QUALITY STANDARDS IN THE WORKPLACE

REGIONAL AUSTRALIAN WORKFORCE DEVELOPMENT
"DRIVEN BY LOCAL INDUSTRY & COMMUNITY"

BOOK 2 — Primary Industries

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1. INTRODUCTION

HOW TO USE THESE MATERIALS

This workbook relates to the application of quality standards in the workplace and is appropriate to people employed in a range of workplaces in the rural, regional and remote sectors of Australia.

Activities and information will cover the maintenance and monitoring of work, production and site quality standards in industries related to people working in an assistant capacity in:

- Civil construction/building
- Resources/Infrastructure
- Agribusiness/food production

Topics include planning and preparing for quality work outcomes, applying quality systems to individual work activities, and monitoring and reporting quality standards on a worksite. Licensing, legislative, regulatory and certification requirements that apply to this unit can vary between states, territories, and industry sectors.

Skills and knowledge developed will ensure your ability to follow quality standards and procedures appropriate to your workplace and industry sector. Resources and activities provided are designed to develop your skills and provide formative assessments to monitor progress.

You are required to demonstrate that you can plan for, prepare and achieve quality standards in the workplace. The outcomes need to be applicable to quality work habits across all industry sectors but will also relate to skills specific to your current workplace/industry sector.

Completion of appropriate summative assessments provided by your Registered Training Organisation (RTO) will enable you to achieve competency in the unit applicable to your sector.

These student materials apply to the following industry sectors and units of competence.

Sector	Unit code	What workbook do you complete	Unit name
Primary Industries	RTE3901A	Book 2	Comply with Industry Quality Requirements
Local Government, Civil and Construction	RIIQUA201A	Book 1	Maintain and Monitor Site Quality Standards
Resources, Mining, Infrastructure	RIIQUA201A	Book 1	Maintain and Monitor Site Quality Standards

2. LEARNING MATERIALS

WHAT ARE THEY ABOUT?

These learning materials discuss issues related to quality standards in the workplace including:

- Plan and prepare for quality work outcomes.
- Access, interpret and apply compliance documentation including quality standards to work activities
- What are the documentation processes in the QMS in your workplace
- Quality Assurance specific to Agribusiness & food production

2.1 EMPLOYABILITY SKILLS

The learning materials provide opportunities to develop and apply employability skills that are learnt throughout work and life to your job.

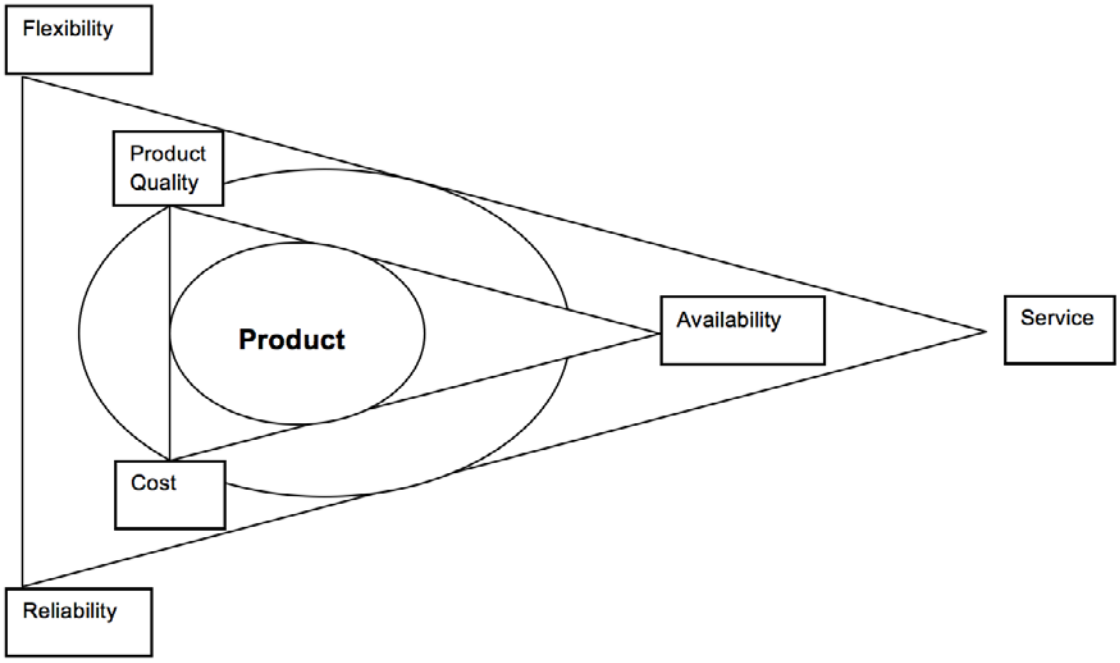
The statements below indicate how these processes are applied in the workplace related to quality standards. In completing your daily work tasks, activities and summative assessments you must be able to demonstrate competent "employability skills" in the workplace.

Communication	• speak clearly and directly • read and interpret work instructions and safety signs • complete incident and maintenance reports
Teamwork	• contribute to the planning and execution of operations • working as an individual and as a member of a team
Problem Solving	• participate in team solutions to safety issues • solving problems in teams
Initiative and Enterprise	• identify potential improvements to working practice and conditions • translating ideas into action • generating a range of options
Planning and Organising	• manage time and priorities to complete work • participating in continuous improvement and planning processes
Self-management	• understand the standard of work expected at a work site • understand equipment characteristics, technical capabilities, limitations and procedures • having knowledge and confidence in own ideas and visions • articulating own ideas and visions
Learning	• seek information to improve performance from people and workplace documents like policies, procedures etc • acknowledging the need to learn in order to accommodate change
Technology	• use communications technology appropriate to the workplace (email, mobile, radio, etc) • use technology to monitor and report on work progress

3. PLAN AND PREPARE

FOR QUALITY WORK OUTCOMES

In 1887 William Cooper Procter noted that the profitability of an organisation is determined by three critical factors, i.e. productivity, cost of operations, and the quality of goods and services that create customer satisfaction. These three factors (product quality, costs and availability) have been portrayed as the quality triangle (Berg van den, 1993).



The enterprise quality management of your business must commence with a thorough comprehension of 'quality management' and its associated systems and concepts.

To help you understand the terminology used in quality systems the following broad definitions are provided:

Quality Management System (QMS)

- Quality management can be defined as the total of activities and decisions performed in an organisation to produce and maintain a product with desired quality levels against minimal costs. A QMS can therefore be defined as 'management of a system to ensure quality product'.

Quality Assurance

- Quality Assurance, or QA for short, refers to a procedure for the systematic monitoring and evaluation of individual aspects of a production line, process, service, or facility to ensure that standards of quality are being met.
- Two key principles characterise QA:
  - "fit for purpose" (the product should be suitable for the intended purpose)
  - "right first time" (mistakes should be eliminated).
- QA includes regulation of the quality of raw materials, assemblies, products and components, services related to production, and management, production and inspection processes.

It is important to realise also that quality is determined by the intended users, clients or customers, not by society in general; it is not the same as 'expensive' or 'high quality'. Even goods with low prices can be considered quality items if they meet a market need. QA is more than just testing the quality of aspects of a product, service or facility, it analyses the quality to make sure it conforms to specific predetermined standard.

Quality Control

- Quality control is the testing of completed products to uncover defects, and reporting to management who make the decision to allow or deny the release of the product within the broader Quality Management System.

3.1 WHAT ARE THE BASIC STEPS INVOLVED IN A QUALITY MANAGEMENT SYSTEM (QMS)

If you remember the definitions above, you will realise that the QMS is likely to be designed and initiated by the business management team or in some cases may be imposed by a market or an industry body as a compliance requirement.

The information provided below, on the steps involved in a QMS, is provided to increase your understanding of the total system. It is likely that in the workplace you are only going to be involved with a quality assurance process and possibly quality control.

All quality management systems aim to:

- identify objectives for the management system (usually described in outcome terms)
- plan and document a production process which will deliver those objectives
- implement the process in the plan
- monitor the outcomes of the process
- review the actual outcomes against objectives, with adjustments as required

Characteristics of a good Quality Management System differ from the perspective in which they are viewed.

For the raw product producer it:

- is simple, user friendly, relevant and has achievable targets
- provides a clear financial return for the additional cost and effort required to implement it
- can integrate all relevant aspects of the business operation and is flexible enough to allow differences according to needs e.g. changed climate, changed product
- does not trap the producer in to one customer
- has a clear demonstrable need for it, both today and tomorrow, especially one that is customer related
- delivers what it says it will, for example, in providing security of markets
- does not require excessive administration time and cost
- is not prescriptive and does not stifle innovation and independence

For the processor/manufacturer it:

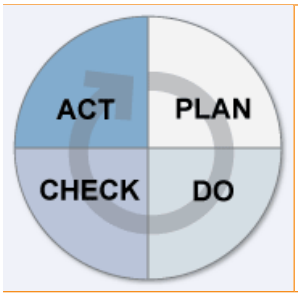
- provides sound foundations to grow the business
- guarantees consistent raw materials complying to their specifications with certainty of sufficient supply
- has clear communication mechanisms and provides suppliers with 'no surprises'
- allows (and provides for) verification of product claims that are made
- meets all regulatory obligations (both local and overseas), increases prices obtainable and /or reduces costs (e.g. less waste)
- helps assure their ability to supply retailers and markets
- avoids all (production, processing and marketing) 'stuff ups'
- doesn't make their processes totally transparent to competitors
- doesn't lose their suppliers to other processors or the industry

For the consumers it:

- provides for clear trace-back so consumers know where the product comes from
- enables their input into product system specifications
- provides them with the product they want, e.g. safe food while making a contribution to the environment
- has easy to understand and credible information that is clearly labeled, but avoids information overload and is not confusing
- has independent verification systems in place
- provides them with reassurance that quality standards will be met
- provides them with more choice and better value
- does not add cost

All management systems approaches are established based on the PDCA (Plan, Do, Check, Act) cycle.

PLAN – DO – CHECK – ACT



Plan	establish objectives and make plans (analyse the business situation, establish overall objectives, set interim targets, and develop plans to achieve them).
Do	implement plans (do what you planned to).
Check	measure results (measure/monitor how far actual achievements meet planned objectives).
Act	correct and improve plans and how you put them into practice (correct and learn from your mistakes to improve plans in order to achieve better results next time).

Source: http://www.iso.org/iso/iso_catalogue/management_standards/management_system_basics

All of the information so far demonstrates that a well constructed and used QMS help a business to achieve:

- a consistent standard of work within the business
- accurate measurement of key performance indicators
- specified company targets and objectives
- planned long term goals
- reduction of risk to stakeholders
- increased business and supply contracts
- reduced overall costs
- improved employee welfare and ownership of product/work standards

As legislative requirements continue to increase for both the employee and the employer, it is becoming increasingly obvious that Management Systems must be implemented, in some form, within the smallest of organisation.

4. ACCESS,

INTERPRET AND APPLY COMPLIANCE DOCUMENTATION INCLUDING QUALITY STANDARDS TO WORK ACTIVITIES.

You have looked at the previous sections and can see that a QMS and the components that make up a QMS, being quality assurance and quality control, can be applied to any industry sector, business, production process and product.

Most businesses do not dispute that a QMS is increasingly desirable for the workplace. It is the ease and cost of implementation that are often the limiting factors.

➔ ACTIVITY 1

Search the internet and look at the QMS that already exist as written documents able to be modified for your industry sector or business and the job you do/ products produced.

What industry sector are you working in

Briefly describe your job role

Attach to this document web links or actual document scans applicable to your workplace and industry sector for :

- Quality Management System
- Quality Assurance process
- Quality Control process

Some web links to give you ideas as you search are included below. Please don't repeat the web links in your activity answer

www.grizmo.com/sample_work_instructions/sample_work_instructions3.html

www.grizmo.com/management_system_manual/work_instruction_msp-wi-4-2-3-2.html

www.grizmo.com/management_system_manual/work_instruction_msp-wi-4-2-3-1.html

www.grizmo.com/management_news_200810.html

www.daff.gov.au/animal-plant-health/welfare/aaws/online/framework/audit

➔ ACTIVITY 2

From the QMS standards you have found, briefly answer the following questions applicable to your workplace.

What are the compliance requirements listed in the QA process for at least 1 activity/product?

What compliance documentation is required to be maintained?

4.1 DETERMINE PERFORMANCE INDICATORS FOR INDIVIDUAL WORKERS IN LINE WITH QUALITY MANAGEMENT SYSTEMS. ENSURE APPROPRIATE CHECKING MECHANISMS EXIST TO MEET CHANGING CIRCUMSTANCES.

Any Quality Management System must have a method of measuring the performance of the system. If the system is not measured, it is difficult to determine the success of the system and achieve appropriate outcomes.

Whilst every industry, workplace or job is different, typical performance indicators used for measurement may include:

- time parameters
- quantity
- productivity parameters
- quality parameters
- cost parameters
- time targets for own work
- criteria for evaluation of own work
- measures to avoid wastage
- criteria for measurement of internal and external customer satisfaction
- processes to ensure 'right first time' approach

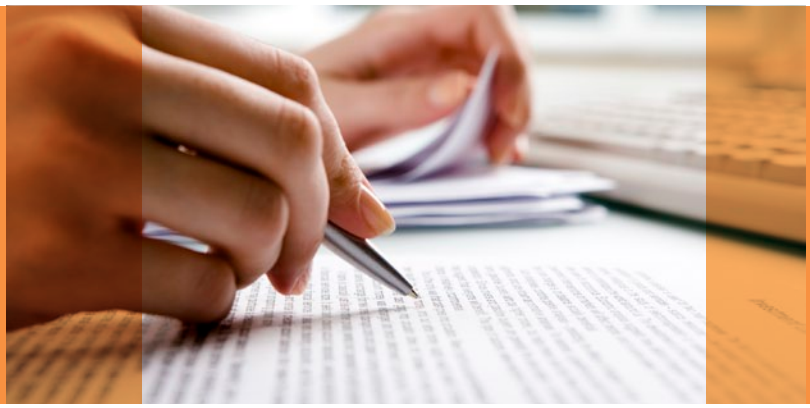
Performance indicators must be measurable indicators that demonstrate the achievement of an outcome. They enable decision-makers to assess progress towards the achievement of intended outputs, outcomes, goals, and objectives, and are chosen to reflect the critical success factors of a project/workplace/industry.

➔ ACTIVITY 3

Can you think of some basic performance indicators that are used in your industry sector. Complete the table below with 9 different suggestions. Remember this is not about your specific job or workplace but the INDUSTRY sector in which you work.

What industry sector are you working in

Describe the quality indicator/ performance measure	How is it measured	What is the desirable outcome of the QMS



Five most common performance measures

If you're starting out with measurement but don't have a clearly articulated strategy – or any strategy at all – you're probably feeling stuck about what to measure to manage performance. With no goals, no objectives, and no clear priorities, everything seems important and it's too overwhelming to measure everything.

Making the decision regarding what to measure, how to measure and where to start can be daunting. You are better off keeping initial measurements as basic as possible and getting started. You'll learn more about the best measures for your business through getting started with something, rather than waiting until you've designed the best way to measure.

Measure 1 is customer satisfaction.

This is probably the most common and most important of the five. It is the only measure that will connect you with the relevance of the work you are doing. If customers are not happy, then everyone is wasting at least a portion of their time. Measure how your customer judges the outcome of your product or service, through surveys or at the end of each transaction with the customer. You can ask them directly, give them a survey form, or send them to a website form.

If you also collect data about what aspects of your product or service are most important to customers, it will give you clues about more specific things that might be important to measure also e.g. easy access to support staff or accuracy of bills.

Measure 2 is product/service defects.

Defects is a measure of quality, and a translation of what the customer expects your product or service to do, into something you can count to assess how often the product or service actually does what is expected.

Your customer satisfaction measure is a companion to this one. And the extra data collected about what is most important to customers about your product or service will help you define what constitutes a defect (e.g. something breaks, something doesn't operate correctly, a delivery deadline was missed, an invoice has errors).

Measure 3 is production/delivery time.

The time it takes to produce / deliver your product or service for your customer is a very useful thing to measure. It's not just about meeting the time commitments you made to your customer but focusing everyone on the full process that make the production / delivery time what it is. This measurement will also show unnecessary time wastage which should result in greater efficiency.

Measure 4 is productivity.

Productivity is a measure of your process efficiency, and is essentially the rate at which you can produce outputs, relative to the inputs it takes to do so. A great measure to focus on eliminating waste and rework, wasted time and wasted actions.

Productivity can measure many things ie :

- what is product output compared to time taken
- what is the product output versus cost

Measure 5 is innovation (or improvement) ideas.

This is about making active suggestions about how to improve performance.

A good workplace will share and discuss the first 4 measures and their outcomes among the work team. This sharing will actively encourage improvement ideas and suggestions. This process encourages everyone to deepen their understanding about performance, and how they can influence it.

Remember that these 5 basic measures are a starting point to quality management not the solution.

It's not until you start using measures that you discover new questions and clearer information needs. This means that you are gradually developing and improving a system that becomes very focussed on the needs of your workplace. Use these five basic measures as a springboard to get used to measuring and through their use, get closer to understanding what you really do need to measure.

➔ ACTIVITY 4

You have made suggested performance measures in Activity 3 as well as read about the 5 suggested most common indicators. Now you have a little more knowledge about the process, think about what performance measures you would introduce to your INDUSTRY SECTOR if given a "free rein". Still keep your ideas to those that are applicable to YOUR INDUSTRY SECTOR. You should always take these activities as an opportunity to learn and become more knowledgeable about your trade or industry. Your supervisor will be more than happy to answer questions or help you.

What is your suggestion	How would you implement it	What are you measuring	How will it improve the business

4.2 PLAN WORK ACTIVITIES TO ENSURE OUTCOMES ARE COMPLETED WITHIN TIME, QUALITY, COST AND PRODUCTIVITY PARAMETERS.

It is all well and good to have a Quality Management System in place applicable to an industry or broader business. However unless that total system is broken down into appropriate Quality Assurance and Quality Control for each sector or product in the workplace, the system will be seen as difficult, unwieldy and a waste of time by many workers. As a review, read the definitions of quality assurance and quality control again.

- Quality assurance, or QA for short, refers to a procedure for the systematic monitoring and evaluation of individual aspects of a production line, process, service, or facility to ensure that standards of quality are being met.
- Two key principles characterise QA: "fit for purpose" (the product should be suitable for the intended purpose) and "right first time" (mistakes should be eliminated).
- QA includes regulation of the quality of raw materials, assemblies, products and components; services related to production, and management, production and inspection processes.
- Quality control is the testing of completed products to uncover defects, and reporting to management who make the decision to allow or deny the release of the product within the broader Quality Management System.

Assuming your workplace has appropriate procedures related to quality assurance and quality control for your products/services, how do you get your work done so that it is completed efficiently, within the time required and still maintains the required quality of work?

Here are the 4 top tips:

1. Be a good organiser:

Good organisers are able to look at the big picture and arrange output requirements, equipment and the time frame to fit into the most orderly and productive working pattern. Good organisers plan ahead and follow the plan. With a plan they set specific goals so that they are able to measure their progress at regular intervals. They follow simple procedures so that work gets done smoothly, effectively and with the least problems.

2. Effective use of time:

When you are at work your time is limited. In order not to waste valuable time take note of the following points:

- Plan ahead: When you plan ahead and allocate the workload well, your job gets done in the smoothest way and done right the first time. Proper planning and effective use of time go hand in hand.
- Do first things first: Do the most important things first and do not be side-tracked by unimportant interruptions.
- Delegate work appropriately: Ensure the most appropriate people are doing each job.

3. Setting schedules and meeting deadlines:

Without deadlines there is a natural tendency for people to slack off. Appropriate deadlines keep everyone busy and productive.

4. Write it down:

Work procedures should be written down. This applies to general procedures that are applicable over a long period of time as well as "task or job" procedures that may be a simple list and appropriate for a short period of time only. Without procedures, how do workers know they are completing a task in the correct and most efficient way? A procedure should include:

- the specific task to be done
- assign the people responsible to do it
- set realistic completion dates

➔ ACTIVITY 5

Now it is time to focus on YOUR job and YOUR workplace rather than the broader industry sector or business. Design simple work procedures for 2 "tasks or jobs" in your workplace.

Task/job 1
What is job/task?
What is the expected job outcome?
What are the simple work procedures you have written as instructions for this job?

Task/job 1
What is job/task?
What is the expected job outcome?
What are the simple work procedures you have written as instructions for this job?

You have now had a go at writing some simple work procedures applicable to your own job or workplace.

Did you find it difficult to break down the job into tasks?

Were you able to think of simple ways to describe the measurable outcomes?

You now need to concentrate entirely on your actual workplace for the next part of the workbook.

5. WHAT ARE THE

DOCUMENTATION PROCESSES IN THE QMS IN YOUR WORKPLACE?

As you know this workbook applies to workplaces in the following industries:

- Civil construction/building
- Resources/Infrastructure
- Agribusiness/food production

In Activity 1 you were asked to search the internet and look at the QMS that already exist as written documents able to be modified for your industry sector or business and the job you do / products produced. Attach the hyper link to the appropriate QMS here.

The hyper link is:

Alternatively if you have a QMS written specifically for your business workplace, attach a copy to this workbook and send to your lecturer.

Now have a look at the You Tube video link. This video shows a person whose specific job is managing the QMS for a Tasmanian salad vegetable producer and processor. The video is a clear illustration of the importance of quality assurance and control to the food production industries and is equally applicable to other industry sectors as well.

Click here view video "Horticulture Quality & Innovation Manager Job Profile "
OR if you are using the printed resource, enter the address below into your web browser.
www.youtube.com/watch?v=FRrbUQktirQ&feature=&p=8BBCAB6C05152388&index=0&playnext=1

5.1 COMPLETE RELEVANT QUALITY DOCUMENTATION IN ACCORDANCE WITH WORKPLACE REQUIREMENTS. FOLLOW WORK PROCEDURES TO ENSURE COMPLIANCE WITH THE QMS IN YOUR WORKPLACE.

➔ ACTIVITY 6

From the data you researched, video watched or from an actual Quality Management System used in your workplace, complete the following:

What record keeping are you required to complete in your workplace that is applicable to quality assurance and/or quality control?

What are the specific Quality Assurance activities in which you are involved in your workplace? List each task name and describe the actions to correctly complete the task.

If you notice a problem with Quality Assurance, who do you talk to in your workplace?

Scan and attach to this workbook any Quality Assurance forms and documents that are used in your workplace. If you do not use any in your workplace, talk to your supervisor and research together examples of appropriate forms and documents for your industry sector. Scan and attach any researched documents or provide the hyperlinks.

In Activity 6, questions 1-4 you have thought about Quality Assurance specifically related to your job in the workplace. Ask your supervisor to spend some time with you discussing the Quality Assurance documentation/templates and procedures that are used in the whole business.

The Quality Assurance documentation used will be what is most appropriate to the business or industry as well as meeting any legislated or compliance standards. The following is a list of documentation that may be used in your workplace. Tick the document types that are used and explain why they are used in your workplace.

Documents/processes used	**Tick**	**Why used, what is used, what is achieved in using this document/system/process**
Legislated procedures		
Australian Standards		
Manufacturing guidelines and specifications		
Site management plans		
Codes of practice		
Work systems for health and safety		
Customer specifications		
Employment and workplace relations legislation		
Maintaining records of document amendments		
Quality policies and quality objectives		
Handling documentation and data records		
Subcontractor and supplier quality assurance requirements		
Product realisation: specifications and requirements		
Product realisation: in-process control		
Internal audit		
Monitoring and measurement of processes and products		
Control of non-conforming products		
Corrective action		
Preventive action		

5.2 IMPLEMENT STANDARD OPERATING PROCEDURES.

One of the main pieces of documentation used by a workplace to manage Quality Assurance and Quality Control is a Standard Operating Procedure (SOP). This is a written document or instruction detailing all steps and activities of a process or procedure. Remember that the complexity of a process or procedure will determine the complexity of the SOP.

Standard Operating Procedures can cover a range of areas from "in house" work instructions and procedures to formal Australian Standards. Common SOP's could include:

- work schedules
- job card/sheet/plans/specifications
- standard operation sheets
- Material Safety Data Sheets (MSDS)
- diagrams/sketches
- regulations/legislation
- manufacturer/workplace guidelines, policies and procedures
- Australian Standards.

Good SOP's have become an integral part of successful quality systems as they provide individuals with the information to:

- perform a job properly, and
- facilitate consistency in the quality and integrity of a product or end-result

The following YouTube video is an example of an SOP for the loading and transportation of an excavator. The video explains how to perform the job properly and the checks and cross-checks required to ensure the desirable end result, which is the safe loading and transport of the excavator.

Click here view video "How to load a Volvo Wheeled Excavator onto a truck "
OR if you are using the printed resource, enter the address below into your web browser.
www.youtube.com/watch?v=u9fLI6EulbA

SOPs detail the regularly recurring work processes that are to be conducted or followed within an organisation so they need to be specific to the business workplace. Well constructed SOP's appropriate to the workplace will:

- minimise product variation
- promote quality through consistent implementation of the process
- ensure product/process consistency even with temporary or permanent personnel changes
- support compliance with organisational and governmental requirements
- contribute to effective and useful personnel training program as they should provide detailed work instructions

A workplace should always design a template to be used as a starting point for every SOP. The template will guarantee consistency and uniformity and should contain the following:

- Business name
- Title and purpose of the SOP
- Author of the SOP
- Implementation Date
- Version control mechanism ensuring the correct procedure is always in use
- Who is authorised to alter the SOP
- The objectives to be achieved by the SOP and the rationale behind the SOP being released
- Summaries of the Procedures

  This will include the duties and responsibilities of the people involved in the implementation of the procedure. It will also discuss in a nutshell, the list of tasks to be performed, its risks, and its expected benefits.
- Detailed steps for each process

  This contains the detailed set of instructions in strict logical steps. The steps could either include computer-based or manual procedures or both if they have to be implemented. This will also include the recommendations to improve.

Managing the SOP will require a variety of software or recording solutions working together to properly manage all processes and procedures related to a SOP. Chief among them is a document control / document management solution that, preferably, is web-based. This enables the system to track an SOP from its creation through all of its modifications, version control, and to ensure that only the current, most up-to-date version is used in the business.

➔ ACTIVITY 7

You are required to create a simple SOP for a task you complete in the workplace. Using the template please complete each section.

Business Name	
SOP Title	
SOP Purpose	
SOP Author	
Implementation date	
Version Number	
Version control mechanism	
Name/s authorised to alter SOP	
Objectives of the SOP	

Summary of SOP

Detailed steps of each process

5.3 CRITICAL CONTROL POINTS ARE DETERMINED TO ENSURE PROBLEMS THAT AFFECT QUALITY ARE IDENTIFIED IN THE WORKPLACE.

Many experienced workers, supervisors and certainly business managers have had a feeling in the workplace that something is wrong, but don't know what it is. You can walk around looking for the problem or for signs that something isn't right.

Managing by control points is the only sure method of quickly isolating problems. Control points are the variables that indicate what is really going on in the organisation.

It is easy to illustrate control points if you think about the human body and a person's general health:

- predictive control points are your diet profile and exercise regimen
- monitored control points are periodic checks of your blood pressure and cholesterol
- reactive control points are when a problem exists ie the triple bypass surgery to correct heart problems

The same control points exist in the workplace. This means that a healthy and proactive workplace will have plenty of predictive and monitored control points and hopefully does not need the reactive control points.

➔ ACTIVITY 8

Think about your workplace. You must have "checking mechanisms or control points" as tasks are completed, products are produced or services are provided. Look at the examples provided and then complete the blank table with 3 examples from your workplace.

Examples are provided for a number of industry sectors

Industry sector	Predictive control point	Monitored Control Point	Reactive Control Point
Lentil production	Appropriate variety for soil, climate is grown	Regular checks by farmer, agronomist followed by fungicide application prior to canopy closure prevent disease	Lentils have loss of yield and require cleaning before sale due to fungus contamination
Small Business	Staff are given simple work procedures to safely change carcinogenic toner in photocopier	At the completion of each toner change, the empty cartridge is correctly disposed, hands washed and the change of toner is recorded	Emergency medical help if powder is inhaled or in eyes, mouth
Resources/Infrastructure	Employees must complete site safety training and have correct license before commencing machinery operation	Employees must be drug / alcohol tested before turning machinery on	Employee is banned from operating machinery if they are found to be operating in unsafe conditions

Task	Predictive control point	Monitored Control Point	Reactive Control Point

There are a number of factors that will affect what control points you determined. They may include:

- safety
- quality and product standards
- delivery timelines
- cost

The aim is to have a system of control points that monitor production and manage costs before a problem occurs. This enables a business to operate on a system of KNOWING what problems they have because they are regularly monitored and appropriate actions are implemented. Have a look at the website below. This is a company that is basing its whole marketing strategy on the quality and price competitiveness of its product. As you can imagine, they have a robust Quality Management System in place with Quality Assurance and Quality Control mechanisms in all facets of the business.

www.thefruitbox.com.au/why-fruit-box.asp

Summary

As you can see the implementation of critical control points is a major benefit in maintaining product quality, recognising potential problems and identifying instances of variation in quality from specifications or work instructions.

In addition to the critical control points, the Standard Operating Procedures will enable to business to act on problems by providing:

- clear corrective action instructions
- the name of who in your workplace is responsible for correcting these faults
- an "audit trail" that can identify how the fault occurred and what can be done in the workplace so this fault doesn't occur again

This workbook has given the various quality processes names such as:

- Quality Management System
- Quality Assurance
- Standard Operating Procedures
- Critical Control Points

Your workplace may not use the same names but will be highly likely to have several if not all of these quality checks and balances in place.

➔ ACTIVITY 9

Approach your supervisor and ask for their help in completing this table below. The requested attachments are to be handed to your lecturer or uploaded with this workbook.

Describe the type of business you work in

List 4 activities in your workplace that are completed by following Standard Operating Procedures	
1.	
2.	
3.	
4.	

For each activity list critical control points or checks that are in place

Activity	Describe critical control point	Describe the product quality standard achieved by implementing this control point	Describe the workplace safety standard that is implemented by using this control point
1.			
2.			
3.			
4.			

6. QUALITY ASSURANCE

SPECIFIC TO AGRIBUSINESS AND FOOD PRODUCTION

"People are the foundation of the country, food is the first necessity of people and safety is the priority of food."

As competition in the agricultural market place as well as customer awareness and demand continue to escalate, the significance of quality management is increasing.

This section is designed to increase your understanding and awareness of quality management specific to agribusiness and the food industry.

The quality of food and associated management systems is rapidly becoming a major component of the success of Australia's agricultural food production. This is applicable to the marketing of local fresh food as well as the exports.

Customers and consumers of land-based products are increasingly interested not only in the quality of products, but also in the quality of the underlying production systems.

The level or type of Quality Management System implemented in your workplace, will be determined by a number of questions.

- What will the market place pay for traceability and quality assurance?
- What levels of sophistication are needed to adequately document for traceability?
- What is the regulatory and/or QA accreditation response necessary to meet control and traceability in your workplace?

Look at the link to Dairy Australia. It provides a summary of the Dairy Foods Regulatory Framework that is an excellent interactive document with links to all of the Standards and Codes of Practice applicable to this industry. It provides an excellent starting point to guide you in your research for sites and documents applicable to your workplace.

www.dairyaustralia.com.au/Responsible-Dairying/Regulatory-Framework.aspx

'What is quality product?'

In reference to food ,The Institute of Food Science and Technology (IFST, 1998) described the term 'quality' as referring to the degree or standard of excellence, and /or the fitness for purpose, and /or the consistency of attainment of the specified properties of the food. In other words, it is a measurable standard that is applied consistently to a product so that the consumer gets what they expect. Have a look at the You Tube below about Food Quality in Ice cream production. It clearly illustrates the importance of product quality and consistency according to the expectations of the consumer.

Click here view video "Food Quality Control "
OR if you are using the printed resource, enter the address below into your web browser.
www.youtube.com/watch?v=wbWiPqBn-d4

Agricultural businesses must look within their enterprise and structure to determine the factors effecting the quality, cost and availability of their product. In general, influential features can be identified as:

Internal

- choice of enterprise and breed/species
- marketing strategies
- cost of production
- QM Systems
- location
- management practices etc.

External

- weather
- disease outbreak
- world trade
- Australian dollar

The competitive edge and possibly the future of a business can be achieved by focusing on the internal attributes within workplace control, especially the use of a Quality Management System.

6.1 IMPLEMENT QUALITY MANAGEMENT SYSTEMS ON FOOD SAFETY AND QUALITY, BIOSECURITY AND ANIMAL WELFARE.

Throughout agriculture in Australia there are various Quality Management Systems and Quality Assurance programs available for each enterprise. Some examples are:

- Cattle Care
- Flock Care
- Ovine Accreditation Schemes
- Dairy Care
- NFAS (National Feedlot Accreditation Scheme)
- National Vender Declarations (NVD)
- National Livestock Identification Scheme (NLIS)
- Livestock Production Assurance (LPA)
- SQF 2000(Safety Quality Food)
- HACCP (Hazard Analysis Critical Control Point)
- Organic Certification

The benefits of adopting a Quality Management System are numerous and may include:

- Increase in productivity – reduction in rejects
- Improved prices and return on investment
- Reduction in costs
- Increase in competitive edge and customers (market share)
- Improved records
- Improved environmental management
- Increased sustainability
- Improved morale and sense of control over future direction
- Compliance with requirements
- Access to restricted markets
- Increased consumer confidence
- Transparency of enterprise qualities providing potential for continual improvement
- Establishment of good management practices
- Access to advisory services

The disadvantages in the adoption may include:

- Additional expenses in associated costs
- Additional expenses in administration and monitoring
- Additional time required
- Change in management practices
- Additional educational requirements

➔ ACTIVITY 10

List the Quality Management Systems that are applicable to your workplace.

Name of QMS	Is this operational in your workplace	If not, why should it be implemented

In Activity 10 you were asked to identify QMS that should be used in your workplace and why they should be implemented.

Essential in any business is the ability to plan for the future in a strategic, measurable way.

To accurately identify areas for improvement within any business, measurable targets and performance indicators must first be established to determine how the enterprise is performing currently, in relation to desired outcomes. This is a fundamental advantage of any Quality Management System and associated Standard Operating Procedures, in that these basic performance measures can be built into the system.

It is the business owners or managers who are responsible for deciding the content, structure and complexity of a QMS specific to your food production workplace. Consideration may be given to:

- Where does the business want to be i.e. a vision and goals using best practice benchmarks?
- Where is the business now i.e. a SWOT analysis and current performance reports?
- How the business will alter its position to achieve the desired outcome – including brainstorming ideas, financial planning, and risk analysis?
- Who will be involved and a planned time frame?
- A system for measuring the results i.e. monitoring procedures, comparative analysis and scheduling further meetings.

Let's assume the business owners/managers have established the requirements of a QMS. They may have used an industry approved system such as Cattle Care or Flock Care. Equally they may have designed their own measurable indicators within the enterprise to suit specific market requirements. As far as you are concerned, the important part of the process is what you are directly involved in. That is likely to be the Quality Assurance or Quality Control components that are regulated or managed by Standard Operating Procedures (work instructions) and Critical Control Points.

Revisit Activities 7, 8 and 9.

In activity 7 you were asked to create a Standard Operating Procedure that is specific to a task in your workplace. In activities 8 and 9 you were asked to identify checking mechanisms and Critical Control Points in your workplace. Can you imagine how difficult it would be to produce a consistent product to meet market specifications if you did not have a system of "checks and balances" in place?

Click on the following hyperlinks and have a look at the Quality Management Systems that have been developed and approved for food production industries in Australia. The web sites provide very good information specific to your industry sector and should put everything we have completed to date in this workbook into a context that is specific to your workplace.

- Cattle Care **www.ausmeat.com.au**
- Flock Care **www.sheepmeatcouncil.com.au**
- Grain Care **www.graincare.com.au**
- Organic Assurance International **www.organic.com.au**

Select the hyperlink that is applicable to your industry. Open the link and look carefully at the information provided on the QMS. Specifically look at the requirements for achieving certification.

Effective management of the enterprise Quality Management System, requires a continuous cycle of addressing the discrepancies in an effort to improve the systems and processes.

In addition to any internal areas for improvement, consideration should also be given to the rapidly changing expectations and requirements of QA in agriculture. It is becoming evident that requirements will be increasingly stringent, with a revolution becoming apparent in the grains industry at present and traceability in any primary product becoming standard.

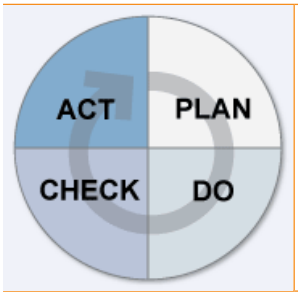
➔ ACTIVITY 11

Look at the hyperlink most applicable to what is produced in your workplace. You are required to cut and paste key points that you believe are appropriate for implementation in your workplace or alternatively to list key points below. You should aim to provide a concise summary that you can "match" to your daily activities. Remember that each activity you complete aims to improve your knowledge so you become a better skilled worker. Don't try and take the easy way out with activities and give generic answers. Really "think" about them related to what is best for your workplace. Remember you can always ask your lecturer or workplace supervisor for help.

6.2 THE HACCP (HAZARD ANALYSIS CRITICAL CONTROL POINT) APPROACH TO QUALITY ASSURANCE

The diagram below demonstrates the need for continual improvement and a commitment from all levels of the business to meet customer needs through the 'Plan, Do, Check, Act' system. Can you remember reading about that previously. The diagram is inserted here again to refresh your memory.

PLAN – DO – CHECK – ACT



Plan	establish objectives and make plans (analyse the business situation, establish overall objectives, set interim targets, and develop plans to achieve them).
Do	implement plans (do what you planned to).
Check	measure results (measure/monitor how far actual achievements meet planned objectives).
Act	correct and improve plans and how you put them into practice (correct and learn from your mistakes to improve plans in order to achieve better results next time).

Source: www.iso.org/iso/iso_catalogue/management_standards/management_system_basics

Any Plan, Check, Do, Act system must consider the hazards involved in the production system and methods of controlling, minimising or preventing those hazards. Avoiding hazards and contamination in a primary production system will always be of critical importance.

Hazards may include:

- physical hazards where foreign objects such as broken needles, welding rods, nails or wire are present in animals
- chemical hazards resulting from residues such as antibiotics, pesticides, alkaloids and other substances used in animal production remaining in milk or meat
- chemical hazards from pesticide or fungicide residue in grains
- biological hazards where contamination from other animals (e.g. mice, rats, cats), poor housing/transport conditions, and dirty water affects animal health and food quality
- food quality hazards resulting from poor handling of animals, unhealthy or diseased animals, extreme weather conditions, poor loading and transport conditions, and time off feed.

➔ ACTIVITY 12

List the hazards that are most likely to occur in your production system. Against each hazard indicate how it can be managed to achieve control.

List 5 production system hazards in your workplace	Suggest a method for hazard reduction or control

6.3 QUALITY POLICIES, GUIDELINES AND STANDARD OPERATING PROCEDURES (SOP'S) RELATING TO FOOD SAFETY QUALITY, BIOSECURITY AND ANIMAL WELFARE, ARE IMPLEMENTED IN THE WORKPLACE.

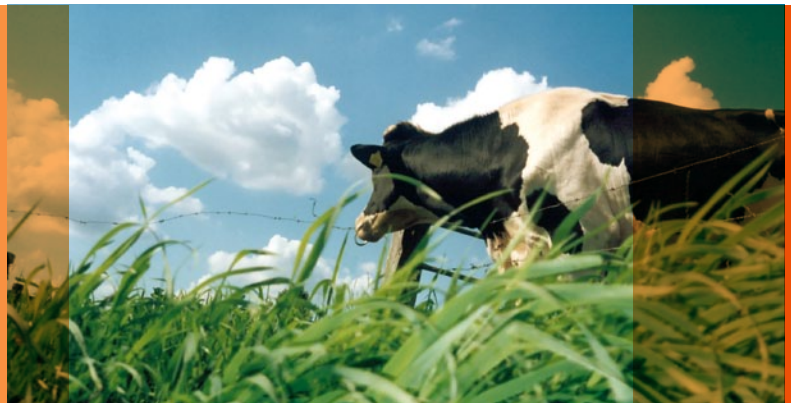
The best way to illustrate food safety and quality in the workplace is to look at actual examples.

The following YouTube video from the Diary Australia explains the quality systems that support the Australia Dairy Industries commitment to food safety, animal health and welfare and the environment in its endeavor to provide safe quality dairy products to consumers.

Click here view video "Australian Dairy Story "
OR if you are using the printed resource, enter the address below into your web browser.
www.youtube.com/watch?v=AkBXIRp3SjE

The following summary has been provided of some standards and systems developed by industry that exist in food production for the Australian Primary Producer.

AUS-MEAT is the national organisation responsible for quality standards and accurate descriptions of red meat. AUS-MEAT develops, maintains and reviews accreditation standards on behalf of the Australian red meat industry, which are designed to protect the industry's reputation and integrity in relation to sales, distribution and exports. AUS-MEAT has a common language used throughout the marketing chain to ensure all sectors can identify and meet customer requirements. It has established specific and high accreditation standards for the processing sector to ensure effective quality assurance procedures are in place every step of the way. In addition to this, a quality management system has been established to cover all aspects of the supply chain. Find out more about AUS-MEAT.



MEAT STANDARDS AUSTRALIA (MSA) is a grading system for beef and sheep meat that labels the product with a guaranteed grade and best cooking method to maintain consistency in eating quality. When MSA beef and sheep meats are cooked as described, the eating quality is guaranteed at the labelled grade. A wide range of cattle and sheep management practices, processing systems, cuts, ageing periods and cooking methods have been researched to determine the impact each has on eating quality. Find out more about MSA and eating quality.

LIVESTOCK PRODUCTION ASSURANCE (LPA) is an on-farm standards and quality assurance program where livestock producers are required to register a unique property code, formally assess their production and husbandry systems and maintain accurate records. The program also involves independent audits that are conducted to ensure the program's integrity is maintained. Find out more about Livestock Production Assurance.

Post-farm food safety : The red meat industry's commitment to food safety continues beyond the farm gate, with a unique set of industry quality assurance programs covering livestock transport, feedlots and saleyards. These include the National Feedlot Accreditation Scheme (NFAS) and the National Livestock Identification System (NLIS) programs.

NFAS is an initiative designed to ensure product quality and integrity in beef feedlots. It covers a wide range of environmental, animal welfare, veterinary practices, feed ingredients and residues standards. Find out more about NFAS.

The NLIS is a traceability system to document the movement of cattle, sheep and goats and provides assurance of product integrity, safety and market eligibility. Find out more about NLIS.

In addition to the systems discussed above there are many Codes of Practice that may apply to your production system. A link is provided to the Australian Model Code of Practice for the Welfare of Animals.

www.daff.gov.au/animal-plant-health/welfare/model_code_of_practice_for_the_welfare_of_animals

In addition there are many state based Codes of Practice such as:

Code of accepted farming practice for the welfare of goats

Code of practice for the land transport of pigs

Codes of Practice – Poultry Industry

Code of Practice – Australian Grain Industry

www.pulseaus.com.au/pdf/PA%20Corporate/Aust%20Grain%20Industry%20Code%20of%20Practice%202009.pdf

You have progressed through a lot of information in this workbook covering:

- Quality Management Systems
- Quality Assurance
- Quality Control
- Standard Operating Procedures
- Hazard Analysis Critical Control Points

➔ ACTIVITY 13

Looking back at all of the information covered and all of the activities completed you are now required to write a brief summary applicable to your workplace. Try and complete this activity with your supervisor. This is not designed to be a list of what you don't do in the workplace.

Get your imagination into gear! Compile a list of suggestions that will make your workplace a "Best Practice" example related to Quality Systems and producing a quality product.

7. BEING CONFIDENT

ABOUT YOUR SKILL LEVELS IN THE WORKPLACE

After finishing all of the activities in this workbook you should be able to competently complete final summative assessments. Do you feel that you are confident about your skill levels in the workplace related to Quality Management Systems, Quality Assurance and Quality Control?

Use the table below to help you check your skills. Before commencing your final assessments it is important to review any sections in which you feel unsure.

Remember: it is always OK to ask your supervisor or your assessor questions.

In the table below, read the list of skills and knowledge you should have after completing this workbook.

1. Put a tick in the column if you can do this now and a brief comment re why you believe you have this skill.
2. Put a tick in the next column if you feel you need more practice and a brief comment as to why.

If you require further training, complete the third column listing what training is needed. Show this list to your supervisor or assessor and ask for more time or training before completing the summative assessments.

Skills /knowledge you should have	Yes	Need practice	Comment on why	What additional training do I need
Communicating ideas and information through record keeping and reporting to management as required. You can show initiative in adapting to changing work conditions or contexts particularly when working across a variety of quality systems.				
Collecting analysing and organising information through complying with standard operating procedures and work instructions.				
Maintain, monitor and recommend changes to system documents including reporting documents, work systems and/or plant.				
Planning and organising activities according to HACCP approaches to quality assurance.				
Working with others and in teams to implement the QA system.				
Using mathematical ideas and techniques to record data according to SOPs and quality documentation.				
Solving problems through recognising variation and non-compliances, and undertaking corrective work and/or reporting to supervisors.				
Able to pay particular attention to safety issues and adjusting performance indicators to reflect changed circumstances.				
Using technology appropriate to QMS.				
Apply legislative, organisation and site requirements and procedures for maintaining and monitoring site quality standards.				
Access, interpret and apply information on relevant organisation policies, procedures and instructions.				

8. ASSESSMENT

You have now reached the end of this workbook.

The assessment strategy for this workbook must verify required knowledge, skill and practical application using appropriate assessment methods such as:

- written and/or oral assessment of the candidate's required knowledge
- observed, documented and/or first-hand testimonial evidence of the candidate's skills
- demonstration of appropriate procedures and techniques for the safe, effective and efficient achievement of required outcomes
- consistently achieving the required outcomes in the workplace
- first hand testimonial evidence of the candidate's competency

➔ FEEDBACK

This workbook has been developed to guide users to access current information related to gaining skills appropriate to their workplace. Please complete the following table notifying us of any errors or suggested improvements.

Subject Name	Quality Standards in the Workplace
Book Number	Book 2

Page	What is the error	Suggested improvement
10	You tube video is not accurate	Better websites / You Tube example

Is there a link to your suggested improvement

Additional comments

Click here to email your completed workbook to your assessor.

9. BIBLIOGRAPHY

AND SOURCES FOR CONTENT IN MATERIALS

Agricultural Marketing Resource Centre **www.agmrc.org**

Rural Industries Research and Development Corporation **www.rirdc.gov.au**

Australian Wool Innovations **www.wool.com.au**

Grains Research and Development Corporation **www.grdc.com.au**

Ausmeat Limited **www.ausmeat.com.au**

Cattle Care **www.ausmeat.com.au**

Flock Care **www.sheepmeatcouncil.com.au**

Australian dairy farmers association **www.australiandairyfarmers.com.au**

Primary Industries and Resources SA **www.pir.sa.gov.au**

Food and Agriculture Organisation **www.fao.org**

Grain Care **www.graincare.com.au**

Organic Assurance International **www.organic.com.au**

Australian Pork Industry Website – Grower owned peak body for the pork industry – **www.australianpork.com.au**

Australian Pork Limited – **www.apl.au.com**

Australian Standards for the Export of Livestock – **www.daff.gov.au/animal-plant-health/welfare/export-trade/v2-1**

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