

## Accreditation in Australian agriculture – on the right track or are farmers lost in the maze?

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**Abstract.** The practices products and resource management of Australia's farm managers and their environmental consequences are being closely scrutinised by the community. Accreditation is an approach increasingly being used to monitor these matters across agricultural industries. Quality Assurance and Environmental Management Systems have gained prevalence as a means of validating activity and providing evidence of meeting stewardship responsibilities. This paper reviews the range of programs and systems available to primary producers across Australia. In this review it is argued that the growth of these accreditation systems has given rise to confusion, duplication, and increased management and industry costs, with limited assurances to customers and the community of food safety, animal welfare and environmental stewardship. This review has identified that accreditation systems in Australian agriculture require simplification and coordination by governments, industry and program instigators, and the development of better recognition systems for consumers.

**Keywords:** accreditation, quality assurance, environmental management systems, farm management, Australian agriculture.

### Introduction

Australia's farm managers have become increasingly accountable to the wider community for their actions. A spectrum of measures aimed at providing for this accountability has evolved. The more subtle are informal voluntary measures which coax compliance through a mix of influence and incentives. These include voluntary codes of practice and the preparation of guidelines by industry bodies. Examples of these are TopFodder and ProGraze where guidelines are provided through the Queensland Farmers Federation Environmental Code of Practice.

At the other end of the spectrum are the formal regulated approaches subject to controls with compliance to them enforced by penalties. Areas subject to formal regulation affecting farmers include food safety measures and occupational health and safety regulations. Labelling requirements and the monitoring of air and water pollution are but some of the developments that reflect an enhanced awareness in the community of the relationship between agricultural practices and the general wellbeing of the wider population.

The community is aware of and concerned about the impact of agricultural practices on its health and that of the environment and systems, which has led to a range of government interventions. These include the introduction of legislation to control such

things as the use and application of pesticides and the processing and handling of foods; examples are the Agricultural and Veterinary Act 1994, Export Control Act 1982, Food Production (Seafood Safety Scheme) Regulation 2001, Food Standards Australia New Zealand (FSANZ) National Food Safety Standards 2001, and Protection of the Environment Operations Act 1997.

Accreditation arrangements tend to be industry driven and fit between these extremes of formal and informal arrangements (see Figure 1). The community relies on this range of accountability arrangements for reassurance that required production standards are being met and that environmental stewardship responsibilities are being attended to by farm managers.

For the purposes of this paper, the term *accreditation* can be used interchangeably with *certification*. When an agricultural producer receives accreditation or certification then there is the implication that some suitable standard or level of performance has been met. As Nata Certification Services International (2003) has pointed out, when accreditation or certification has been granted there is the expectation that publicly available criteria have been applied. There is an underlying reassurance in this that there is careful initial

scrutiny and ongoing surveillance by independent, qualified assessors.

The major forms of accreditation associated with Australian agriculture concern the areas of Quality Assurance (QA) and Environmental Management Systems (EMS). Others include information management, advisory staff certification and product tracing but these are beyond the scope of this particular paper. QA has evolved as a method of ensuring that a product meets the needs of the customer in a consistent and responsible way. QA programs are management systems that, when implemented effectively, can provide verification to customers that an end product will meet their expectations. While QA programs have been increasingly employed within Australian agriculture, so too have EMS programs been gaining momentum (Gunningham and Sinclair 1999). These involve utilisation of a systematic approach to manage the impacts of farming on the environment.

This paper reviews the development and extent of QA and EMS accreditation programs in Australian agriculture and considers consequences for farmers.

#### **Accreditation in Australian Agriculture**

Accreditation programs are used by agricultural industry as a tool to enforce codes of practice, gain data for public reporting and support self-regulatory efforts. At the individual producer level, they can be the vehicle for obtaining access to niche markets, such as those which give price advantages to certified organic produce.

The International Organization for Standardization (ISO) is the peak body recognised for preparing and ruling on international accreditation standards across many areas. ISO provides frameworks to follow and a process of justification, acknowledgement and improvement (ISO 2005). In Australia, the overarching body for accreditation services is the Joint Accreditation System of Australia and New Zealand (JASANZ) organisation, with a Board appointed by the Australian and New Zealand governments. As a self-funding and non-profit organisation, it acts to maintain links with relevant bodies and give confidence that standards are being upheld. It obtains and administers accreditation systems relevant to the associated nations and provides uniformity of assessments for comparison in other countries (JASANZ 1999). Under this umbrella body, various commercial organisations are able to provide certification to those who comply with defined standards. Some examples of these include SAI Global (the international arm of Standards Australia), NCS International (NSCI) and

AUS-QUAL Pty Ltd. These organisations provide the program education, external audit and, through logo use, recognition and credibility to a range of areas of agricultural production.

Hazards Analysis Critical Control Point (HACCP) is the most common inspection-based QA system used in Australian agriculture. HACCP is a framework that allows producers to identify specific points of production for controls and outcome improvement (Burgess *et al.* 1994). Inspection-based approaches such as this influence outcomes or end-of-process quality. While being effective in the food handling and preparation areas for produce such as fruit and vegetables, they do not suit all industries, organisations or agricultural production systems. However, in some instances inspection components are included as audits in a systems accreditation approach as occurs with the ISO. ISO frameworks of standardisation use a systems approach to determine what is *meant* to be happening and verifying that this *does* happen. The system relies on an action learning cycle with documentation, internal audits and third party audits. Third party audits are those carried out by an independent organisation where a JASANZ accredited third party auditor is employed (Hastings, Newton and Corless 2002). The cycle is repeated to see continual improvement and a greater understanding of the business' risks, weaknesses and opportunities.

Importantly, a systems approach is taken with the application of ISO 9000 (quality standards) and ISO 14000 (environmental standards). With these, the organisation being certified aims to meet required standards, not only in the production process but also in physical, management and documentation aspects. Through a process involving review and revision, integrated systems approaches have evolved from separate single standards. In recent years ISO has moved from having individual sets of standards (for example 9001, 9002 and 9004) to a 'series' that relates to a system – the ISO 9000 series relates to the accreditation of a comprehensive quality management system. System accreditation is capable of more credibly endorsing the actions of those organisations because of the consideration during the accreditation process of linkages between interacting components, and because the system is driven by the needs of the customer through a process of backward induction.

Most QA programs in Australia have resulted from a growing need by agricultural producers to understand and meet the customer's requirements. They have been

used for guaranteeing the integrity of produce and consequently to improve and sustain market share. 'Quality' systems for primary producers do not always fit the ISO 9000 series system, however most take a similar approach due to its internationally recognised framework.

### **Quality Assurance programs**

QA programs have been part of Australian agriculture since we began to eat and drink commercially produced food (Dairy Farmers, 2005). However, particularly in the last decade, food safety and hygiene issues have led to more rigid systems approaches being applied. ISO 9001:2000 is the international standard for evaluating quality compliance regarding processes, resources and documentation (ISO 2005). The HACCP process covers food and health related processes in production more specifically than does ISO 9001:2000 and is tailored to the handling and preparation issues with food (Codex Alimentarius Commission 1997). HACCP is commonly implemented once the product has been harvested and transported off the farm. HACCP in Australia has been integrated with many QA, ISO, EMS and other program types as it gives clear indications to the components of greatest risk. This risk assessment approach has also been utilised in occupational health and safety programs in Australia. HACCP is the system used in the dairy industry as well as the seafood and fresh produce retail sectors (Bennett 2005).

Of all of the certification types in existence in Australia, QA has been the most prolific up until recently. Of these programs, the suite of 'care' programs has been the most influential and prominent in Australian agriculture (see Table 1). They have had various agendas, differing implementation approaches, and diverse goals and outcomes. The common theme is that they are implemented to educate, increase understanding and skill, address rising industry issues and be proactive in quality issues.

An early and prominent scheme was Cattlecare, introduced in 1994 and managed by the Cattle Council of Australia (now Meat and Livestock Australia). It was a successful initiative to get producers involved with processors to better ensure quality meat production (MLA, 2005). The impetus for this program was market feedback regarding export meat quality. Cattlecare has been successful in educating beef producers to be vigilant regarding the effects of their animal husbandry practices on aspects of product quality. It has also contributed to producers becoming more knowledgeable in the fields of occupational health and safety, veterinary

practices, feeding systems and stock handling. Through management of issues such as an endosulphan contamination in export meat during 1999 and more recently leading to product tracing through the National Vendor Declaration system, Cattlecare has undoubtedly been of benefit to the industry. However, with few enterprises moving through to certification and with the vendor declaration honesty-based (through a set of questions and responses), it has not wholly achieved its goals.

These 'care' programs along with others, including Dairy First and SQF2000, have been based at the grower end of the industry supply chain. Associated with this, growers have various dependencies, for instance they rely on certified selected varieties of seed to be accessible to them. They expect chemical dealers and agricultural service companies to give them sound written and verbal advice. They need to know about 'tried and true' trial and error on-farm testing methods for evaluating the quality of the commodity they are producing. The 'market' is often the true assessor of quality with price being the indicator. However with export trade, globalisation and currency interdependence, international trading practices and supply situations may distort this perspective and impact unequally on subsequent individual producer success.

Quality assurance in the Australian market is sometimes viewed as being largely irrelevant in that the culture of our commodity base is intrinsic to our national identity. We pride ourselves as being a 'down to earth', hardworking nation producing commodities that are 'sought after' by customers around the world. However, in recent years, our 'sureness' of quality has been tested. For example the wool price crash in 1992-93 (Australian Bureau of Statistics 2005) left auction houses with stockpiles. This was followed by refusals of live exports of sheep and goats, including Saudi Arabia's refusal of 57,000 sheep in August 2003 (Agriculture, Fisheries and Forestry Australia 2005). While there are many factors involved in these cases, the question of quality has been a predominant one, often pursued more so by the retailer and customer than the seller. It is an indication that overall systems accreditation that brings with it a consumer orientation may serve us better than previous QA schemes.

### **Environmental Management Systems**

An EMS is a tool for managing the day-to-day environmental hazards that exist or may potentially occur (Crook 1999). These are increasingly being used as the tool for monitoring agricultural action both on and

off-farm, whether that be in the urban, natural or built environments. They have become a means for justification, public disclosure and regulatory control of the Australian farming sector.

An EMS is part of an overall management system which includes program or company structure, responsibilities of staff, planning of practices, procedures, processes and resources for planning, executing, checking and reviewing an environmental policy (ISO 2005). Essentially, an EMS is a method of evaluating those hazards in the agricultural supply chain that do or may possibly impact on the environment. Crook (1999) has identified such hazards as including:

- Noise pollution
- Air pollution
- Water pollution
- Groundwater contamination
- Soil contamination
- Waste disposal and accumulation
- Excessive consumption or desecration of natural resources such as soil nutrition and water.

An EMS can be considered as a framework whereby the environment can be protected both within and around the organisation. Additionally it can be used as a management tool to evaluate those day-to-day risks associated with legal breaches and community views, and to continually improve environmental performance.

Notable examples where EMS are featured in Australian agriculture include the Cotton Industry Best Management Practices (BMP) program, the Regional Forest Arrangements in the forestry industry, the viticulture industry EMS and the rice industry's Environmental Champions program. Most of these have only recently been adopted by growers and producers. However there are an increasing number of participants in each area, as well as support from governments and customers (Standing Committee to the Natural Resource Management Ministerial Council 2002).

The Cotton Industry BMP program is industry-wide and aimed at increasing grower understanding of practices, impacts, choices and interactions in their environment. This program also fits under the ISO 14001 standards with growers being audited by industry auditors (second party – i.e. auditors are external to the farm but familiar with the industry) with the scope for external third party audits as necessary. Modules within the BMP include Storage and Handling of Pesticides, Land and Water Management,

Farm Hygiene, Application of Pesticides, Integrated Pest Management, and Farm Design and Management (Cotton CRC 2005).

Policy-makers have utilised EMS as a tool for justifying to the general public imposition of controls over possible environmental consequences of manufacturing and agricultural industry activity. The EMS process has been adopted quite readily by the Australian agricultural sector (both politically and on-ground) because it reflects the ISO framework that supports continual operational improvement. This process provides for the needs of industry and policy planners in that it has proved to be flexible for the individuals and companies enacting the EMS. Mackay and Horton (2003) discuss this and conclude that in the past an Environmental Impact Statement (EIS) was the tool of choice to evaluate environmental factors resulting from agriculture (and other industries). In hindsight there were issues with this methodology in that the end user (in this case the farmer, grower or producer) of EIS and the needs of policy makers were not being met. EIS did not provide the planning, environmental and assessment outcomes that allowed the regulators to justify, monitor and manage environmental impacts.

Heinze (2000) considers that the EMS approach has been successful overseas for example the Linking Environment and Farming (LEAF) program in the UK and the Ontario Environmental Farm Plan in Canada.

LEAF was developed to encourage changes in crop and livestock management to enhance the natural environment. Demonstration farms were used to facilitate ideas and showcase current issues. Slack-Smith (2000) reported that the LEAF program was commenced in 1991 with the aim to improve knowledge and understanding of integrated crop management practices. Verification of change is not a major component of this program, with certification being a subjective outcome based on self-assessment questionnaires. In some respects this is similar to our Landcare projects, which aim to lead to outcomes of better natural resource management in agriculture, but are not linked to market assurances.

In comparison, the Ontario Environmental Farm Plan arose from a wish to demonstrate responsible stewardship of land resources and is based on self-assessment worksheets, action plans, reviews and audits (by local peer review committees). It is in line with ISO 14000 series and the outcomes from this program have been an injection of funds for environmental causes, a reputation gained as a model for a successful EMS and overall

pride in farming communities in Canada (Ontario Farm Environmental Coalition, 1996). Australian programs like the Cotton Industry BMP program are similar to the LEAF model but have been adjusted for lack of structure in the review process by adding a verification process via second and third party audits.

### **Implications for Australia's farmers**

As President of the National Farmers Federation, Corish (2002) told his members that compliance with standards required by the community for the quality of food and environmental sustainability is not negotiable. The price Australian farmers will pay for ignoring community requirements is loss of market access. Two issues for Australian farmers, however, are firstly to identify just what these standards are and secondly, when they do satisfy these requirements, how to demonstrate they are being met.

A recent pronouncement from the Australian Conservation Foundation illustrates how these two issues do not always align:

There should be widespread development and implementation of voluntary industry codes, standards and certification programs for sustainable agricultural production. The codes must be independently audited and the results of the audits made public (ACF 2005).

It is then of concern that statements such as this are being made when, as reported in this study, the accreditation, reporting, and adoption of standards are already widespread in Australian agriculture.

A key problem is that the industry programs do not lead to effective assurances for consumers. For example when you purchase beef in the supermarket or butchers shop, you do not know where it was produced or the system under which it was produced, unless it was certified organic. It is our view that the wider community is not being adequately informed of the efforts and successes of agriculturalists at being responsible resource and production managers. While real, on-ground changes are occurring, there is no wider system of cohesion for accreditation. Branded logos probably mean little to the consumer. A system easily grasped by consumers is needed – consumer understanding would likely be enhanced where retail packaging carries say five ticks to indicate best practice through to one tick for an information based, non-audited system.

Impediments to effective communication of achievements through accreditation could well be associated with the tendency to use

acronyms and jargon that are not well understood outside agriculture, and absences of clear lines of responsibility for informing the public. Furthermore, multiple standards and lack of direction by government has led to many different types of programs and accreditation outcomes. While this undoubtedly has led to confusion in industry and among agricultural producers and the public alike, in turn it undermines confidence in the certification process generally.

There are international standards for management practices (ISO 14001, ISO 9000) and there are industry programs (Cattlecare, Cotton Industry Best Management Practices, Great Grain etc). This diversity can be confusing for producers who have to evaluate and compare anticipated program benefits and costs as they decide on the program in which they will participate. They have to consider the rigour of the program (to what extent does it demand on-ground changes?) and the magnitude of likely gains such as improved market access and consumer loyalty.

Adherence to international standards or participation in industry programs raises questions regarding duplication between programs, and issues of costs (both direct and indirect) of administration and auditing. Spencer (1999) argues that both the bodies initiating the programs and those participating in them share similar concerns about which program or standard has external recognition and whether the benefits outweigh the costs of participation.

There has been little coordination of accreditation programs across the sector with a myriad of accreditation programs and program types in place. They are at various levels of implementation and exist across most industries within the agricultural sector. There is little leadership or co-ordination from government. The scene is one where many bodies, departments, and other stakeholders are urging growers, farmers and graziers that certain programs are going to be 'required' for sustainability. This has often resulted in much effort being placed into programs, audits and publications that have not been utilised by the producers.

It is widely accepted that the use of QA is necessary for food safety, consumer satisfaction and access to markets. The large number of schemes in QA and the ongoing interest in various industries supports this. In parallel, EMS has become a method of educating, verifying and marketing commodities, as well as a way for agricultural industries to take the lead and regain control over perceptions that may harm them. EMS has given regulators a tool that is flexible and

yet can be integrated with QA and other accredited programs.

The outcome of the existing accreditation programs for Australian agriculture is somewhat unclear. The larger issues affecting this are program overlap, a lack of decisions by industries to implement programs across all of the industry rather than by location or marketing level, confusion by producers as to which program will support their aims and a need to simplify the auditing process.

There is an opportunity for government leadership to address the lack of coordination identified in this study and to take steps to enhance Australia's credentials as a producer for global markets through promoting the uptake of programs for the benefit of all customers, both domestically and internationally. Integration of these programs to limit the duplication of services, information reporting requirements, documentation and audits to primary producers would be a considerable advance.

An issue that needs to be addressed is the manageability of accreditation for primary producers. The burden on them can be considerable with the demands of certification programs, the requirements for adherence to regulations, and the expectation of meeting the preferences of retailers and other customers all needing to be met.

Awareness and sensitivity to the constraints on farm managers to sustain their businesses and remain economically viable ought to be underpinning factors when industry bodies, government agricultural departments and marketing agencies identify their own economic, social, cultural and environmental requirements. There is a need for the time involved and the costs and training required for participation in certification programs to be consolidated across accreditation types and programs.

Finally, accreditation for agriculture is but one approach for the community to gain confidence in the business practices, quality assurance, marketing effectiveness and environmental stewardship by its farm managers. While this is becoming the predominant approach in Australia and overseas, further research is needed to see if this is a better solution than enforced legislative approaches or, for that matter, less stringent voluntary approaches. There is scope to investigate how farm-based accreditation schemes can be used to provide consumer confidence on product quality and environmental stewardship and how this affects the marketing of agricultural products. Do the majority of consumers purchase principally on price considerations or do they

genuinely care about food safety, production processes and environmental sustainability?

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### References

- Australian Bureau of Statistics, 2005, online, available (<http://www.abs.gov.au/websitedbs/c311215.NSF/0/7afbcdf60a5414edca256d4800130b6d?OpenDocument>) (accessed 6 June 2005)
- ACF 2005, 'Land and Water Repair: An integrated approach to natural resource management and sustainable agriculture', online, available <http://www.acfonline.org.au/asp/pages/print.asp?IdDoc=875> (accessed 10 May 2005)
- Agriculture Fisheries and Forestry Australia 2005, online, available <http://www.affa.gov.au/content/output.cfm?ObjID=9163086D-B7FB-4732-8E58E09A74A721DE>, (accessed 6 June 2005)
- Bennett R 2005, 'The QA situation for Australian horticultural producers and packers' online, available <http://www.horticulture.com.au>
- Burgess K, Heggum C, Walker S, and van Schothorst M 1994, 'The hazard analysis critical control point (HACCP) system' in *Recommendation for the hygienic manufacture of milk and milk based products*, Bulletin 292, p5-8, online, available <http://www.fil-idf.org/website/documents/catalogue.PDF>
- Codex Alimentarius Commission, 1997, online available <http://www.health.nsw.gov.au/public-health/food/files/haccp.html> (accessed 5 June 2005)
- Corish P 2002, 'Fostering continuous improvement: chemical use within Australian agriculture', President, National Farmers' Federation, Chemcert National Forum 17 September 2002
- Cotton CRC 2005, 'Cotton Industry BMP', *Cottonpacks*, Version 2.0. Available Cotton CRC Technology Resource Centre, Narrabri, NSW.
- Crook 1999, 'What is an EMS – Basic Principles' in *Environmental Management*
- Dairy Farmers 2005, online, available [http://www.dairyfarmers.com.au/internet/s02\\_products/safety.jsp](http://www.dairyfarmers.com.au/internet/s02_products/safety.jsp) (Accessed 19 May 2005)
- Gunningham N, and Sinclair D 1999, 'Environmental partnerships, EMS and sustainable agriculture', Environmental management systems in agriculture workshop, 26-28 May 1999 at Cotton research and development corporation on 14 February 2005.
- Hastings M, Newton P, and Corless G 2002, 'A multi-tiered approach to certification of on-farms environmental management systems', Draft discussion paper for GRDC EMS workshop 31<sup>st</sup> July 2002, Canberra, at CRDC 14 February 2005.
- Heinze KE 2000, 'Credible clean and green. Investigation of the international framework and critical design features of a credible EMS for Australian agriculture' Discussion paper, CSIRO Land and Water.

ISO 2005, online, available <http://www.iso.ch/iso/en/ISOOnline.frontpage>, (accessed 26 March 2005)

JASANZ 1999, 'JASANZ Briefing Document', Issue 2 dated 29 September 1999, online available <http://www.jas-anz.com.au/showpage.php> (accessed 1 June 2005)

Mackay R and Horton D 2003, 'expanding the used of impact assessment and evaluation in agricultural research and development' *Agricultural systems*, 78 (2003), p 143-165.

Meat and Livestock Australia 2005, online, Available <http://www.mla.com.au> (accessed 1 May 2005)

NCSI 2003, "ISO/IEC 17025 and ISO 9001:2000" FAQs, Issue 3: October 2003 online, Available [www.NCSI.com.au](http://www.NCSI.com.au) (accessed 20 October 2004)

Ontario Farm Environmental Coalition 1996, 'Ontario Environmental Farm Plan', Second Edition, Ottawa.

Slack-Smith P 2000, 'Investigation of agricultural environmental systems in Europe', A Churchill fellowship, np.

Spencer B 1999, 'Certification and auditing – do you really need them?', Environmental management systems in agriculture workshop, 26-28 May 1999 at Cotton research and development corporation on 14 February 2005.

Standing Committee to the Natural Resource Management Ministerial Council 2002, 'Australia's national framework for environmental management systems (EMS) in agriculture', Natural resources management ministerial council, October 2002, (Ed C. Nicolls), Canberra.

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**Appendix**

Figure 1: Accountability arrangements in Australian Agriculture

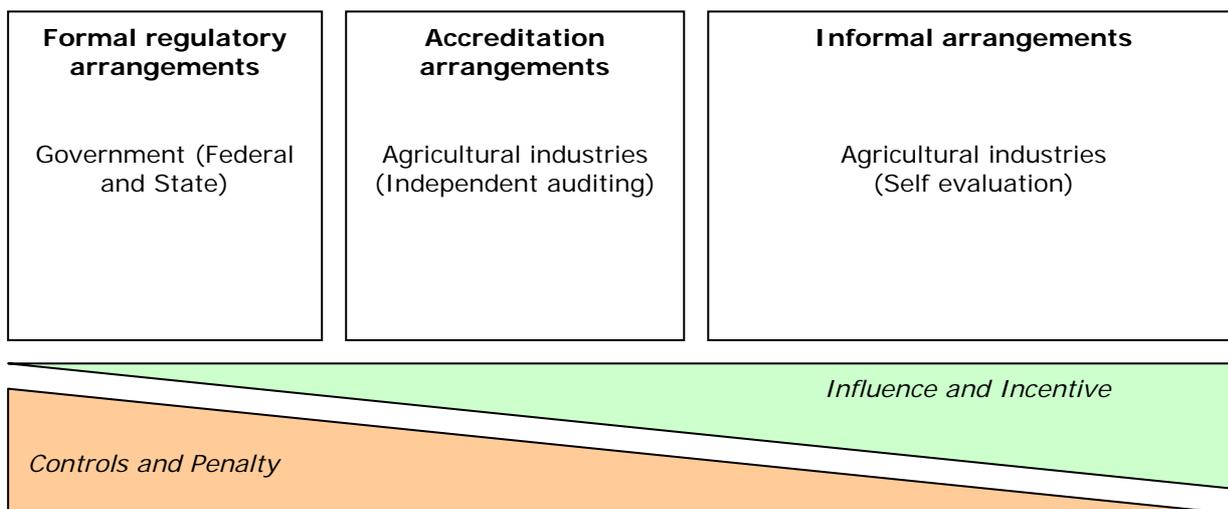


Table 1: Summary of 'care' QA programs in Australia

<b>Program</b>	<b>Ownership</b>	<b>Scope</b>	<b>Drivers</b>	<b>Comments</b>
Cattlecare	Cattle Council of Australia (Aus-Meat Ltd)	Addresses chemical contamination, identification, quality aspects of beef cattle for slaughter or live export	Food safety; improvement in quality; perceptions	Considerable farmer input was needed to make it user-friendly
Flockcare	Aus-Meat Ltd	Addresses chemical contamination, identification, quality aspects of sheep for slaughter or live export	Food safety; chemicals and residues; animal health, husbandry and welfare; preparation, presentation and transport	Aligns with Cattlecare program
Graincare	Grains Council of Australia	Assists grain growers to produce grain that satisfies the quality assurance requirements of the market.	Improve quality of food and feed grains	Sets minimum standards for industry
Clipcare	Elders Pastoral	Presentation of wool clip without contamination/black fibres	Improvement in standards	Some minor market premiums
Freshcare	Group of industry bodies	Provide a link between food production and food safety for the fresh food industry	Provide safe food; links producers, wholesalers and retailers	Provides a united front to the public on quality and safety
Viticare	CRC Viticulture	Provide education and resources to grape growers and the industry for wine and table grapes	Improved quality	