Summary: There is worldwide public expectation that responsible governments will protect their citizens from hazards from which they are unable to protect themselves. Meat and dairy products can pose substantial risks, and international trade in these products relies heavily on government-controlled food safety programmes, assurances and certification as to freedom from unacceptable levels of hazards. Consequently it is unlikely that there will be substantial moves away from the provision of Government assurances on food safety in the foreseeable future.

Because of these responsibilities, governments must continually reassess the relevance of food safety programmes in light of contemporary food safety issues and consumer expectations, and ensure that requirements are scientifically justified, relevant and meet food safety objectives in a cost-effective manner. Traditional approaches to food safety, especially those for meat and meat products, are increasingly the target of applied research that is demonstrating misdirected and wasteful practices in many situations. Fortunately, Hazard Analysis Critical Control Point (HACCP) systems provide an opportunity for refocusing food hygiene programmes according to genuine public objectives and outcomes.

International trends in food safety as a result of changing industry technologies, consumer perceptions and the fiscal policies of individual governments are further arbiters of reassessment and change. It is widely contended that application of HACCP will enhance food safety and facilitate application of more efficient and cost-effective programmes, and industry has the primary responsibility for this change. The corresponding retreat from a prescriptive set of regulatory requirements ('command and control') that have historically been applied to ostensibly achieve the same food safety goals is gaining in momentum.

An inevitable consequence of these global trends is the necessity for the legislation of individual countries to be able to fully facilitate the intent of the General Agreement on Tariffs and Trade (GATT) Uruguay Round Sanitary and Phytosanitary Agreement. It seems apparent that a majority of countries have yet to recognise the full implications of the SPS Agreement on their future approaches to their inspection programmes for food of animal origin in international trade, and the need for a rigorous risk assessment approach.

A case study on maintaining a risk-based, relevant and cost-effective food safety programme for meat and meat products produced in New Zealand illustrates some of the components of a contemporary approach. Re-evaluation of the scientific basis of all inspection requirements, along with the introduction of HACCP, is a proactive and ongoing process. In this respect, HACCP plans for slaughter and dressing must be validated by appropriate applied research, and not represent merely a translation of traditional requirements for good manufacturing practice. Devolution of tasks to industry that have been traditionally carried out by government inspectors is an innovative option.

1. INTRODUCTION

There is a worldwide public expectation that responsible governments will protect their citizens from hazards from which they are unable to protect themselves. Hazards in foods of animal origin are among the most common of these. Consequently, it is unlikely that there will be substantial moves away from the provision of government assurances on food safety in the foreseeable future.

Trade in foods of animal origin is important for the economies of many countries and relies heavily on government-controlled food safety programmes to ensure the protection of animal and human health in both the exporting and
importing country. Intergovernmental arrangements and subsequent assurances are necessary to provide the guarantees that foods of animal origin being traded do not contain unacceptable levels of hazards.

Governments, therefore, must have relevant food safety programmes that provide the necessary health assurances in a cost-effective manner.

In many countries, safety programmes for foods of animal origin primarily focus on pasteurisation for dairy products, and organoleptic meat inspection programmes for meat products. While pasteurisation still remains the key intervention step to reduce hazards inherent in dairy products, the value of traditional organoleptic meat inspection programmes is being widely challenged, given that many of the food safety hazards inherent in meat products are caused by unseen microbiological (and chemical) contaminants.

There is a need to reassess continually the relevance of food safety programmes in light of current food safety problems, consumer concerns and political imperatives and regulators must ensure that food safety programmes are scientifically justified, relevant and meet food safety objectives in a cost-effective and efficient manner.

2. BACKGROUND

The very nature of meat as a source of endogenous or exogenous food-borne hazards, and the variation in susceptibility to disease of different sections of the population, means that, from the point of view of food safety, there can never be a guarantee of ‘no risk’. The system is not designed to provide such a guarantee. With milk, pasteurisation provides an effective intervention step that reduces microbiological hazards almost to zero, although chemical contaminants may still be present. With meat, microbiological hazards are predominantly spread by inadvertent contamination during slaughter and dressing.

Moreover, the traditional organoleptic meat inspection procedures designed to ensure ‘safe’ meat are insufficiently sensitive to detect all of the diseases and defects present, and in many cases have sensitivities well below 100%. Additionally, many of the grossly detectable diseases and defects are of an aesthetic nature only and as such bear no relation to the real food safety risks that meat might pose.

The true risk of grossly detectable abnormalities in human health terms has not been quantified in the past, but is now considered to be of far less importance than microbiological contamination with pathogens derived from the gastrointestinal tract or skin of the animal, or from the processing environment during the slaughter and dressing process. This fact is increasingly being acknowledged by food safety regulators and there are substantial international moves to address this fundamental inadequacy in meat inspection programmes.

For dairy products the level of government intervention in production and processing has been less than for meat and the nature of dairy products lends itself much more to audit-style inspection with frequencies of audit based on performance. Raw milk products continue to cause health problems in countries where pasteurisation is not a mandatory intervention step, and there are a number of instances of food safety problems related to failure of pasteurisation and/or recontamination post-pasteurisation. Some of the 'emerging' micro-organisms that are the cause of contemporary public health problems are common to both dairy products and meat.

The reasons for and the extent of governments' involvement in meat inspection programmes is historic and meat inspection remains one of the only areas in the commercial production of a commodity where governments intervene to the extent they do. Fundamental questions need to be asked by governments and industry as to the necessity for and cost-effectiveness of this approach, especially with regard to the relevance of the traditional organoleptic meat inspection programme with all ante- and post-mortem inspection and hygiene verifications being carried out by government employees.

3. INTERNATIONAL TRENDS

Consumers in developed countries are becoming more exacting and vocal in their demands for safe food. This is particularly notable in North America and Europe, both major international markets for meat and dairy products. These demands come at a time when constraints on many governments' financial resource preclude adding further costs to food safety programmes. Governments are demanding that their technical regulators come up with better ways of protecting human health, and yet there is the concurrent expectation that costs will be minimised. Layering of additional costs on top of what is recognised as an antiquated system is not considered an option for the regulators.
Within the United States, Canada and the European Union there is a move by governments to move the primary responsibility for the safety of all foods (including meat) to processors and to improve the performance of programmes by mandating that all processors design food safety programmes and process foodstuffs in accordance with specified principles. This is generally known as the Hazard Analysis Critical Control Point (HACCP) approach and it is widely contended that application of HACCP by processors will enhance food safety. There is a corresponding trend to move away from a prescriptive set of procedures designed to deliver safe food ('command and control'), towards performance-based standards using pathogens or indicator microorganisms as performance standards or targets.

Many countries are now carrying out investigations on the scientific validity of and necessity for certain traditional organoleptic inspection tasks in respect of meat. While still recognising that pathology must be removed from the food chain, incision and palpation of tissues are in many cases giving way to observation as an equivalent inspection procedure. Additionally, visual inspection systems do not constitute an inherent source of microbiological cross-contamination.

The outcome is reduced inspection input and enhanced food safety due to reallocation of inspection resources to activities of greater benefit.

In-meat producing animals it is increasingly accepted that the bulk of pathological defects are of an aesthetic nature and have no impact on public health. Regulators are therefore beginning to view these defects as primarily a commercial quality problem when compared with the microbiological contamination of pathogens of gastrointestinal/skin/processor origin. Government-employed veterinarians are giving way to government lay inspectors, and they in turn are giving way to industry personnel carrying out the same function, under government supervision and with some technical support.

Within the European Union, various 'Food Directives' have been or are in the process of being promulgated, focusing on reducing levels of all zoonotic pathogens. Additionally, the European Union is including HACCP as a requirement within a number of its Directives. Within the United States of America, the current 'Mega Reg' proposal of the Department of Agriculture's Food Safety Inspection Service, while still under discussion, is geared towards pathogen reduction in raw meat and process control through the mandatory application of HACCP. HACCP is seen by Canada, the United States and the European Union as a means of ensuring that industries meet their responsibilities for food safety, and a definite move away from the 'command and control' modus operandi.

The international acceptance of the Sanitary Phytosanitary Agreement (SPS), under the umbrella of the recent General Agreement on Tariffs and Trade (GATT) Uruguay Round, has introduced a philosophical change in the way regulators are approaching food safety issues. All countries belonging to the GATT group have, in effect, given primacy to the SPS Agreement in their own legislation. From an international trade point of view, a key element is the need for a mechanism that enables the acceptance of equivalence, and a requirement that food hygiene programmes must be justified through appropriate science and risk assessments. While it is apparent that not all regulators fully understand the new environment and how to operate in it, and while there is a continuation of qualitative decision-making instead of that based on quantitative risk-based measures, there is nonetheless a trend towards specifying food safety outcomes rather than specifying the process by which an outcome is derived.

4. REGULATORY CONTROLS IN MEMBER COUNTRIES

Information on the pre- and post-harvest controls of microbiological and other contaminants in the production and processing of meat and dairy products is described briefly. Comments submitted by member countries are attached as a series of appendices.

4.1. New Caledonia

See countries' reports.

Official inspections by the veterinary services cover both milk and meat and include examination for residues of antibiotics and tests for microbiological contamination with a range of pathogens.

4.2. Japan

See countries' reports.

Japan has laws covering the slaughter and processing of meat and poultry that extend to ante- and post-mortem inspection, laboratory testing and other examinations, as well as for veterinary drugs and feed additives and their

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use. HACCP has been introduced in the processing sector. Further introduction prior to slaughter is being considered.

Pasteurisation is mandatory for milk and microbiological end-product standards are in place.

4.3. United States of America

See countries' reports.

Controls of microbiological and other contaminants in meat, poultry and dairy products is being actively reassessed in the United States with an emphasis on the entire farm-to-table continuum. Focus is on controlling hazards wherever they occur in the continuum and intervention steps that reduce pathogens in/on finished products to reduce risks to the human population.

Within the US, risk analysis is combined with HACCP to evaluate the necessary controls and interventions. Surveillance is used in conjunction with epidemiological studies to enable science-based hypotheses to assist with HACCP. Good agricultural/manufacturing practice is considered the foundation of HACCP plans. Further emphasis will be placed on addressing hazards that arise after products leave federally inspected plants.

4.4. Taipei China

See countries' reports.

Food safety control is divided into the 'agricultural' and 'health' areas and comprehensive laws control microbiological and chemical contamination at the production and marketing levels.

4.5. Vanuatu

See countries' reports.

Legislation covers pre- and post-harvest microbiological and other contaminants, and work is currently underway to introduce the necessary procedures to ensure the objectives of the legislation are met.

4.6. Singapore

See countries' reports.

Singapore has comprehensive controls to ensure meat and other primary produce produced in the country and imported meet food safety criterion. The overall strategy is that of a system audit, with inspection and testing at critical control points. Failures of audit result in removal of eligibility to export to Singapore.

4.7. Malaysia

See countries' reports.

The Malaysian food safety programme is based on a mixture of mandatory inspections and voluntary HACCP-based quality assurance programmes and covers the farm-to-table continuum. A blue print for HACCP is to be launched later this year which will cover meat and dairy products and serve to integrate production with processing.

4.8. Australia

See countries' reports.

Australia are applying full risk analysis to their food safety programmes and covering the farm-to-table continuum to reduce risks to human health. Primary control techniques are being used to control hazards in HACCP.

4.9. New Zealand
The New Zealand food safety programme covering meat is based on a 'command and control' regime, partly related to the need to meet the prescriptive requirements of importing countries. It covers hygienic practice, ante-and post-mortem inspection and control of contaminants through a residue control programme. New Zealand is just starting to move into HACCP-based food safety programmes covering the continuum from farm to table which places the primary responsibility for producing safe food on industry.

It is a mandatory requirement to pasteurise milk, and dairy factories have been required to have individual food safety programmes (HACCP based) for a number of years.

The Ministry of Health, which has shared accountabilities with the Ministry of Agriculture and Fisheries (MAF) in a number of areas but with more focus on the domestic market, is also about to mandate a requirement for HACCP-based food safety programmes.

5. COMPATIBILITY WITH THE SPS AGREEMENT

Most member countries signed the GATT Uruguay Round which came into effect 1 July 1995. Part of the agreement included accepting the SPS Agreement, which has major implications for the way regulators operate and ensuring that they do not create unjustified potential barriers to trade.

Components of the SPS Agreement which are relevant for regulators involved in food safety include the requirements to base standards on risk assessments, to ensure consistency between requirements applied domestically and those applied to imports, and to accept the principle of equivalence when dealing with trading partners. While there is still some debate as to exactly how risk assessments and risk analyses should be structured, the key would appear to be transparency. At the end of the day there will always be veterinary judgements made on various issues and it is these that need to be transparent so that there can be scientific debate on the particular judgement.

Consistency is equally important. Many countries have programmes designed to ensure imports meet their legislative requirements but do not actively enforce the same legislation within their own country. Alternatively, requirements may exist for one particular food commodity but not for another which may be equally hazardous to human or animal health.

Equivalence primarily focuses on outcome and while there are certain fundamental rules of good manufacturing practice (GMP) which need to be observed, the traditional demands of an exporting country to follow a prescriptive set of requirements is no longer tenable. HACCP and food safety programmes (and audit) cannot be successful if the control points are the multitude of prescriptive mandatory requirements which currently exist in most national legislation.

A point that does not seem to be understood by everyone involved in food safety and quarantine legislation is that when their governments' signed the Uruguay GATT Agreement, they effectively gave the SPS Agreement primacy over their own domestic legislation. Within New Zealand, the MAF has had to sift through the current legislation it administers and ensure that there are no conflicts between the SPS Agreement and the requirements for risk assessment, consistency and the acceptance of equivalence.

6. CASE STUDY: MAINTAINING A RELEVANT FOOD SAFETY PROGRAMME FOR MEAT AND MEAT PRODUCTS IN NEW ZEALAND

Within New Zealand the Ministry of Agriculture Regulatory Authority (MAFRA) produces standards and specifications covering all food safety aspects of meat production. MAFRA has an ongoing objective of ‘maintaining and improving health guarantees to domestic and international consumers while facilitating optimum industry returns’. To address this objective in the meat sector and ensure processors are positioned to meet food safety requirements both within New Zealand and in export markets in the most cost-effective way, MAFRA has four major areas of focus:

6.1. Post-mortem inspection procedures and residue monitoring

MAFRA has an ongoing programme to evaluate the specifications for inspecting carcasses and offals for diseases and defects on a risk-assessment basis. There has already been considerable change to the New Zealand programme based on applied research using risk-assessment models. For sheep and lambs, extensive applied research studies have shown that it is not necessary to skin the head to make judgements and dispositions on the carcass, and consequential changes were made to slaughter and dressing requirements and
the way sheep and lambs were inspected. Extensive trials on procedures for the inspection of sheep and lamb viscera allowed changes to procedures and further studies are proceeding on sheep and lambs, bobby calves, cattle and pigs.

Thus inspection 'packages' are being developed for all the major domestic livestock species slaughtered in New Zealand. Their implementation will initially depend on the outcome of veterinary agreements currently being negotiated with the European Community, United States of America, etc. Within these there will be an agreed process whereby the equivalence of various procedures can be agreed. Irrespective of this, over the next year there is a high likelihood of changes to specific traditional post-mortem inspection procedures resulting from the work of the MAFRA Research and Development Group. For example, likely changes to beef inspection will include substantial modification to the procedures for inspection for *Cysticercus bovis*. This will reduce the amount of time required for inspection of bovines and reduce the mutilation of various tissues, as well as reducing the preparatory work currently carried out by company personnel. Work is also being done to acquire a better understanding of the epidemiology of *Mycobacterium bovis* and the role of meat inspection in the control programme. It is envisaged that there will eventually be a thoroughly integrated programme from the farm to the slaughterhouse.

It is likely that some inspection procedures will change to observation rather than palpation, particularly for defects of non-public health significance where the addition of microbiological contamination by the inspection process probably assumes a greater importance than the slight increase in the likelihood of detecting the aesthetic defect. It is likely that changes will also be made to allow trimming of minor pathogens and dressing non-conformances on-line, rather than having to detain carcasses for trimming and reinspection. This will integrate the inspection process with defect removal and substantially reduce the numbers of carcasses being detained.

For certain disease conditions, farms known to have problems are included on official 'lists' and the inspector in charge of slaughtering establishments is notified when animals are to be slaughtered. At a local level, some processors are building up their own databases on disease and defect prevalence on supply farms.

MAFRA has a comprehensive national residue monitoring programme that gives a statistically based level of confidence in relation to freedom of violative levels of residues of interest. The programme is HACCP based and focuses on the chemicals most likely to create health and/or trade problems. Some specific areas have been targeted, such as young calves destined for bobby veal where problems were encountered over a period of time with adulteration with sulpha drug residues. The residue programme is being further modified to target specific potential problem areas.

MAFRA generally regards the problem of chemical contaminants to be more an issue of consumer perception and political expediency than a substantial risk to human health. Concerns over chemical risk to human health have unfortunately led regulators to react in an unrealistic manner, particularly when imports are tested and Maximum Residues Limits (MRLs) are being used as definitive accept/reject criteria. In most situations MRL's relate to chemical residues with the potential for chronic toxicity, and they need to be used predominantly as a monitoring tool rather than an arbiter of public health risk in a consignment or lot.

6.2. **Process control**

It is internationally recognised that traditional organoleptic-based meat inspection programmes are inadequate to deal with contemporary public health hazards. In an effort to focus regulatory effort on the biological hazards resulting from the slaughter and dressing process and further handling, the concept of 'food safety programmes' is being mandated and/or otherwise actively promoted. HACCP is the major expression of this and is widely recognised as a tool to better evaluate and control food safety hazards and in particular to focus on preventing contamination of product with biological hazards.

HACCP as a process control tool clearly places the responsibility for food safety on industry. If applied correctly and if it incorporates the results of targeted scientific research (whether this be commercial or government funded), it will enhance food safety over and beyond traditional Good Manufacturing Practice (GMP). Combining regulatory GMP procedures with industry-led HACCP programmes will enable government regulators to reassess GMP to reflect real human health risks arising from production and processing. Resources will be allocated on the basis of risk and scientifically based, cost-effective food safety programmes will be the outcome.
HACCP is, however, not seen as a panacea, and MAFRA firmly believes that soundly based regulation and active inspection and enforcement based on GMP can achieve acceptable results in terms of food safety, especially in the medium term. While this is potentially equivalent to industry-led HACCP programmes for food safety, this traditional approach is resource intensive and inevitably creates antagonism between industry and the regulator as the regulator applies considerable resources to maintain sustainable levels of compliance. Evidence would suggest that imposed regulation does not necessarily make industry fully accept their responsibilities for food safety, even when the total costs of government inspection are recovered from industry, and it is for this reason that MAFRA is cautious about mandating HACCP in the meat industry. MAFRA does not believe that HACCP will enhance food safety or be more effective than the traditional regulatory approach, unless individual companies want to make food safety programmes incorporating HACCP work and have total managerial commitment to the goal.

MAFRA is producing generic HACCP models for the red meat slaughter industry in New Zealand, with process factors which contribute unacceptable levels of microbiological contamination being established by a detailed applied research programme. MAFRA is mindful that HACCP plans must be tailored for individual operations and even individual production lines, and each operator needs to invest considerable resources to produce a meaningful and verifiable (valid) HACCP plan.

MAFRA is reluctant to see HACCP using traditional regulatory standards and hygiene ’guidelines’ as parameters to indicate satisfactory control of hazards and sees this type of approach as being purely for quality assurance. MAFRA is likewise reluctant to see arbitrary critical limits being set for hazards without any real link to risk being made. This applies equally to qualitative performance standards aimed at specific pathogens which can be meaningless from a statistical perspective. Industry-agreed microbiological targets that are practical and achievable using modern meat processing systems, and which facilitate continual improvement in control of hazards, form a more pragmatic approach.

Some countries have already begun targeting specific pathogens both pre-harvest and harvest (Sweden with Salmonella). While New Zealand does not necessarily agree with huge cost-intensive programmes focused on a single pathogen, there are a number of precautions and uses of Codes of Practice that can be taken by the production sector and in feeding regimes and/or vaccination programmes, that might result in a beneficial reduction in overall pathogens of enteric origin. Introduction of HACCP-based food safety programmes will inevitably shift a proportion of food safety alternatives from the slaughterhouse to the production sector. It is notable that HACCP-based control of chemicals in the pre-harvest sector is emerging as the most effective means of preventing residues in end-products.

MAFRA believes that HACCP will fail if regulators do not carry out or encourage robust research to validate HACCP plans and hopefully quantify outputs and performance measurements in human health terms. Key research needs to be conducted in the pre- and post-harvest areas to provide industry with assessments on hazards which impact on food safety.

MAFRA sees big benefits for industry flowing from the introduction of HACCP based on this type of research and subsequent reassessment of the need to comply with traditional regulatory GMP in the medium term. MAFRA intends that HACCP be given primacy over traditional regulatory GMP, and that over time, the experiences learned from the HACCP programmes will be incorporated into the regulatory GMP standards. In that way, operators (particularly small-scale operators) will have a choice of operating their own HACCP programme or the regulatory GMP programme based on government inspection and enforcement. This sort of approach is considered necessary if the equivalence of HACCP approaches and prerequisite regulatory/GMP programmes between trading partners is to be adequately addressed.

The ongoing research and development programme includes conducting microbiological baseline studies for meat and meat products in New Zealand. This will enable the collection of data to help with generic HACCP guidelines and assist in gaining acceptance of the New Zealand meat inspection programme by major importing countries.

6.3. Devolution of ’approvals’

Part of the response to ensure the minimal amount of governmental involvement in what should clearly be commercial issues relates to the complex area of process and plan approvals. MAFRA has a programme that ensures that specifications are clear and robust in order to allow potential complete withdrawal from any involvement in this area beyond audit and to confirm that process and plan approvals are in accordance with the agreed standards.
6.4. Devolution of 'inspection' tasks

Given the clear direction set by government; the changing external environment (in particular, the conclusion of the Uruguay GATT Round and the attendant SPS Agreement), and pressure from processors, MAFRA has been looking at the possibility of offering alternatives to the monopoly of government-appointed and controlled inspectors to carry out the various meat inspection functions. Notwithstanding this, the integrity and credibility that the current programme has achieved over time, using government employees at all levels must absolutely be maintained.

During 1994, MAF employed consultants to provide an independent report on the possibilities for change within the New Zealand meat inspection programme, given the internal and external environment. The consultants identified three components of a meat inspection programme:

6.4.1. A 'regulatory authority' (currently MAFRA), that acts as the 'Controlling Authority'. It has the legal accountability to set domestic standards and provide assurances to importing countries' own Controlling Authorities, that agreed conditions have been met.

6.4.2. A 'Recognised Body' accredited by MAFRA to verify that the food safety and/or importing country standards are being appropriately applied by industry, and provide certification or branding for products and by-products under delegated powers from the Controlling Authority. The consultants identified that it was possible to offer processors the option of alternative 'recognised bodies' i.e. the role was potentially contestable and some groups have indicated an interest in this type of work.

6.4.3. Personnel trained and competent to carry out the tasks (on-chain inspection) that make up traditional organoleptic meat inspection. The consultant questioned why people required to carry out this work should be confined to a single government department and identified that it was possible to offer processors the option of employing personnel with these skills either directly or from a number of sources.

MAFRA is pursuing setting technical specifications so that this scenario can be offered to industry as an option. A number of specific prerequisites need to be met before any changes can occur including:

6.4.3.1. Acceptance by importing countries, particularly the major markets.

6.4.3.2. Acceptance by the domestic market. This is not seen as a major problem, but it is acknowledged that domestic changes need to be technically sound and robust so that there is no negative reaction by New Zealand's consumers that might affect trade domestically or internationally.

6.4.3.3. There would need to be an accredited Recognised Body consisting of individuals who have delegated powers to brand or certify products and by-products on behalf of the Controlling Authority. Conditions for accreditation would need to cover the issues of conflict of interest, training and ongoing competence, and performance standards for both personnel and the overall systems. Documented systems to enable simple audit and performance measurement by the Controlling Authority would be a prerequisite for accreditation.

6.4.3.4. There would be a need to change the law within New Zealand covering meat food safety, to reflect the desired changes and remove the need for a warranted government employee to be the only person able to carry out the organoleptic inspection tasks and to make judgements on products and by-products, including condemnation of products.

6.4.3.5. It is anticipated that only those premises that have reached a certain level of performance in meeting regulated standards, achieved a level of quality assurance systems (which might include International Organization for Standardization (ISO) or equivalent programmes), and have well documented systems which enable the Controlling Authority to measure performance on an ongoing basis, would be eligible for availing themselves of any new options that result from the policy changes and subsequent changes to existing standards.

6.4.3.6. There would be a need for an agreed process to deal with issues that arise, whether these be perceived competence issues, failure to act according to documented procedures, knowingly...
disregarding regulated requirements or where there are differences of opinion on simple judgmental issues. These have been referred to as 'standard resolutions' and while it is acknowledged that these cannot take account of every eventuality, there would need to be a clear message to indicate that the consequences of disregarding standards would far outweigh any possible cost advantage that the action might have contemplated.

6.4.3.7. Specifications would need to be clear and concise so as to obviate any differences in judgements and to enable meaningful verification monitoring. There would also be a need to change ante- and post-mortem inspection specifications to remove any potential for, or the perception that, a conflict of interest situation could arise when making judgements on carcasses and offals. This may increase the frequency of carcasses put aside for judgement and disposition by Authorised Persons in the Recognised Body.

7. CONCLUSION

Food safety programmes need to be proactive and dynamic if they are to take account of changes in animal husbandry, animal health, contemporary public health issues and changing societal needs. There is an ongoing need to revisit the fundamental hypotheses of food safety programmes to ensure that programmes are relevant and cost-effective. HACCP as a process control tool that focuses on the important control points in the continuum from farm to table is becoming increasingly accepted internationally as a means of reducing food safety hazards.

The conclusion of the Uruguay GATT Round and the attendant SPS Agreement necessitates fundamental changes to the way regulators legislate food safety programmes and their link to international trade. It is important that the principles of the Agreement are not contravened. HACCP-based food safety programmes are aligned with the objectives of the SPS Agreement. It is important that regulators understand the philosophical difference between the prescriptive 'command and control' approaches of the past that focused mainly on grossly detectable abnormalities, and science-driven, risk-based, flexible approaches that focus mainly on process control and food safety outcomes that can be compared on an equivalent basis.