

Information Sheet No. 3-1

Striving for Quality

Basics of a quality management system

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Quality defined

Quality refers to a product or service that is fit for purpose, conforms to requirements and within specification.

Manufacturing and marketing of quality composts and products containing recycled organics of consistent quality is a key to gaining customer satisfaction and a continued market presence.

Quality, however, is not only concerned with whether a product or service meets the claims made for it. Your customer's perceptions of your business is based on the product or service you deliver and on the day-to-day contact they have with you and your staff (QAS, 2000a).

Quality embraces how you must meet all your customers' requirements, which could include:

- how they are greeted on the telephone;
- the speed with which the salesperson responds to a request for a quotation;
- introducing new products and services when required; and
- even ensuring that the invoice is correct!

Every contact with every customer on every occasion builds a picture of your company in the eyes of your customer.

It is widely known that the successful operation of an organisation requires effective leadership and managing in a systematic and visible manner.

This success can result from the implementation and maintenance of a quality management system that is designed to continually improve performance by addressing the needs of all interested parties (stakeholders) (QAS, 2000b).

This Information Sheet reviews the basics of a quality management system and the important role it can play in a composting operation.

This remainder of the Information Sheets in this series (3-2 to 3-11), however, focus more on the management of processing and production systems so products of consistent quality can be manufactured.

What is a quality management system?

A *Quality Management System* (QMS) is a term applied to a variety of tools that assist an organisation in managing and controlling its processes, inputs and outputs to meet customer requirements (QAS, 2000b).

Composting and related operations produce products that are intended to achieve customer satisfaction. The International Standards Organisation (ISO) 9000:2000 family of QMS standards can assist organisations in achieving this objective.

The QMS approach encourages organisations to analyse customer requirements, define the processes that provide product acceptable to the customer and to keep these processes under control.

Because customers needs and expectations are changing, organisations are driven to

continually improve their products, services and processes (QAS, 2000b).

The benefits of implementing a quality management system include:

- consistency in service delivery and measurable service outcomes;
- continual improvement;
- employee involvement in the organisation's progress; and
- a marketing edge on competitors.

Registration of an audited and certified QMS through a third party body (e.g. Quality Assurance Services) allows the organisation to mark their promotional material (not product) with a logo (e.g. 'five ticks' logo as shown in Plate 1) demonstrating compliance to an international standard for quality (AS/NZS ISO 9000:2000).

Plate 1. Quality endorsed company logo demonstrating compliance to a quality management system provided by Quality Assurance Services. This mark is but one of a number supplied by certification bodies under the Joint Accreditation Scheme of Australia and New Zealand (JAS-ANZ).



Such logos are an effective marketing tool, showing customers that your organisation has a QMS in place, demonstrating the company's commitment to quality and capability

of manufacturing products or supplying services that meet customers' requirements.

Please note that there are other registered bodies that can supply other marks of quality system certification under the Joint Accreditation Scheme of Australia and New Zealand (JAS-ANZ).

The eight quality management principles

Quality management standards (AS/NZS ISO 9000:2000 series) are based on eight quality management principles. These describe the way we work and are imbedded in what we do to achieve the organisation's goals and objectives.

These principles are:

1. Customer focused organisation: Organisations depend on their customers and therefore should understand current and future needs, meet customer requirements and strive to exceed customer expectations.
2. Leadership: Leaders create and maintain the internal environment in which people can become fully involved in achieving the organisation's objectives;
3. Involvement of people: People at all levels are the essence of an organisation and their full involvement enables their abilities to be used for the organisation's benefit.
4. Process approach: A desired result is achieved more efficiently when related resources and activities are managed as a process;

Definitions

Quality

Fitness for purpose; conformance to requirements; within specification.

Quality Management System (QMS)

A set of procedures an organisation establishes to guarantee its products will satisfy consumers.

5. System approach to management: Identifying, understanding and managing a system of interrelated processes for a given objective improves the organisation's effectiveness and efficiency;
6. Continual improvement: Continual improvement should be a permanent objective of the organisation;
7. Factual approach to decision making: Effective decisions are based on the analysis of data and information; and
8. Mutually beneficial supplier relationships: An organisation and its suppliers are interdependent, and a mutually beneficial relationship enhances the ability of both to create value (QAS, 2000b).

Ten steps to quality management implementation

It takes a great deal of time, effort and ability to develop and implement a QMS. Both executive commitment and the allocation of appropriate resources are essential if the task is to succeed.

Experience has shown that in order to plan, develop and implement effective quality systems, every company should take these 10 steps:

1. Appoint a person to be responsible for the implementation of the AS/NZS ISO 9000:2000 quality system.
2. Set up an implementation team. Representatives from all sections of the organisation should be members of the team.
3. Establish the objectives and plan for the implementation of the system. Important components include: implementation objectives, initial system review, the management plan and an implementation plan.
4. Create quality awareness.
5. Define responsibilities and organisational structure, including job descriptions and an organisation chart.
6. Develop a quality policy manual, describing management's intent concerning the documented quality management system.
7. Establish employee participation.
8. Prepare and implement procedures and/or work instructions, as well as a document control system.
9. Perform internal and external quality audits to assess the performance of the QMS; and
10. Review. The system needs to be periodically reviewed to ensure its continuing suitability and effectiveness (Figure 3) (QAS, 2000a, b).

Three key documents in a quality management system

There are three main documents which are needed to formalise a QMS. These are the:

1. Quality manual

This is a 'high level' document that describes management's intent concerning the documented quality management. It indicates to prospective parties the nature of the business activities undertaken to meet customer requirements. It is a 'road map' of what an organisation has to offer in terms of quality to remain competitive in the market place. This document often contains: the quality policy; activities of the business; how the documentation system works; exclusions to AS/NZS ISO 9000:2000; statements of responsibility and authority; overview of business philosophy and history, and a description of the organisation's work processes and their interactions (QAS, 2000b).

2. Procedures manual

Procedures describe in a simple way the controls which exist to ensure that all critical processes operate in such a way that both customer requirements and the requirements of AS/NZS ISO 9000:2000 are met. A procedure generally describes the purpose of the activity; how it operates; and the controls which reduce variability and ensure conforming output. An example procedure for accepting garden organics at the gate of a composting facility is shown in Figure 1.

3. Work instructions manual

To avoid excessive documentation in the procedures manual, detailed steps required for each activity shown in the procedures manual can be written up into a work instructions manual. The work instruction manual does not need to be a large manual either.

In many cases, work instructions may refer back to an equipment manual. The steps required to operate a pH meter, for example, may be appropriately addressed in the equipment manual which came with the device, or to a method documented in a standard. An example of a work instruction is shown in Figure 2.

Please note that work instructions may be needed for other critical areas of a composting operation. These may include:

- transport, receipt, inspection, materials identification, visible contaminant removal, transfer and storage of raw materials; access, parking, unloading areas, vehicle cleaning facilities;
- pre-processing such as shredding, sorting, mixing, pre-wetting materials;
- composting, including facilities for mixing, turning, aerating, adding inorganic or organic amendments;
- managing odour and leachate, drainage and stormwater, storage, treatment, use or disposal of water and leachate;
- administration, maintenance and storage of plant, equipment and chemicals; security systems and fire fighting facilities (NSW DUAP, 1996).

Figure 1. A procedure for accepting garden organics at a composting facility. This is a critical activity that can have an impact on the composting operation if not properly controlled. WI refers to 'work instruction'. Work instructions outline the detailed steps required for each activity. For the procedures manual, it is sufficient to identify the critical tasks and refer back to the work instructions for more detail (e.g. for training new staff).

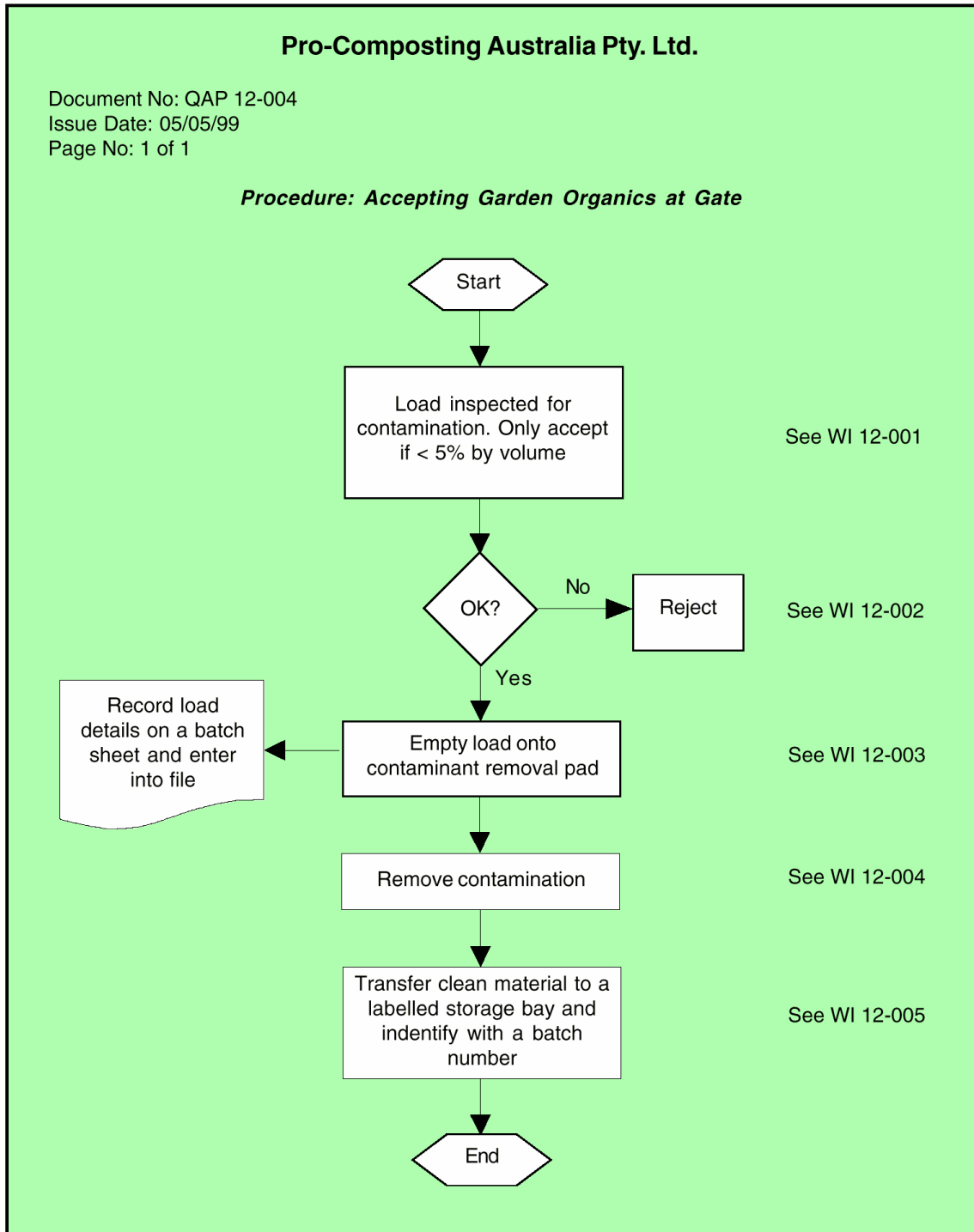


Figure 2. An example of a work instruction for accepting and rejecting garden organics at the gate of a composting facility. Note that work instructions will differ depending on the type of operation. The example shown below is a step-by-step instruction for carrying out the accepting and rejecting procedure as detailed in Figure 1.

WI NO: WI 12-002	WORK INSTRUCTION Method of Accepting and Rejecting Garden Organics at Gate	
Page 1 of 1	ISSUE DATE 5/5/1999	REVIEW DATE 5/5/2001
<u>Work Instruction: accepting and rejecting garden organics at gate</u>		
1	Accepting and Rejecting Batch	
1.1	If visual contamination is more than 5% (by volume), reject the batch and notify the driver that the garden organics cannot be accepted.	
1.2	Accept the batch if an alternative contractual arrangement has previously been made. See Contracts Folder (Gate Office, Zone 1) to confirm this.	
1.3	If visual contamination is less than 5% (by volume), notify driver that the batch will be accepted.	
1.4	Direct the driver towards the weighbridge and record the tare of the trailer or truck before contamination is removed. Refer to WI 12-004 for further details.	
	END	

The importance of testing, monitoring and record keeping

The quality manual, procedures manual and work instructions manual outline how critical activities in your organisation are performed, and how they are maintained to ensure that products and/or services of consistent quality are produced and/or delivered.

A vital component of a QMS is a testing and monitoring program to ensure that the systems in place are performing effectively.

Note that appropriate testing and monitoring procedures for use at a composting facility are reviewed in Information Sheets 3-3, 3-4 and 3-5.

The on-going performance of a QMS can be verified by having the system audited by a third party certification body.

Figure 3. The “Plan-Do-Check-Act” cycle for continuous business improvement (QAS, 2000a).

