

INVITED REVIEW

HOW STANDARDS ARE SET AND MONITORED*

INTRODUCTION - THE IMPORTANCE OF LIVESTOCK PRODUCTS

The production of quality, contaminant-free, food products is of critical importance to Australia and specifically to the Australian Quarantine Inspection Service (AQIS). AQIS is responsible for the inspection of 96% of Australian produced meat. As 50% of this meat is exported and 50% consumed domestically there is as much emphasis placed on the inspection of domestic meat as there is on exported product.

Australia is one of the largest exporters of meat in the world. It supplies 16% of the world's export beef and veal, 23% of mutton, lamb and goat meat and controls a 10.6% share of the total world export red meat market. The dollar value of this product is \$2.5 billion per annum.

Additionally, around 50% of dairy products manufactured in Australia are exported and come under the jurisdiction of AQIS. The dollar value of this product approaches \$1.0 billion per annum.

Australia's sales and reputation on world food markets depends on our exporters maintaining a supply of food that is wholesome, safe, attractive to consumers and competitively priced. While Australia's international customers have varying requirements, their governments all expect that our food exports are correctly described and do not threaten their country's animal or public health. As a consequence, a major role undertaken by the Commonwealth Government is to provide independent assurances that Australian exports satisfy these criteria.

POLICY FRAMEWORK

In order to meet the requirements of overseas countries and to satisfy the expectations of Australian consumers, AQIS has developed a policy framework which is now well established and recognised throughout the world. Of necessity this framework is governed by a number of elements which are critical to the policy.

They include the need to consider

The changing Public and Animal Health situations

Mandatory requirements of overseas countries which are superimposed on Australian standards

A flexible approach to inspection e.g. establishment of new legislation more applicable to multi commodity establishments

Contemporary health requirements such as radiation, chemical and bacterial contamination

Moves towards greater industry self regulation based on the concepts of Total Quality Management (TQM) and Quality Assurance (QA) principles

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SETTING OF STANDARDS

The setting of standards for meat and other products is a complex process. The traditional inspection regimes in force early this century have been vastly modified as a result of changes in public health perception and growing consumer concern regarding bacterial and chemical contaminants and animal disease status. Improvements and developments in technology policy and the consultative and review process, together with international influences have also had a major impact on the formulation of standards.

The setting of standards will be discussed under international and domestic influences.

International influences

The Codex Alimentarius Commission is the major international organisation responsible for the setting of standards for food products. Within Codex, the committees responsible for the setting of standards for food inspection activities, agricultural and veterinary chemicals and maximum residue limits of pesticides in products are of considerable importance to the production of quality, contaminant-free livestock products. Some of the relevant Committees include Meat Hygiene, Food Hygiene, Food Labelling, Residues of Veterinary Drugs in Food, Methods of Analysis and Sampling, Food Additives and Contaminants, Processed Meats and Poultry Products and Milk and Milk Products. Codex standards for meat hygiene and inspection are due for revision in 1990-91.

All relevant information including toxicological material is utilised in the setting of Codex standards. Australia is an active participant of the Codex Committee on Residues of Veterinary Drugs in Foods and is at the forefront of countries in the development of internationally accepted standards for residues in foods.

Presently, Australia is actively involved in the GATT examination of sanitary and phytosanitary requirements aimed at ensuring that these are not being used as barriers to trade.

A number of countries importing Australian livestock products have requested specific assurances on a range of issues. Translated into practical terms, these assurances take the form of additional requirements that must be satisfied in order to service the particular market. These requirements may be due to particular legislative requirements in the importing country such as trichinosis testing of wild pigs for the West German market or due to problems previously experienced in that country with Australian or non-Australian imported product. Examples would include bacteriological testing for the salmonella-sensitive Swedish market, additional sheep post-mortem inspection procedures for sheep and lamb meat exported to Canada, trichinosis testing of horse meat for Italy and France after outbreaks of human trichinosis in 1985-6 and the hormonal growth promotants ban in Europe which impacted on sourcing arrangements for beef cattle to service that market.

A number of foreign governments have had a major influence on the Australian primary industries. The results of their policies are well illustrated by the effect achieved by the United States Department of Agriculture (USDA). Since the 1960's the U.S. has been the major market for Australian manufacturing meat both in dollar terms and in volume of exports. Only in 1989 for the first time did the Japanese market become more lucrative in dollar terms than the traditional U.S. import market.

In 1967, the U.S. government passed the Wholesome Meat Act. Among its many effects were:

an insistence on the enforcement of U.S. inspection standards, tailored to the U.S. animal health status

resulting in Australian meat inspection standards having to be modified to reflect the U.S. standards

the introduction of veterinarians on a permanent basis to supervise all aspects of meat processing and inspection on abattoirs exporting to the U.S.

the placement of U.S. veterinary reviewers permanently in Australia to review establishments on a regular basis and to collect information on the Australian livestock, meat processing and meat inspection.

The USDA has also utilised questionnaires and specialist teams to examine specific areas of the Australian system. The residue situation was examined by two specialist teams in 1987 and 1988.

The introduction of the European Commission's Third Country 'Veterinary Directive to Australia in 1983 was another major influence on Australian standards. The EC required stringent construction standards and inspection practices not suited to the Australian situation. Trichinosis testing of pigs and inspection of bubalines for the presence of the metacestode of *Taenia saginata* are two examples of inspection activities inappropriate to the Australian situation. The EC also has a veterinary reviewer stationed in Australia to conduct reviews of establishments and report on the Australian industry.

It must be noted that changes in import requirements in one country can influence other countries to adopt the same measures. The banning of the importation of meat derived from animals treated with hormonal growth promotants into the EEC has been mirrored in other countries despite scientific evidence refuting any public health risk.

A further complication to consider is the fact that certain countries e.g. U.S.A. accept standards equivalent to theirs, whereas other countries e.g. EEC insist on replication of their Meat Standards.

Domestic influences

The biggest domestic influence in the setting of standards for meat lies with the States/Territories involvement through the Standing Committee on Agriculture (SCA)/Australian Agricultural Council (AAC) consultative mechanism.

Formal mechanisms exist for the discussion of issues affecting the setting of inspection standards between the Federal Government and the various States. Discussions occur at Ministerial level at Australian Agricultural Council or Department head level at Standing Committee on Agriculture or at expert level at Sub-Committee for Veterinary Public Health (SCVPH). Seven Codes of Practice covering aspects of meat processing, inspection, transportation and handling have been developed and agreed through SCVPH. These codes are becoming the Australian standard in their respective areas. In the development of these standards, every effort is made to align them to the international Codex standards.

An Australian Code of Practice for Dairy Factories was developed in 1974 under the auspices of SCA/AAC and has served as a National Commonwealth-State standard for Australian dairy factories. Additionally, national procedures for clearing plant and product where salmonella or listeria are detected in dairy products or the dairy factory environment have been developed and implemented by the Chief Dairy Officers Committee.

The National Health and Medical Research Council (NH&MRC) is responsible for the development of the Australian Food Standards Code utilising a consultative procedure similar to the SCA/AAC process.

The setting of standards for chemical residues is a complex issue. The permitted levels of chemical residues in products are known as maximum residue limits (MRLs). They are based on approved use patterns of agricultural and veterinary chemicals and are established at levels which ensure that the Acceptable Daily Intake of a particular residue will not be exceeded.

The determination of MRLs incorporates several safety factors so that the occasional consumption of products containing levels above the MRL does not pose a health risk. However, violations of the MRL are important from the perspective of -consumer confidence and efficient operations of regulatory systems.

Within Australia, MRLs are set by the NH&MRC. In general terms, MRLs in Australia are aligned to Codex but many veterinary drugs which have MRLs in Australia do not yet have Codex generated MRLs.

MONITORING OF STANDARDS

AQIS has a team of Veterinary Officers, Inspectors and Food Technologists skilled at ensuring that the product inspected satisfies domestic and overseas standards and fulfils sound health requirements.

At a regional or district level, the Australian meat inspection system and standards are continually being reviewed by AQIS district officers to ensure effective and efficient delivery. Establishments registered to export meat products to the U.S. are reviewed on a monthly basis by an AQIS veterinarian,

On a national basis, a Program Evaluation unit operates to provide independent feedback to the Executive Director and senior AQIS management on the effectiveness of inspection and quarantine operations in meeting program objectives. The unit is also programmed to identify any specific problem areas with AQIS programs and to assist the relevant operational areas in their resolution. Additionally, the unit provides a means of assurance to overseas authorities of the integrity and credibility of the AQIS inspection system.

AQIS provides a Compliance unit which operates independently of the meat inspection program. The objectives of this unit are to deter, detect and investigate malpractice involving breaches of inspection and quarantine legislation.

Training plays a major part in AQIS policy not only to keep officers up to date with current techniques but essentially to progress towards multiskilling and the concept of the Food Inspector who can work effectively and competently across all commodities,

There are a number of groups that oversight the activities of AQIS. Some examples include Quarantine & Inspection Policy Council (QIPC), Australian Meat and Livestock Industry Policy Council (AMLIPC), the Meat Industry Advisory Committee (MIAC) and the Chief Dairy Officers Committee.

QIPC exists to advise the Minister for Resources and AQIS on policy matters relating to the function of AQIS. It also has responsibility to consider the AQIS annual financial budget, forward staffing estimates and the Management Plan, which contains the corporate goals of the service. In addition Council exercises a policy overview in regard to the operations of AQIS including standards and attends to such matters as may from time to time be referred to it by the Minister. Membership of Council is drawn from a wide range of interests.

AMLIPC is a statutory authority of the Australian Government established under the Australian Meat and Livestock Industry Policy Council Act 1984 to provide a forum to consider industry issues, to enquire into areas of concern to a number of sectors and to initiate examination of areas which are not currently being addressed to facilitate industry development and diversification.

MIAC is a permanent Committee established in 1963, its principal objective is consideration of all matters, including standards, affecting processing, packaging and description of meat and meat products for both export and domestic trade.

A number of importing countries regularly review Australia's meat production and inspection system to ensure compliance with their requirements. As previously mentioned, the EC has a veterinary reviewer resident stationed in Australia.

It is significant that the USDA has moved away from the traditional individual plant inspection in assessing that plant's eligibility to export to the U.S. to a "systems review" whereby the country's control over a number of criteria (e.g. residues and contamination) are assessed. Individual plants are still reviewed but only to assess if the controls applied nationally are effective. This system approach introduced some two years ago provides statistical confidence of compliance and relies on a computerised system to determine which establishments are selected for reviews. Other systems such as laboratory services, animal health programs etc. are also reviewed.

Importing countries conduct test programs to monitor health, hygiene and residues in Australian meat at import inspection. The findings are regularly reported back to Australia. Australian meat rejection statistics in the U.S. indicate an average 0.25% rejection rate per annum since 1986. This contrasts with a figure of approximately 0.8% per annum under the traditional inspection arrangements prior to 1986 when the initial AQIS Quality Assurance system was put in place. The Australian rejection figures indicate it has less rejections than all other countries exporting to the U.S. with the exception of New Zealand which has consistently had a rejection figure of approximately 0.15% per annum. It is believed that the more direct containerisation and transport system is a major contributor to better rejection statistics for that country,

Australia ensures that its product is free from residues of agricultural and veterinary chemicals by a multifaceted approach including strict enforcement of legislation governing registration and usage of chemicals, assertive extension programs regarding proper usage, appropriate monitoring programs, necessary traceback action to sources of the problem in the event of violations or indicators of problems and by the control of the source of contamination by quarantine or control of similarly affected animals.

There are a number of monitoring programs for chemical residues in Australian meat products. The three main programs are : the National Residue Survey, Market Basket Survey and the AQIS Extended OC Testing Program. The National Residue Data Base was developed to consolidate, *inter alia*, the results of the National Residue Survey and the AQIS Extended UC Testing Program.

Milk and dairy products are extensively monitored for freedom from antibiotic residues. This is performed by milk processing factories under the supervision of State dairy authorities, where recurrent violations are detected, penalties exist, including the suspension or cancellation of market milk quotas.

In the dairy inspection area, Australian Product Monitoring and Approved Quality Assurance systems have been used as models by international organisations and overseas authorities in developing and structuring their own inspection arrangements. Australia was one of the first countries which

adopted (in 1978) the International Commission for Microbiological Specifications for Food's recommendation for standards incorporating three class sampling plans with limits based on hazard analysis. The Australian Code of Practice for Dairy Factories (1974), The Salmonella Clearance Procedures (1985) and the Listeria Control Procedures (1988) are all inspection protocols and standards which are well ahead of the times.

CONCLUSIONS

The setting of standards and their monitoring are complex issues. Nevertheless AQIS recognises the need to meet this problem head on. It is essential that Australia meets contemporary needs both in our own market place and overseas. It is essential-that we maintain access to those markets and it is essential that we ensure that public health is not compromised.

AQIS plays a major role in the establishment and monitoring of standards relating to the production of quality and contaminant free livestock products. It exercises this role in a responsible manner to the benefit of the Australian industry and the consumer.

AQIS has been at the forefront of modernising inspection standards and procedures and having these accepted internationally. Because of this, AQIS is regarded as having one of the most modern, progressive and efficient inspection services in the world. It is a service of which we can all be proud!