of permutations and combinations. Such choice by the consumer is entirely outside the control of the food scientist or technologist concerned with a particular food or group of foods. With certain exceptions, discussed below, therefore, it is not normally possible to specify that an individual food must have particular nutritional characteristics. The exceptions are as follows:-

- Foods for which legislation specifies minimum nutritional standards. Clearly it is obligatory to ensure that legislative standards are complied with.

- Foods for which nutritional claims are made. If nutritional claims (whether explicit or implied) are made for a food, then its nutritional properties should be such as to justify the claims.

- Foods which are generally recognised as being valuable sources of specific nutrients. In the manufacture of a processed preserved version of a food generally recognised as being a valuable source of a specific nutrient, every effort should be made, subject to the requirements of safe preservation, to minimise loss of the nutrient during processing and subsequent storage.

- Novel food products which may significantly replace foods of nutritional significance. In the development of a novel food product likely to be consumed by the public or an identifiable section of the public, in place of a food of nutritional significance, careful regard should be had to the nutritional consequences.

- Food products intended for particular nutritional purposes. Where a food is manufactured for a particular nutritional purpose, then its nutritional properties should be appropriate to that purpose, to the best of current knowledge.

Nutritional Comparisons

When making nutritional comparisons, for example between a processed food and a corresponding fresh food, comparisons should always be made when both foods are prepared (and cooked if appropriate) ready for consumption.

4. "LEGITIMATE STEPS THROUGH PROPER CHANNELS"

The general requirement "to take legitimate steps through proper channels to ensure (or assist in ensuring) the wholesomeness of any food with which he or she is concerned" must take account of the widely varying functions which food scientists and technologists may fulfil. They may be employed in manufacturing, catering or retailing, in a variety of capacities, including research, product development, quality control, raw materials purchasing, production management, engineering, marketing. They may be employed in some aspect of enforcement. They may function as independent consultants, or as employees of consultants. They may work in industrial or non-industrial research establishments. Clearly, the ability of an individual to exercise a practical influence on factors affecting the wholesomeness of food will vary considerably according to function; and indeed may vary widely in the same nominal function in different food businesses.

Furthermore, in any of these functions, members may be at widely varying levels of responsibility, ranging from the most junior technologists through middle and senior management to company directors, with consequent widely varying scope and ability for influencing factors involved in wholesomeness.

In the light of the foregoing, it would be unrealistic to require the same actions in discharging obligations under clause (6) from persons in all these differing functions and at all these widely varying levels of responsibility. It would likewise be impossible to hold members accountable or open to criticism for deficiencies or actions which they have no power or ability to influence. It is, however, possible to establish an underlying principle of universal application, namely that each member is required to take legitimate steps in connection with the wholesomeness of any food with which he or she is concerned, to the full extent of his or her scope for taking decisions. For the senior manager with considerable authority, this would imply issuing appropriate instructions for action in areas where his or her authority runs. Where a member's role is advisory, he or she cannot decide on action to be taken, but can decide on the nature of advice to be given. In the case of junior members, they may have no formal advisory function, but they can decide to give information to or raise a query with their immediate superior. It is possible that matters raised in this way might be based on misapprehension due to inexperience, but very often junior staff in the course of their work may become aware of detailed problems, departures from standard procedures, etc., of which their superiors may be unaware. It is therefore required of such junior members that they bring to the attention of their immediate superior any matter, problem or

query which they think may have a bearing on any aspect of wholesomeness of any food with which they are concerned. As a corollary of this, it must be emphasised that a superior should regard the bona fide raising of such a matter or query (even if mistakenly based) as to the credit of the subordinate, should give serious consideration to it, and if he or she considers it mistakenly based should be prepared to explain why this is so. (N.B. This is also implied in clause (8), concerning the duty of members to guide subordinates. See Guideline No.5).

It should be noted that, in the UK, where a company has committed an offence under the Food Safety Act 1990, proved to be with the consent or connivance of, or to be attributable to any neglect on the part of any director, manager, secretary or other similar officer, that person is also deemed to be guilty of the offence.

Reference has been made to the fact that some members are company directors. These are in a special position, because, quite apart from their ethical obligations under the Code of Professional Conduct, in the UK they have legal obligations and responsibilities under the Companies Acts. These are not incompatible with their ethical obligations; but whereas anyone else can justifiably argue (if such were the case) that unwholesomeness of a food was outside their power to influence, or that their advice was ignored or overruled by a superior, a company director cannot so argue. This places him or her in the position that on a matter of principle there could be little opportunity to do other than resign from the board, yet that may expose to greater danger the very principle of wholesomeness involved. Thus some latitude in behaviour must be accepted by those interpreting professional conduct in such instances. Similar circumstances may apply in relation to other Professional Conduct Guidelines.

5. DEBATE CONCERNING WHOLESOMENESS OF FOOD

Members may find themselves in various kinds of debate relating to some aspect of 'wholesomeness'. For example:

- in discussions relating to new legislation or proposals for changes in existing legislation;

- in appearing for the prosecution or defence in a court case (and indeed often with two members appearing on opposite sides);

- in discussion with colleagues concerning some course of action to be followed;

- in discussion between companies relating to the wholesomeness of a food material or food product which is the subject of a commercial transaction between them;

In these areas many situations may arise, and it is not feasible to lay down detailed guidelines in advance to cover every possible situation. It is however possible to indicate certain principles which should universally apply.

In any debate members should strictly observe all the aspects of scientific objectivity outlined in Section 1.

No member should ever issue instructions to or apply any explicit or implied pressure to another food scientist or technologist to act or argue in a way which would compromise the latter's professional integrity.

It must be recognised that honest and genuine differences of opinion can arise in the course of discussion or debate, and that such a difference of opinion does notper se imply that one of the parties is in breach of professional integrity.

In the absence of compelling evidence to the contrary, a member should assume the bona fides and professional integrity of another member who is an opponent in a debate.

Members who are in employment are not independent agents. In external debates, they will feel obligated, very properly, to advance and defend the interests of the organisation which employs them. Instances might arise where they are under pressure (whether because their superiors exert explicit pressure, or because they may believe or be led to believe that their jobs or their career prospects may be jeopardised) to take some action in relation to food or to argue in external debate in ways which would compromise their professional integrity. Superiors involved may often not be members, nor even food scientists or technologists. It is clearly the duty of members to do all that they properly can to further the legitimate interests of their employers (or, if consultant members, of their clients). The board of a reputable organisation would not wish its professional employees to attempt to further its interests by means which are dishonest, knowingly illegal or otherwise a contravention of professional ethics; and would neither expect nor condone attempts by its senior management to procure such actions. It cannot be ignored, however, that occasional instances may arise. A member who finds himself or herself under pressure of this kind, and is unable to secure its removal, may raise the matter, in confidence, with the Chairman of the Membership Committee. Any further steps which might seem appropriate would be taken only with the agreement of the member concerned.

GUIDELINE No. 2 - RELATIONS WITH THE MEDIA

INTRODUCTION

Public interest in all aspects of food and food safety is reflected in the attention given to food by the media. While there is an undoubted tendency for the media to prefer sensational stories, and hence to provide a platform predominantly for those with sensational stories to relate, there is need and scope for professional food scientists and technologists to provide facts and objective informed opinions on food-related topics.

This Guideline does not contain general hints on how to be an effective interviewee or how to avoid traps for the unwary. That information is provided in a comprehensive IFST Handbook* on the subject. The Guideline is solely concerned with providing guidance on the ethical aspects of dealing with the media.

PUBLIC DISCUSSION OF FOOD SCIENCE TOPICS IN THE MEDIA

Statements on food science and technology topics may be of any of six distinct kinds:-

(a) statements of established facts;

(b) opinion as to what the facts may imply;

(c) arguing a course of action based on (b);

(d) speculation about what might be the case;

(e) opinion as to what speculations (if confirmed) may imply;

(f) arguing a course of action based on (e).

It should be noted that each of these is on a less firm basis than the one preceding it. Statements should be framed having clear regard to which of the above categories is/are involved.

Where a statement involves factual matters, there should never be selection of only those facts supporting a particular point of view. Great care should be taken to ensure that inadvertent partial presentation offacts does not provide an incomplete and possibly misleading account.

Where a statement involves both fact and interpretation, it should be framed to make clear distinction between what is fact and what is opinion.

Unconfirmed and unrefereed data should never be publicly presented as if they were established facts. No speculative interpretation should be presented as if it were conclusively proven.

Because any collection (however full) of known facts about a system can represent only an incomplete model it is likely that these facts can lend themselves to a variety of possibly conflicting interpretations (much more so if the boundaries of that system are not clearly defined). In public debate with other scientists or technologists, their bona fides should always be assumed unless there is convincing evidence to the contrary, and every effort should be made to define and agree the boundaries of the system under discussion.

Particular attention is drawn to the need to avoid seemingly authoritative public statements on scientific topics outside one's own area(s) of expertise.

REPRESENTATIONAL PROBLEMS

When being interviewed as a professional by the media, it is important to be clear in one's own mind and to make clear the capacity in which one is speaking. This capacity may be

(a) as an individual food scientist/technologist;

(b) as an expert in some defined specialism;

(c) as a representative of IFST or some other professional body;

(d) as a speaker on behalf of an organisation such as an industrial company, a trade association, a research establishment, a university or polytechnic.

[* Communicating with the Public: IFST members' guide.]

In cases (a) and (b) there is no representational problem because one is speaking entirely for oneself. There may, however, be misunderstandings if one is known or stated to be associated with or employed by a particular organisation. In this circumstance it is important to emphasise that one is speaking or writing solely in a personal capacity.

In case (c) each professional organisation will have its own rules which should be carefully followed. In the instance ofIFST, one should not appear as its representative unless authorised by the Officers to do so. This does not preclude well-informed relevant incidental references (which are encouraged) to the Institute's role, policies, achievements or publications. When acting as an authorised IFST representative one must always emphasise that one is speaking for the profession of food science and technology, and not for 'the food industry'.

In (d), there are two groups of possible spokespersons: those who are specifically employed to do so, and those who may do so on occasion and when specifically authorised or instructed to do so. Here, when one is speaking on behalf of an organisational or a sectoral interest, or to argue a case for that interest, great care should be taken to preserve professional integrity (see Guideline No. I, section 5, and Guideline No.4).

GUIDELINE No. 3 - CONFIDENTIALITY OF INFORMATION

INTRODUCTION

Clause (4) of the Code of Professional Conduct requires each member "to respect any confidence gained in his or her professional capacity". The exchange of confidences of all types is a normal part of life in modern society, and every member will have developed a personal approach to the problem. Special standards will apply, however, in his or her professional activities.

CONFIDENTIAL INFORMATION WILL BE RECEIVED

- in a personal capacity, in day to day dealings with colleagues;

- in official appointments on a personal basis such as examiner, or member of an official committee;

- as a consultant;

- during the course of interviewing job applicants;

- as a member of an institution such as a commercial firm, an educational establishment, a research institute or a government department;

- as an appointed or elected participant or committee member (whether in an individual capacity or representing an employer or client) in an association, federation or professional, technical or trade body.

It is on some occasions quite clear whether information is confidential, but common-sense judgment will frequently have to be applied or appropriate guidance sought.

MAJOR AREAS OF DIFFICULTY ARE

- knowing how far a fact or combination of facts should be treated as confidential if not specifically defined, who may legitimately have access to it and whether disclosure even in outline constitutes a breach of confidence;

- knowing when the circumstances have been overcome by time and confidentiality has diminished or disappeared;

- resolving problems created by receipt of confidential information in different personal roles;

- deciding how far confidential information may properly be utilised without actual disclosure;

- deciding, in a particular case, whether there are considerations of public duty which override those of confidentiality.

No hard and fast rules can be given on any of these points and the greatest care will often be needed. If necessary the independent opinion of a professional person with considerable experience should be sought, or indeed that of the Membership Committee. It should usually be possible to discuss the nature of a problem in outline or by analogy without breach of confidence.

SPECIFIC ILLUSTRATIONS OF DIFFICULTIES

A member may be involved in providing factual data or informed opinion in a legal action. The basic facts presented in open Court will cease to be confidential, particularly afterjudgment has been given, but details of the conduct of the case for prosecution or defence may need to be confidential in the lifetime of all concerned.

A member may be aware of the processes, recipes, operational characteristics, complaint levels or commercial data of an industrial firm, the employer or a company with which the employer does business. Some facts will cease to have relevance other than historical within days, but technical knowledge, in particular, may be a closely guarded secret not intended for wide disclosure even within the firm itself. Even the fact that a firm has been interested in acquiring information in a specific field may not be public knowledge and may be of value to others. Where a firm disposes of its business to another party, this may include title to continuing intellectual property rights, the confidentiality of which must continue to be respected. Even if a Company ceases trading it may sell its 'know-how' to a third party. Each firm will have its own policy on such matters.

Some disclose as little as possible. Others may deliberately display the extent of their technical knowledge as part of their external public relations. A member should assume that all details of a company's operations are confidential in perpetuity unless he or she is personally aware of publication or knows the firm's policy regarding disclosure. It would, for example, be highly improper to make such information available to a competitive organisation. A member cannot reasonably conduct a professional life on the basis that he or she has no experience in the field in question, but should be very careful about the manner in which experience is disclosed in an application for membership of a professional body, in an application for employment or in subsequent employment.

A member may be asked to referee a scientific paper prior to publication. All such dealings should normally be regarded as confidential to the publication in question and the referee should not disclose involvement without permission of the editor. The text of the paper will cease to be confidential when published but details of the editorial process will remain confidential, including for example, the number of times the paper was amended before final acceptance. The impropriety of publishing, under one's own name, new findings gleaned from a paper seen during the refereeing process will need no emphasis, but there will be more difficulty in dismissing the new findings when planning independent studies in the same field. In case of difficulty the editor should be consulted and, with his permission, the authors themselves.

When members receive information byvirtue of membership of, or representation on, an organisation, they should consider carefully whether this information is confidential to the organisation or committee concerned; or whether it may properly be used for their own or their employers' advantage, or may properly be communicated in another organisation or committee; and they should treat the information accordingly. This is particularly a problem for members who participate in several activities, and necessitates identifying and remembering the origin of information of a possible confidential nature. It can, moreover, sometimes be unclear in which of several capacities an individual information-donor is acting, and in which of several capacities the recipient is receiving the information. Some organisations or committees establish their own rules on confidentiality, and identify items which are to be treated as confidential. Members participating in these should comply strictly with such requirements. If a member is in any doubt as to the propriety of using, passing on or withholding information gained in a particular capacity, he or she should specifically seek guidance from the body, committee chairman or individual concerned.

GUIDELINE No. 4 - CONFLICTS INVOLVING PROFESSIONAL ETHICS

INTRODUCTION

Difficulties are encountered in situations where:-

- a given ethical principle implies responsibility or loyalty in opposing directions;

- more than one ethical principle is involved, and conforming with one of these appears to offend against another.

This Guideline cannot give a definite course of action in the case of such ethical dilemmas, but it can, however, underline some of the forms in which ethical dilemmas arise, and provide helpful pointers for individuals to bear in mind.

In an ethical dilemma, the individual has two options:-

- choose one of the available courses, for which decision he or she must accept responsibility;

- look for a new option which would serve both apparently opposing loyalties or be consistent with all the principles involved.

Where the latter solution is not apparent, the individual's decision may be made easier by consulting an independent opinion - e.g. an experienced professional person, or the Membership Committee of the Institute. Confidentiality may be maintained by describing the problem in outline or analogy.

In seeking a basis for decision, it would be all too easy to generalise on the principle that the public interest should always be given precedence over private interest. This generalisation begs a number of questions which are referred to below.

TYPICAL SITUATIONS

Confidentiality v Public Duty to Reveal

The major instance of this would relate to the placing of unwholesome food on the market. Refer to Professional Conduct Guideline No. I (Wholesomeness of Food), especially Section 4, which states that members should "take legitimate steps through proper channels" and each member is expected to do this to the full extent of his or her scope for taking decisions, but members are not accountable or open to criticism for deficiencies or actions beyond their power to influence.

In the event of all the "legitimate steps through the proper channels" being taken, to no avail, and the failure arising from a genuine difference of opinion re the wholesomeness of the food, a last resort before considering disclosure may be to invite the manufacturer to seek an independent expert opinion.

'Disclosure' may imply:-

(a) a responsive action (e.g. in answer to a direct question in a court of law or public enquiry - where a member cannot claim confidentiality grounds for remaining silent, as on occasion may a priest or doctor);

(b) an initiatory action - e.g. in the case of a real public risk where (a) would be too late. It must be remembered that this is a very grave step to take, would be serious and damaging for the manufacturer concerned, and have possible adverse consequences for the individual. General knowledge by an erring manufacturer that a professional may feel compelled by his or her professional code to make public disclosure of wilful irresponsibility, should ensure that the situation does not occur; but in the rare exception the decision must lie with the individual member.

Most would probably hold that a wilful infringement such as misdescription, failure to comply fully with a statutory compositional standard, or release of a product batch with substandard appearance, texture or flavour, would hardly justify so grave a step as initiatory disclosure in breach of confidence (particularly if it were an isolated instance). Conversely, the knowledge that, despite all legitimate efforts to prevent it, a knowing decision had been taken to release for sale a quantity of food constituting a recognised public health risk (e.g. inadequately heat-processed canned meat, or a product hazardously contaminated) would indicate a clear public duty of urgent initiatory disclosure.

Where two or more members of the profession at varying levels of seniority have been involved in the legitimate steps taken through the proper channels, it is generally desirable that any disclosure be made by the most senior professional.

For issues between the extreme cases outlined above, members should consider the following points:-

(a) the seriousness of the infringement, and especially whether the public would be only disadvantaged, or actually placed in danger (and to what extent);

(b) whether the facts are sufficiently well-authenticated and their interpretation sufficiently well-based (see Professional Conduct Guideline No. I 'Wholesomeness of Food' Section 1);

(c) if hazard is thought to be involved, whether it is hazard that is generally recognised as such by the general body of professional experts in the field, or whether it is merely a personal view (however strongly and sincerely held). Attention is drawn to Section I of Professional Conduct Guideline No. I, which warns that care must be taken to ensure that facts are not being selected, consciously or unconsciously, to support a predetermined conclusion, or to disguise a hazard, or to warn of a hazard the reality of which has not been established.

Clause 12 of the Code of Professional Conduct requires each member to "support fellow members who may find themselves in difficulties on account of their adherence to this Code and the Institute in its efforts to protect them". If the Membership Committee is fully satisfied that the member has acted responsibly in accordance with the Code in a situation where the facts warranted such action, it would advise Council that the Institute should do all in its power to support and protect the member. Clearly, it is both undesirable and impracticable to hypothesise in advance what forms of action might be appropriate in a particular case, but in the event it must be stressed that the Institute cannot accept legal liability for actions by individuals.

Responsibility to an Employer v Responsibility to a Subordinate

Clause 8 of the Code of Professional Conduct requires each member to "recognise his or her responsibility for the professional guidance of subordinates under his or her immediate control".

Professional Conduct Guideline No.5 relates generally to responsibility towards subordinates. Clause 8 quoted above, clearly implies a general responsibility to assist subordinates in their legitimate efforts to progress favourably in their chosen career, subject to merit and ability, and it is hoped that members would defend subordinates against criticism of their professional ability if the criticism is unjust, particularly if it comes from non-technical people.

Circumstances may arise, for instance in the event of redundancy, in which a member is asked to take a decision or condone an action which would adversely affect a subordinate's career or progress and which he or she considers undeserved. It must be realised that such a decision may sometimes be necessary to safeguard the interests of the organisation. In such circumstances the member should:

(a) seek to satisfy himself or herself that the prospective action is on reasonable and not capricious grounds;

(b) enquire whether the desired objective is achievable by alternative and less harmful action, and if so, whether the alternative course can be feasibly adopted;

(c) seek to ensure that any action is implemented in the fairest and most humane manner possible;

(d) advise the subordinate on ways of minimising any adverse consequences and of optimising future career prospects.

Promotion of Employer's Interest v Scientific Objectivity

It is clearly the duty of members to do all that they properly can to further the legitimate interests of their employers or clients. Members may sometimes find themselves under pressure to do so to an extent or in ways which would compromise their professional integrity. Alternatively, enthusiasm may inadvertently carry the individual to a point where scientific objectivity suffers. The latter problem may arise particularly where the member is working in the fields of marketing, advertising or sales, or in providing technical serice support to the sales function, most frequently in connection with some aspect of the wholesomeness of food. Full guidance on this is given in Section 5 of

Professional Conduct Guideline No.I, to which reference should be made. Similar principles will apply to other manifestations of this conflict.

Responsibility (of a Consultant) to one Client v Responsibility to Another

Conflict could arise if a consultant were simultaneously to represent both sides of a transaction (e.g. buyer and seller). While it is obvious that a consultant should decline to do so, except at the specific request of both parties and under carefully predefined conditions, this is an oversimplification. Atransaction may be embarked upon, initially without the knowledge of the consultant, between two firms which retain his or her services, and it is possible for partial involvement to occur without its nature becoming initially apparent. If involvement of this kind can be foreseen, or as soon as it becomes apparent, the consultant should draw the situation to the attention of both parties.

Another problem area is that of two client companies which are competitors in the same area of the food industry. Particularly where a consultant specialises in a narrow sector of the food industry, it is likely (especially due to mergers, takeovers, etc.) that among a consultant's established clients there will be some in direct competition with each other in some respect. Again, it is an easy oversimplification to state that knowledge gained while doing work for one client should not be disclosed to another client; but any knowledge becomes part of the consultant's mental equipment in thinking about and solving technical problems. There is no way of evading this difficulty, and probably the best safeguard is for the consultant to be aware that the difficulty exists.

Responsibility to an Organisation v Responsibility to the Profession

This potential conflict may manifest itself in connection with any organisation, whether it be an industrial company, a research establishment, or an academic establishment. The policy of an individual organisation, aimed quite properly at safeguarding and furthering the interests of that

organisation, may occasionally run contrary to the wider interests of the field of which it is a part; and in the present context, may run counter to the interests of the profession as a whole. This can present a dilemma for the member employed in the organisation concerned, and particularly for a senior member who may be expected to act as a spokesman and advocate for the organisation (or a federal body of such organisations) in official quarters.

It would be unreasonable to expect an organisation's policy to be framed in disregard of its own interests. Members, and particularly senior members in that organisation should seek to ensure that in the evolution and framing of its policy full account is taken of the professional view and interests, as reflected in the policies of the Institute, both general and specific (i.e. technical or educational as the case may be). Care is taken that the policies of the Institute do reflect the professional approach and outlook, partly by the machinery of policy making and partly by the varying backgrounds of its many members.

If, nevertheless, the situation arises where a member is required by his or her employing organisation to advocate or engage in actions on its behalf, which run counter to the policies of his or her profession, the member should carefully consider whether the measures or policies in question represent a proper, honest, and legitimate view for the employing organisation to take. If so, the member should carry out the required task conscientiously and as effectively as possible, but in such a way, that without thereby preventing effectiveness, any implication that this represents the view of the profession, or of the individual professional, is avoided (e.g. by the use of phrases which emphasise the organisation and not the individual). If, on the other hand, the member concludes that the action required of him or her is dishonest, fallaciously-based or generally contrary to professional integrity, the member should draw this to the attention of superiors through proper channels. The principles outlined in Section 5 of Professional Conduct Guideline No. I (there related to debate concerning wholesomeness of food) apply with equal force to this more general area.

Possible Conflict of Loyalties to various Societies, Institutes, etc.

In their individual professional capacities or some aspect of them, food scientists or technologists may belong to professional and other institutes, learned societies', bodies concerned with a limited sector of food science and technology, bodies with an incidental or overlapping interest in food science and technology, and other bodies, of a federal nature, on which food scientists or technologists may serve as representatives of their employing organisations (e.g. trade associations), or as representatives of individual societies or institutes. Generally, the interests of such bodies coincide, overlap, are complementary, or at least do not clash. Where the respective interests of two or more such bodies do differ, however, possible conflict of loyalties may arise for a member active in the bodies concerned, and particularly for one serving on the respective committees.

The problem of confidentiality of information in this context has already been discussed in the final paragraph of Professional Conduct Guideline No. 3, 'Confidentiality of Information'. As regards advocacy of policy and contribution to decision-making in this context, the following principles should be noted:

(a) when acting in a representational role (e.g. representing a body in a federal organisation or a firm in a trade association) a member should advocate the views of the body/firm represented and no other, and support proposals compatible therewith (subject to the considerations outlined in the preceding section).

(b) when participating in the deliberations of an institute or society, a member should have first and foremost in mind the interests of that body) and should refrain from seeking to promote there the interests of any other body. Members, should, however, seek to foster the maximum amount of goodwill and practical collaboration among organisations.

Responsibility to Colleagues in a Trade Union v Responsibility to the Profession

Professionals who support trade unionism, either considering that there is no incompatibility with professional ethics, or that trade union causes may deserve a greater loyalty, may occasionally encounter very great difficulty in deciding in particular circumstances where their greater loyalty and responsibility lie.

Individuals may not always have a completely free choice of which union they join; and even if they join a wholly professional union, instances have arisen where a professional union has threatened the area of public interest for which it is professionally responsible, as a means of achieving its own objectives and/or gain sectional advantage. If this happens, members should consider the public interest as well as their own.

GUIDELINE No. 5 - DUTIES TOWARDS SUBORDINATES

INTRODUCTION

The purpose of this Guideline is to amplify and explain clause 8 of the Code of Professional Conduct of the Institute which requires each member "to recognise his or her responsibility for the professional guidance of subordinates under his or her immediate control". Some part of these responsibilities may be laid down in management procedures of the particular organisation. The ethical points listed below qualify such procedures.

In general the member should encourage the development of independence of judgment in subordinates in their professional and scientific careers, and help and encourage them to develop their knowledge and skills.

The member should be responsible for the induction of new members of staff, and ensure that they gain a sense of participation, and are encouraged to express professional opinions freely to their immediate colleagues.

One should ensure that subordinates understand the tasks which they have been allotted and the limits of their responsibility within the overall objective of the work. They should then be encouraged to suggest and, where appropriate, make use of their own ideas and ways of doing things. It is particularly important to acquaint them with the outcome of their work, any contribution it has made and, where it cannot be rapidly used, the reasons for this.

The member should also interpret for subordinates the objectives of the organisation and guide the work so that it contributes to those objectives.

No member should ever require of a subordinate any action contrary to professional ethics as outlined in the Code of Professional Conduct.

DUTIES OF MEMBERS TOWARDS SUBORDINATES SHOULD BE TO:

- accept responsibility for their work. This can only be done if proper communication has been established by adequate training, definition of duties and clarification of objectives;
- ensure that they are given adequate recognition for their work, and advocate and encourage appropriate publication when possible;
- aid them to appreciate their own professional development, e.g. by furthering their education, widening their experience, and obtaining further qualifications and professional status, and encourage and advise them on their progress as appropriate;
- encourage relevant external contacts, by enabling them to attend scientific meetings and to meet other scientists and technologists;
- ensure that they are at all times aware of the limits of confidentiality concerning information about their work;
- encourage them to practise the precepts of this guideline towards their subordinates.

GUIDELINE No.6 - SCIENTIFIC ISSUES AND FOOD PROMOTION

INTRODUCTION

How foods are described, promoted or advertised is the result of commercial decisions made on commercial grounds, within the constraint of what is required or prohibited by the laws of the country for which the food is intended.

Although members of the Institute, be they in industry, consultancy, enforcement, government or teaching, are concerned with expounding, interpreting, advising on or helping to develop technical aspects of food legislation, in general commercial decisions are outside the specific purview of the Institute. Many members' first knowledge of an advertising or promotional 'message' may come only when it has already been publicly aired. Some members, however, are in a position to take or directly influence the decisions taken, and others have the opportunity to advise or comment at some stage.

The use of scientific (or supposedly scientific) facts, issues, judgments or implications, to describe, promote or advertise foods, requires great care. The Institute therefore has a professional ethical responsibility to draw attention to areas where such caution is needed and where also some guidance may be helpful. Moreover, when the sale of food products is promoted by statements which have or appear to have scientific import, the public may assume (rightly or wrongly) that those statements are properly based on established science and technology. This is an additional reason for putting forward a professional view to help avoid misunderstanding and to serve the public interest.

This Guideline should, of course, be read in conjunction with the other Guidelines. Thus, various general requirements (e.g. scientific accuracy, objectivity, balanced judgment) stated there need not be repeated here.

PROFESSIONAL RESPONSIBILITY

It should be clearly understood that this Professional Conduct Guideline (like its companions) does not have the effect of holding any members responsible or open to criticism for matters which they cannot influence. It is recognised that members work in a wide variety of job functions, in many fields, at widely varied levels of seniority and in many differing organisational structures; consequently there are wide differences both in matters they can influence and the extent of that influence. Just as in Guideline No. I ('Wholesomeness of Food', Section 4), so here each member is expected to use his or her best endeavours to promote courses of action in accord with Professional Conduct Guidelines, to the full extent of his or her scope for taking decisions (whether it be a decision as to what shall be done or a decision on what advice to give to the ultimate decision-maker(s) or a decision to draw a matter to the attention of superiors).

It cannot be expected and is not intended that this or any Guideline can provide ready-made solutions for all circumstances in which problems may arise. This is difficult terrain; and while a Guideline may not provide ready-made paths through it, it aims to provide some pointers which may help individuals to chart their own courses with integrity.

MAIN AREAS OF DIFFICULTY

The use of terms which appear to have scientific import but are not meaningful in the given context, and may mislead for this or other reasons.

'Pure', 'natural', 'fresh', 'goodness', 'health' and 'energy' are some terms which exemplify this difficult area. Responsible caution should be exercised to ensure that such terms do not mislead.

Quite independently of any objective sense in which they may be used, these terms carry emotive connotations of supposed superiority or desirability (e.g. 'pure' versus 'impure', 'natural' versus 'unnatural', 'fresh' versus 'stale'). There is a danger that the public will infer the emotive meaning rather than any factual meaning.

Any of such terms could be used, either having no real meaning in the context, or plausibly in one of its meanings but where it is likely to be understood by the public to carry another unjustified meaning.

These terms could even be used, not as descriptive of the product, but as a fortuitous or contrived importation into the 'copy', and yet by word-association become thought of by the public as descriptive of the product.

In general, such terms are best avoided unless the dangers indicated are effectively avoided, and the use of such a term provides, in the context, accurate information, which is unambiguously meaningful and useful to the public.

Promotional material which may tend to create unwarranted public alarm about the safety or health aspects of foods other than the one(s) being promoted.

It is a legitimate promotion measure to claim merit in the character of a product or the method of its manufacture, provided that the information is accurate and the claims can if necessary be justified. This should not, however, be extended to the denigration (whether overtly or by innuendo) of other food products which are wholesome (see Professional Conduct Guideline No. 1) and comply with the laws of the country for which they are intended.

Specifically, it should not be stated or implied:

(a) that any product which has been 'processed' must perse be less wholesome or less safe or less healthy than one which has not;

(b) that any product which has been made by a complex or modern process must per se be less wholesome or less safe or less healthy than one made by a simple or traditional process;

(c) that foods containing permitted additives must per se be less wholesome or less safe or less healthy than those without additives.

Promotional material or descriptions which may give a false or misleading impression about the nature, character or wholesomeness of the food in question.

In many countries this area is ostensibly covered by legislation. Apparent compliance with the letter of the law can, however, sometimes mask offence against its spirit and purpose, may be misleading by innuendo, or (in spoken/visual material on TV or radio) by tone of voice or emphasis on a word or phrase or by a pause between words or by association of words with visual images, conveying a meaning not apparent in the written text.

Moreover, as food professionals have a responsibility to contribute to the development of legislation, merely to say "comply with legislation" would be to beg the question. The ethical principles involved should therefore be stated.

(a) Consumers should be able to obtain (and therefore manufacturers should be free to make) any food which is wholesome (cf. Professional Conduct Guideline No. 1).

(b) Such foods should, however, be correctly represented. Great care should be taken to avoid any written, spoken or pictorial material which might, by the way it is presented (or by what is omitted) mislead as to the nature, character or wholesomeness of the food.

(c) The use of technology to upgrade the perceived eating quality of food product (or of a major component thereof) is a proper and valid activity, which ought not to be denigrated. Conversely, if the product now resembles (perhaps intentionally so) the eating quality of a recognised higher-grade of that food, it should not be so described or promoted as to give the impression that it is that higher-grade food.

(d) A product should not be represented as being 'environmentally-friendly' or 'green', directly or by implication, unless all of the issues referred to in Professional Conduct Guideline No.8 have been addressed.

Explicit or implied presentation of pseudo-science or of an hypothesis based on partial evidence, as though it were an established scientific conclusion widely accepted by experts in the relevant field.

Examples sometimes occur in promotional material emphasising the nutritional aspects of foods, and in the description and promotion of faddist foods and so-called 'health foods'. When they occur, it may not be by explicit statement but by innuendo (indeed, innuendo may have been used where an explicit statement would constitute an illegal claim).

There is nothing new in the 'blind them with science' (or supposed science) approach, but it is one that scientists and technologists should do their best to avoid, and to encourage others to avoid. In general, scientific terms, issues and judgements, if used in describing, promoting or advertising food, should be used, responsibly and with caution, only when their use is necessary to give useful, accurate and unambiguous information, and never in ways which might advertently or inadvertently mislead, confuse or falsify.

GUIDELINE No. 7 - RESPONSIBILITIES TOWARDS STUDENTS

INTRODUCTION

Because students represent the future of the profession, existing members have a responsibility to assist their development.

Most students are young people in whom maturity of thinking needs to be developed. Academics and managers responsible for students' industrial training are thus in some measure in loco parentis regarding help and guidance. These responsibilities must be accepted. Equally, mature students require help and guidance albeit of a different type.

RESPONSIBILITIES OF ACADEMICS

Although pressures to achieve target numbers on a course may be considerable, no potential students should be encouraged to embark upon a course unless there is reasonable confidence that, provided that they apply themselves to it conscientiously, they will be able to complete the course successfully.

Students of food science and food technology are not learning a trade but are preparing for entry to a profession. Accordingly, their academic mentors have a responsibility not only to provide expert factual and scientific information and learning guidance but also to establish the principles of professionalism, ethics and professional conduct, both by precept and example. They should seek also to develop the communication and interpersonal skills of students and to raise their awareness not only of what employers and professional bodies have to offer them but what will be expected of them in return.

The staff concerned should provide appropriate information, advice and counselling on course, career and personal matters, through whatever formal and/or informal arrangements that may exist within individual academic institutions.

Assessments of students' progress, whether by examinations, course work or other means, should be equitable and objective. Where students are unable to understand the outcome of assessments, patient and supportive explanation should be made without breaching confidentiality.

RESPONSIBILITIES OF MANAGERS DURING STUDENTS' INDUSTRIAL TRAINING

Students undergoing industrial training should be regarded and treated responsibly as trainees and not exploited as cheap labour. They should be given programmes which enable them to learn by experience while contributing in a worthwhile way which can be evaluated and discussed with them. They should be given the opportunity not only to learn how and understand why the tasks or functions of their own work are performed but also to learn about the sector of industry where they are located and more generally how industry operates. The manager concerned should encourage students to display responsible initiative, should make time for a regular discussion with each student and should confer periodically with the appropriate academic tutor.

GUIDELINE No. 8 - RESPONSIBILITIES TO THE ENVIRONMENT

As already indicated in Professional Conduct Guideline No. I (Wholesomeness of Food), Section 4, food scientists and technologists work in a variety of functions and at widely varied levels of seniority. Accordingly their individual abilities to influence the environmental impact of the production of foods with which they are concerned also vary widely.

Moreover, the environmental impact of a food product has to be viewed in relation to the totality of its history, from the growing, harvesting, rearing etc of its basic food ingredients and the manufacture of its packaging materials all the way to its preparation for consumption and the subsequent disposal of the packaging. In doing so, overall account must be taken of

- minimising energy usage;
- minimising losses and waste (generating less, and/or recovery);
- optimising non-polluting waste disposal (liquid and gaseous effluents, solid waste);
- optimising packaging disposal (recycling, biodegradation).

A piecemeal attempt to minimise environmental impact in one segment of the total product history may well be counterproductive and cause an even bigger adverse effect in another segment. Likewise looking at one or another of the above-listed factors in isolation from the others may be counterproductive.

Few food scientists or technologists have the opportunity to make decisions or influence decision-making across the totality of a product as described above. Those perhaps in the best position to do so are those taking part at a senior level in a company team defining the brief for developing a new product or for changing an existing one, and who, within the constraints of the brief, are able to select raw materials and packaging materials and design processes with due regard to environmental factors as well as conformance with design quality and safety criteria.

On existing production, straightforward measures should be sought and recommended to minimise energy usage, and defective product and waste, to dispose of waste and effluents efficiently and with minimum harm to the environment and to recycle wherever possible, to whatever extent may be possible without compromising product quality or safety.

Each member is expected to take legitimate steps through proper channels to ensure (or assist in ensuring) the minimising of adverse environmental impact of the products/processes with which he or she may be concerned, having regard to the foregoing considerations and without compromising the quality or safety of the product, to the full extent of his or her scope for taking decisions. (For an explanation of the last phrase, please refer to Guideline No. I, Section 4).

APPENDIX - MATTERS OF PERSONAL CONSCIENCE

It is recognised that some members may be faced with personal dilemmas because of their sincerely-held views about legally-permissible activities; for example

- persons with strong vegetarian views who find themselves transferred within their employing organisations to meat products research or development or production;
- persons with anti-animal-testing views finding themselves involved in the use of ingredients or additives which have been, or may have to be, tested on animals;
- persons opposed to the introduction into the diet of genetically-engineered food materials who find themselves involved in the use of such materials.

While recognising the sincerity with which such personal views may be held, the Institute as a body neither endorses nor condemns the holding of them, but considers them to be wholly matters of personal conscience of the individual, and therefore not appropriate subjects for inclusion in the Code of Professional Conduct or the Guidelines.

A member faced with this sort of dilemma could apply to his or her employing organisation to be transferred to other work, if such is available. If none exists or if the request is refused, the member then has to make the personal choice of continuing the personally distasteful work, seeking employment elsewhere, or taking other professionally responsible action.

(http://www.ifst.org/pcguide.htm, 7/4/03)