Food safety control: overcoming barriers to wider use of hazard analysis

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Although appropriate steps can be taken to prevent or reduce risks to health, foodborne diseases have continued to present a serious public health challenge. The traditional approaches of inspection and end-product testing appear to have proved inadequate in tackling the problem and there is an urgent need to apply more rational and effective strategies. One such strategy is the Hazard Analysis Critical Control Point (HACCP) system.

The application of the Hazard Analysis Critical Control Point (HACCP) system to food safety control is based on the premise that potential food hazards and faulty practices can be detected at an early stage, leading to measures to prevent or reduce risks to the health of consumers or relieve the economic burden on the food trade due to spoilage or recall of marketed items (1). Prevention is the paramount goal for any HACCP system. The guidelines for the application of the HACCP system were adopted by the 20th session of the Codex Alimentarius Commission in 1993.

**Importance of HACCP in food safety**

One of the most important advantages of HACCP is the increased safety consciousness it promotes in the food trade by incorporating safety at every stage, requiring control of any crucial operation, and ensuring that adequate and effective safety measures are established, maintained, and evaluated. It encourages systematic analysis of processes so that staff can find and correct errors and verify the adequacy of internal quality-control systems, developing their own if none exists. HACCP is designed to pinpoint potential problems associated with a food product, and provides a clear definition of what should be done to improve poor conditions and procedures. Even in the absence of an inspector, it gives insight into the operation 365 days a year. The concept would seem to be of immense practical value under most countries’ existing food safety legislation. In the United Kingdom for example, the Food Safety Act 1990 provides for defence of due diligence, and HACCP can demonstrate that due diligence has been ensured to prevent the occurrence of hazards (2). It is equally valid in developing countries where it can reduce the health and economic costs of foodborne diseases and food spoilage to a minimum. It can also help to promote foreign earnings from the food trade by enhancing international acceptability for their products.

**Role of legislation and education**

The promulgation of laws and regulations has commended itself to policy-makers as a short-cut to reassuring the public that some-
thing is being done to protect them from food hazards. Unfortunately in some countries much legislation becomes obsolete even before any attempt is made to implement it, while in others the necessary framework and incentives for implementation may not be present.

Potential food hazards and faulty practices can be detected at an early stage, leading to measures to prevent or reduce risks to the health of consumers.

Others again are beginning to respond to calls for the application of HACCP throughout the food chain. For instance, the European Community Directive on Hygiene of Foodstuffs (3) has introduced the concept of HACCP into food legislation, and soon its application to food safety control will become part of the food safety legislation of member states. In the USA the food code released by the Food and Drug Administration in 1993 now requires food regulation programmes to be based on the principles of HACCP.

Incorporating HACCP into food legislation of countries in both the developed and developing world calls for political commitment to its wider implementation. But if legislation is to achieve the desired results, it will have to be backed up by adequate educational programmes. HACCP appears to be much better understood by regulatory officials and the food trade bodies than it is by a majority of managers in the food industry, and this applies even in the more advanced countries. In a small survey of HACCP implementation in food service establishments in Scotland, we found that a majority of managers of the establishments visited had no information about HACCP. Preliminary results show that a high proportion of those who received instructions on it as a part of this exercise agreed that the concept is a far more effective strategy than their present mechanisms for ensuring food safety, and they strongly believe that it can be applied to their operations. This is in keeping with the USA’s experience in New York State (4), where it has been reported that both environmental health officers and food workers who had been reluctant to be involved became enthusiastic after having actual experience of HACCP. This underlines the need to promote awareness through increased emphasis on training and education of food workers at both the local and national levels in developed and developing countries. Valuable training material is available, including a WHO document (5) and a chapter in a monograph (6).

Advocacy

Acceptance and implementation of HACCP tend to be more frequent among larger food businesses (especially manufacturing and large retail outlets) than among small businesses and catering firms. More emphasis should therefore be placed on advocating it to small businesses, using simple approaches; education and training should begin with an explanation of its practical objectives, with emphasis on its nature as an approach to be initiated rather than a programme to be implemented. A precise example of what the system is and what it is not will prevent misunderstanding of its goals, which would be counterproductive. To regard HACCP as a programme to be contracted out, or as a single exercise engaging the services of private “consultants” without understanding the concept and without the necessary procedures to facilitate its practical application, would certainly create serious problems.

Practical application

There is no scientific or practical basis for fears that HACCP does not readily lend itself to application in small businesses and food
service establishments. Any enterprise in which the stages of food preparation, production, handling, or service can be determined is amenable to HACCP. Procedures for its application to small businesses, including cottage industries, food service establishments, street food-vending operations and domestic kitchens have been determined and described by WHO (7) and their feasibility has been demonstrated in case studies in a number of countries. Detailed results of these studies are presented in a WHO document (8).

Every operation, whether in the food-processing industry or in food service establishments, consists of a series of clear tasks. As each task is accomplished, it is incorporated into the overall operating procedures for a management system. Through our understanding of practices and procedures that often lead to outbreaks of foodborne diseases we can specify for each operation those tasks which are critical to food safety control.

The scientific nature of HACCP should not be allowed to overshadow its simple practical objectives, which include the detection of potential hazards, the determination of procedures crucial to food safety, and the devising and implementation of effective preventive measures to ensure compliance with approved standards. These objectives should be followed on a practical and daily basis, rather than as a programme to be implemented once and for all. HACCP should also be seen as a basis for establishing priorities for safety and for improving already existing safety mechanisms in food production, processing and handling establishments. ■

References