

ADVISORY COMMITTEE ON NOVEL FOODS AND PROCESSES

THE ROLE OF ETHICS IN THE WORK OF THE COMMITTEE

Issue

This paper considers the application of ethics in the Committee's work, in the context of established frameworks for applying ethical principles and assessing consumer interests in relation to food.

1. Background

The ACNFP has had a role for an “ethical” specialist since 1991. There does not appear to be any record of the kind of issues that this specialist was expected to address but, almost certainly, it reflected the emerging technology of genetic modification and its application to food products.

In 1992, the ACNFP established an ad hoc “Committee on the Ethics of Genetic Modification in Food Use (CEGMFU)”. In 1990, the ACNFP had received a request from the Roslin Institute to release sheep from transgenic breeding programmes into the food chain. Although the ACNFP found there to be no food safety reasons preventing inclusion of the transgenic sheep into the food chain, it considered that there could be ethical and labelling implications that warranted further examination. The CEGMFU under the Chairmanship of Reverend Dr John Polkinghorne (the “ethical” member of ACNFP) was remitted with examining these issues. Following consultations with a wide range of bodies, four main ethical areas of public concern were identified, namely:

1. the transfer of human genes to food animals
2. the transfer of genes from animals, the flesh of which is forbidden for use as food by certain religious groups, to animals which they usually do eat (eg pig genes inserted into sheep)
3. the transfer of animal genes into food crops, which would be of particular concern to vegetarians
4. the use of organisms containing human genes as animal feed (ACNFP, 1993).

2. Consumer Concerns

Shortly after the publication of the Polkinghorne report, the EU funded a research project concerned with UK consumer attitudes to the emerging issue of Genetically Modified food products (Kuznesof and Ritson, 1996)

There were two important conclusions from this work of relevance to this present paper. First, for most consumers, whether they were willing to “accept” a GM food product was not a simple “yes” or “no” decision, but varied according to a range of criteria, in particular the notion of any perceived benefit, and to whom that benefit accrued. Second, consumers did not express a set of concerns which could readily be described as “ethical”, in the way articulated by Polkinghorne; rather the Polkinghorne issues tended to merge in consumer minds with perceived safety and quality aspects of food consumption. In general, genetic modification relating to plants was more acceptable than that relating to animals (with fish somewhere in between); and the perception of “gene manipulation”, rather than “gene transfer” was regarded more favourably, with (again the perception of) the biological distance between the donor and recipient regarded as important.

But more than anything else, hostility to the new technology was associated with fear of the unknown, a belief that it was “unnatural”, and involved “scientists” imposing on people a new technology which would only benefit food companies. Once a consumer benefit could be identified, then the GM product becomes more acceptable and, paradoxically, “safer”. For example, increasing shelf-life is seen as “bad” (producer benefit); improving flavour or lowering price, “good”. Thus, although from an objective scientific standpoint, we can delineate consumer “safety” and “ethical” issues, these tend to merge in the decision making process of many food consumers. This can be understood, at least in part, by what has become known as the “Theory of Perceived Risk”.

3. Perceived Risk

The Theory of Perceived Risk was developed principally by Slovic (1987) in relation to environmental hazards. The development of gene technology in food production, together with the BSE crises, led to its application in academic research to food safety (Ritson and Kuznesof, 2006).

The Theory seeks to explain why some risks invoke more alarm than others, regardless of scientific estimates of their seriousness. Table 1 identifies key ‘risk amplification’ factors, (factors that lead people to believe that food consumption

poses a greater threat than scientific based risk estimates would suggest); and 'risk attenuation' or 'comfort' factors (factors that reduce perceptions of risk).

Table 1 Risk Amplification and Risk Attenuation Factors

Risk Amplification Factors	Risk Attenuation Factors
Unfamiliar or novel	Familiar
Risk is involuntary	Risk is voluntary
Third party control	Individual control
Inescapable	Avoidable
Man-made	Natural
Effects unknown	Effects known
Long term effects	Short term effects
Irreversible damage	Damage is reversible
Danger to vulnerable groups or future generations	Population equally affected
Risk poorly understood by scientists	Well understood by scientists
Contradictory statements from responsible sources	Consistent statements from responsible sources

Source: Adapted from Bennett (1999)

Genetically modified food products, and perhaps most novel foods or food ingredients, clearly subscribe to a number of the risk amplification factors, and few of the attenuating factors.

4. Ethical Principles

Definitions of ethics range from the simplistic (“doing the right thing”) to esoteric versions deeply rooted in moral philosophy. The application of ethics to the biosciences, including food biotechnology, is now usually referred to as “bioethics” (Mepham, 2008). Ben Mepham, emeritus Professor of Bioethics at Nottingham University, and the first Executive Director of the Food Ethics Council, has developed the “Ethical Matrix” as a guide to ethical decisions in the application of bio-technology. This begins by elucidating three Ethical Principles. These are:

I **RESPECT FOR WELLBEING.** This is derived from the utilitarian theory of the 19th Century British political economists Jeremy Bentham and John Stuart Mill, and is epitomised by the famous quotation from Mill “The greatest good for the greatest number”. This principle is probably the easiest to apply and forms the foundation of social costs benefit analysis in modern welfare economics.

II RESPECT FOR AUTONOMY (Freedom and Choice). This is associated with the 18th Century philosopher Immanuel Kant and the “rights” of man – “Do unto others what you would have done to yourself”.

III RESPECT FOR JUSTICE (Fairness). Associated with the contemporary philosopher, John Rawls, and based on the idea of an egalitarian society with equal rights and opportunities for all.

An interesting issue which emanates from the three Ethical Principles is whether they embrace, (or are at least consistent with) the seven “Consumer Principles” accepted by the Agency as representing “the interests of consumers in relation to food”, namely:

1. Access
2. Choice
3. Safety
4. Information
5. Equity
6. Redress
7. Representation

The ACNFP in 2003 discussed its handling of consumer issues (ACNFP/60/4) and in particular concluded that issues such as Choice and Access were outside of the expertise of the Committee. However, given its remit to advise on “any matters relating to novel foods and novel processes” it should nevertheless “flag up” any consumer concerns which it felt it was not qualified to advise on. As a result of this discussion, ACNFP papers on new novel food applications made via the UK now include a section dealing with Access and Choice, which were not previously addressed in the evaluations.

It seems to me that Access and Choice are embraced by the Ethical Principles and that the consumer and ethical specialists on the Committee should possess the expertise, at least to identify and comment on, these aspects of the consumer interest. More generally, the implication is that one role of ethics in the work of the ANCPF is to ensure that Committee decisions take account of “the interests of consumers in relation to food” broadly defined; and should not be restricted to “presence of material which gives rise to ethical concerns”, the only reference to ethics in the ACNFP 2003 “Consumer Concerns” paper.

5. The Ethical Matrix

Thus one role of Ethics in the work of the ANCFP can be to provide a framework to ensure that all aspects of the interests of food consumers are taken into account, and this constitutes one dimension of the Ethical Matrix. The other dimension comprises the range of interests that might be affected by a decision to recommend approval of the marketing of a novel food. A generic version of the Matrix, which could be adopted to address a range of different issues in the food sector, has been put forward by the Food Ethics Council, and is shown in Figure 1. Each cell specifies the main criterion that would be met if a particular principle (eg justice) was respected for a particular interest group (eg people in the food industry).

Figure 1 An Example of the Ethical Matrix

Respect for	WELLBEING (Health and Welfare)	AUTONOMY (Freedom & Choice)	JUSTICE (Fairness)
PEOPLE IN THE FOOD INDUSTRY	Income and working conditions	Freedom of action	Fair trade laws and practices
CITIZENS	Food safety and quality of life	Democratic informed choice	Availability of affordable food
FARM ANIMALS	Animal welfare	Behavioural freedom	Intrinsic value
THE LIVING ENVIRONMENT	Conservation	Maintenance of biodiversity	Sustainability

Source: www.foodethicscouncil.org

At its simplest, therefore, the Ethical Matrix is just a checklist of concerns, structured around established ethical theory. It is an aid to identifying what might be affected by a development within the agro-food sector and how it might be affected. But the range of interests which are embraced by an ethical approach to issues within food and agriculture may, arguably, extend beyond the interests of the Food Standards Agency, with its slogan of “putting consumers first”. For example, when the Committee considered last year the use of cloned animals for food production, the issue which had led the EU Ethics Committee to produce an adverse opinion – that the potential benefits to food supplies did not outweigh the cost to animals – this was regarded as outside the Agency’s remit.

However, the Agency did, a couple of years ago, hold a high profile seminar on incorporating “sustainability” into its work, and since then the problem of “oily fish” has refused to go away. Perhaps there is a distinction here between issues upon which the ANCFP is asked to comment, where it should restrict its deliberations to food safety (or at least food consumption), leaving others (eg

Defra) to comment elsewhere; and when ACNFP is providing an opinion on the authorisation of a novel food, where “any matters” becomes relevant.

And the EC regulation on general food law (178/2002).

“Food law shall pursue one or more of the general objectives of a high level of protection of human health and the protection of consumers” interests, including fair practices in food trade, taking account of, where appropriate, the protection of animal health and welfare, plant health and the environment” (ACNFP/60/4)

seems to embrace as wide a range of interest as envisaged by the Ethical Matrix. The more detailed legislation that applies in specific areas, such as novel foods or food additives, may include more detailed reference to any factors that can or must be taken into account in decision making.

6. Costs and Benefits

A framework like the Ethical Matrix can be used to help to identify potential adverse impacts which might be associated with new food technologies; but equally this approach can also highlight potential benefits. (If it then progresses to being an aid to decisions, this introduces the difficult step of attaching weights to the various costs and benefits). In this context, the scope of ACNFP decisions is restricted by the criteria for acceptance of novel foods according to EU regulation 258/97, that applicants are required “to demonstrate that their products do not

- Present a danger to the consumer
- Mislead the consumer
- Differ from other foods .. which they are intended to replace to such an extent that their normal consumption would be nutritionally disadvantaged for the consumer” (Annex to ACNFP/60/4).

These criteria are all negative – the novel food must not do certain things, irrespective of any benefits. What if a novel food is assessed as raising public safety issues, but is regarded as nutritionally beneficial and is central to the livelihoods of disadvantaged people in a low-income country?

7. The Work of the Committee

This paper has concentrated on an ethical approach to the introduction of novel foods. However, we should also perhaps take note of the importance of the way the Committee itself approaches its work – that it takes fair and balanced decisions, considers all evidence provided, allows all members to contribute effectively, and ensures that any personal interests are recognised. The set of

questions that the Committee was required to answer at the time of the Annual Report appear to address this. However, the Committee frequently requires applicants to undertake additional research and it needs to be aware that this might sometimes raise ethical concerns in relation to animal experiments or human trials.

8. Committee Requests to Applicants.

There is one further area where ethical issues may impinge upon the work of the Committee and which is arguably more directly related to Committee decisions. Sometimes the Committee requests applicants to undertake further research and this may involve tests using human subjects (perhaps children) and/or animals. All such work will be subject to an ethical review process within the organisation concerned, and this is perhaps why the issue does not usually feature in Committee discussion (though Members have on at least one occasion drawn attention to the fact that what the Committee required might involve tests using children.)

We can probably be confident that strict safeguards will be in place for human trials, but perhaps not so confident in the case of animal experiments. This again raises the potential relevance of “benefit”. The Newcastle University Ethical Review Committee, responsible for approval and monitoring of animal experiments, applies a cost/benefit criterion, with potential benefits to humans set against perceived “cost” to animals in terms of pain/discomfort. Usually, the benefit involves control of ill-health disease or abnormality, sometime advances in fundamental science, and the benefit is easy to identify. When experiments involve farm animals, the benefit to society is often more difficult to articulate and ethical approval can become problematical.

The benefits to society of the marketing of novel foods are similarly diffuse, and again the distinction between consumer and commercial benefit, referred to earlier in the context of GM foods, becomes important. What criteria will be adopted in the Ethical Review applied within an organisation undertaking animal, experiments on behalf of a company which wishes to market a novel food or food ingredient? How will “benefit” be characterised?

COMMITTEE ACTION REQUIRED

The Committee is invited to consider the following conclusions/discussion points.

- a) The application of ethics in the work of the ANCFP should not be restricted to cases where a novel food is regarded as safe, but might contain an ingredient which gives rise to “ethical concerns”, as articulated by the Polkinghorne Committee. Consumers do not necessarily make this neat distinction between different food product attributes and they will “trade-off” what they perceive as positive and negative attributes of a new food technology.
- b) Ethical principles embrace a broad interpretation of the interests of food consumers, consistent with the seven “Consumer Principles” adopted by the Food Standards Agency.
- c) The interests which might be affected by new food technologies extend beyond those of food consumers and an ethical approach can help to identify these interests and how they might be affected.
- d) It may be useful to make a distinction between circumstances where the ACNFP is asked to comment on a particular development in food technology where it should concentrate on food safety and the food consumer; and when it is concerned with its normal business of considering authorisation of novel foods, where a broader “any matters” approach is justified.
- e) The Committee should consider whether it should give more consideration to potential public (and other benefits) of novel foods, particularly nutritional benefits.
- f) The Committee should identify cases where a request for more information might itself raise ethical issues, for example research which might involve testing on animals or children, and should require details of the criteria used in the ethical review process applied to such research.

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