

**VG97022, VG97032, SF97004,
FR97011**

**Quality Management Training
(Vegetables, Melons, Stone Fruit,
Mangos)**

**John S Bagshaw and Scott N Ledger
QDPI, QHI**



Know-how for Horticulture™

VG97022, VG97032, SF97004, FR97011

This report is published by the Horticultural Research and Development Corporation to pass on information concerning horticultural research and development undertaken for the vegetable, melon, fresh stone fruit and mango industries.

The research contained in this report was funded by the Horticultural Research and Development Corporation with the financial support of the vegetable industry and the Queensland Fruit and Vegetable Growers Association.

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Cover price: \$22.00 (GST Inclusive)
HRDC ISBN 0 7341 0035 3

Published and distributed by:
Horticultural Research & Development Corporation
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Gordon NSW 2072
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**HORTICULTURAL
RESEARCH &
DEVELOPMENT
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**Partnership in
horticulture**

**Quality Management Training
(Vegetables, Melons, Stone Fruit, Mangoes)**

Final Report HRDC Projects

VG 97022

VG 97032

SF 97004

FR 97011

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Queensland Horticulture Institute
Queensland Department of Primary Industries

HRDC Projects: VG 97022, VG 97032, FR 97004, FR 97011

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Purpose

This report provides details of a Quality Management Training project conducted for the Queensland vegetable, melon, stone fruit and mango Industries from 1 July 1997 to 30 June 1999. It discusses the background to why the project was needed, the training methodology and content, an evaluation of the project and discussion of outcomes and future activities arising from the project.

Date of preparation of report

27 March 2000

Acknowledgments

Funding for the projects was provided by AUSVEG, the Joint Stone Fruit, the Mango, the Melon Sub-committees of QFVG and matched by HRDC. The Department of Primary Industries Queensland provided funding for salaries through its Queensland Horticulture Institute

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Industry Summary

Confusion about quality management systems and lack of knowledge and skills limit the ability of the horticulture industry in Australia to adopt these systems.

This project was developed to address the problem of poor adoption of quality management systems, particularly by the small to medium growers in the industry. During the project, supermarket demands for quality management systems to ensure safe food supply became a reality. Those growers participating in our project were well positioned to meet these requirements quickly and efficiently.

The project was a quality management training course consisting of a series of 10 half-day workshops spread over 18 months. The concept was to introduce various aspects of quality management at each workshop, and encourage participants to implement these aspects on-farm between workshops.

Workshops were widely advertised in Queensland and awareness meetings were conducted throughout Queensland. 413 people attended these awareness meeting.

The workshop series was conducted in 11 regional centres throughout Queensland; Stanthorpe, Chinchilla, Kalbar, Gatton, Nambour, Gympie, Bundaberg, Rockhampton, Bowen, Ayr and Mareeba. A total of 195 businesses attended the first workshop and 75% of these attended all 10 workshops.

Workshops covered all aspects of quality management, including three workshops devoted to accredited HACCP training specifically for horticulture.

The training provided participants with general understanding of quality management systems, industry developments and specific requirements and how to implement them. The training did not focus on any particular standard, but dealt with quality management principles common to all quality management systems.

Many of the participants who required a quality management standard incorporating HACCP used consultants during the latter part of the course to help with documentation and certification to that standard.

As a result of the training, grower participants were able to make more informed decisions about what level of quality management they needed and how to most efficiently implement a quality management system to meet these needs. They also understood how quality management principles could help them improve their internal business operations.

During the project, supermarkets clarified their quality management requirements of suppliers, and project participants were well-positioned to quickly meet these requirements.

Several resources were developed during the project that have been used to support development of quality management systems by the broader Australian horticulture industry. A training workbook was produced for each of the participants in the workshops. An Approved Supplier Guide was developed by a national working group (funded by AUSVEG in this project) to provide clear guidance about practices and documentation needed in an approved supplier program. 3800 copies of this guide have been distributed nationally. A leaflet, 'Quality management for fruit and vegetable growers -what do you need' was prepared to help growers understand the various quality management requirements of their retail and wholesale customers. 1300 copies of this leaflet have been distributed to industry.

Introduction

Quality management (QM) systems were first used in Australian Horticulture in the late 1980's. Large customers wanted large volumes of consistent quality product, and QM systems were seen as the best way to achieve this, both by high volume businesses and by smaller businesses marketing together under a common brand.

Since 1991 the Australian Government has placed the onus for quality improvement squarely on the horticultural industry, with deregulation of the Australian Quarantine and Inspection Service role in export inspection for quality in 1991. The use of QM systems was seen as the vehicle to facilitate industries toward improving their products and services to customers. However, the horticulture industry was slow to adopt quality management systems. This was highlighted in the Horticultural Policy Council report (1995) on QM strategies for horticulture. Eighty percent of growers were estimated to be at the pre-QM stage. Less than 1% of growers and 5% of other horticultural businesses had integrated, documented QM systems certified by third party auditors

Since the mid 1990's, a number of changes in the horticultural industry placed increasing pressure on growers and packers to improve their quality systems:

- ◆ Customers were becoming more demanding for quality of products and services, particularly the domestic supermarkets.
- ◆ Competition was forcing growers and packers to become more efficient.
- ◆ Growers and packers were increasingly moving toward joint marketing to service the demand for long lines of consistent quality product. QM systems facilitate consistent quality and coordination between businesses in these joint arrangements.
- ◆ Consumer concerns about food safety increased after some major food poisoning outbreaks in Australia. The major supermarket chains in Australia reacted by requiring their direct suppliers to implement QM systems to ensure provision of safe, acceptable quality products. This applied to all produce, including fruit and vegetables. Subsequently, all indirect suppliers to supermarkets were asked to implement food safety management systems by intermediary businesses (wholesalers, processors, and so on).
- ◆ The Commonwealth Government has been considering new food safety legislation that will require all food businesses to implement a food safety plan. Fruit and vegetable growers may not be directly a part of this legislation, but indirectly they will be required to implement practices to ensure safe food is supplied to the community under this legislation.

These factors increased dramatically the interest in and demand for QM systems in the horticulture industry. However, confusion about QM systems and lack of knowledge and skills in QM were seen as major obstacles to be overcome if interest in QM systems for business improvement and pressure from supermarket requirements were to be translated into effective on-farm systems.

These QM Training projects were developed to provide growers with clear, practical knowledge and skills to improve their business, and guide them through the maze of QM standards and requirements.

The training emphasised good management practices using QM principles rather than the requirements of any particular QM standard. The reason for this approach was:

- ◆ QM systems were in such a state of change that it was not possible to select one standard that was suitable for all businesses.

- ◆ The training emphasised internal business benefits of improved management practices, so providing stronger motivation to growers as they saw that QM systems were practical and relevant to them. Stronger motivation leads to more likelihood of implementation.
- ◆ Providing training in QM principles enables growers to understand and be familiar with the requirements of all the standards with minor fine-tuning.
- ◆ If growers understand the underlying principles of QM, they are more capable of implementing QM systems themselves, and if they use a consultant, they are able to get the most efficient use of the consultant. They are also more able to maintain a system that has been developed for them by an external support agency.

Growers who attended the training have been able to progress to quality systems that meet their customer's requirements. The training has given them confidence to know what is needed by their customers, make informed decisions about how best to implement their QM systems and to use the QM principles to streamline their business operations.

The project has also provided the opportunity for the team to develop resources to help growers implement accredited QM systems.

Training Methodology and Activities

The project team had previously conducted a QM training project with the Queensland fresh tomato industry (HRDC VG429). An evaluation of this project highlighted several improvements that were incorporated into the planning of the Vegetable, Melon, Stone Fruit and Mango QM Training projects.

These QM Training projects were developed in close cooperation with the relevant Sectional Groups of QFVG and was strongly supported by them. The project team held regular meetings with the Sectional Group Committees for the duration of the project.

QFVG and DPI actively promoted the training program to the Queensland vegetable, melon, stone fruit and mango industries. Promotional activities included print media releases, an official launch, television and radio advertising, and direct mailing.

Awareness meetings

During July 1997, awareness meetings were scheduled and conducted in 11 growing regions of Queensland to introduce growers to QM systems and to receive expressions of interest for the training program. 413 people attended these awareness meetings. At these meetings growers were given sufficient information about QM systems, their costs and benefits and how to implement them, to make informed decisions about future involvement in the workshops. The 11 regions were:

Stanthorpe	Nambour	Gumlu
Chinchilla	Gympie	Ayr
Gatton	Bundaberg	Mareeba
Kalbar	Rockhampton	

An 'Introduction to Quality Management' booklet was prepared for these meetings and given to participants.

Workshops

The training program

The QM training program was designed using action learning principles to maximise implementation of knowledge and practices presented in the workshops. The program consisted of a series of 10 x 4-hour workshops. The workshops were conducted in regional centres close to the client groups. The time between workshops was planned to be one month, but this was flexible to avoid busy harvest periods. On average the workshop series was conducted over an 18 month period. The concept was to present a parcel of QM information to participants at each workshop, then allow one month for them to implement the practices. At the next workshop, progress was reviewed before another parcel of information was presented.

Attendance figures for these workshops are summarised in **Appendix 1**. A total of 195 businesses (317 people) attended the first workshop. This number slowly declined over the 18-month period of the workshop series to 75% of the original number of businesses.

Hazard Analysis and Critical Control Point (HACCP) training was conducted over three workshops. The training was conducted using the Centre for Food Technology HACCP course. This course is accredited with the Vocation, Education, Training and Employment Commission (VETEC) in Queensland, NSW and Victoria, it is recognised by the Quality Society of Australasia and is registered with AGWEST Trade and Development as recognised training for SQF 2000^{cm} Skilled HACCP Practitioners.

The training strategy was to provide information about HACCP, then apply the principles in small groups within the workshops to partially develop HACCP plans. Participants were then encouraged to continue developing their HACCP plans at home. In two regions, (Ayr and Rockhampton), DPI project team members facilitated the groups between workshops to help them complete their HACCP plans.

As part of this accredited HACCP training, participants were invited to complete a HACCP assessment. To receive a certificate of attainment, participants had to pass the assessment to a standard acceptable to VETEC and AGWEST Trade and Development. Of the 256 growers who were assessed, 94% met the VETEC requirement, and 75% met the AGWEST requirement.

In Rockhampton, project team members conducted basic computer skills training for workshop participants to help them streamline documentation of their QM systems.

Workshop design

Workshops were designed to maximise learning through relevant hands-on activities and exercises. Adult learning principles were applied at all stages of the program. Trainer session plans were developed for each module to ensure consistency between trainers in both information presented and presentation method.

Workshop modules

Workshop 1

1. Getting started
2. Developing product specifications

Workshop 2

3. Developing product quality standards
4. Final product inspection

Workshops 3 to 5

5. Hazard Analysis & Critical Control Point – accredited training through Centre for Food Technology

Workshop 6

6. Preparing work instructions and record forms
8. Documenting a quality system

Workshop 7

8. Product identification and traceability
9. Training and managing staff

Workshop 8

10. Working with customers and suppliers

Workshop 9

11. Reviewing and improving a quality system

Workshop 10

12. SQF 2000^{cm} Quality Code
13. Setting priorities for quality management

In module 13, participants were given checklists to self-assess themselves for progress toward SQF 2000^{cm} and Approved Supplier Requirements. They were also asked to set priorities for their business and were given worksheets to record their decisions.

This process encouraged and facilitated participants to continue developing their QM systems after the workshops had finished.

The project team offered to visit participants on-farm for follow up guidance and QM development.

Approved Supplier Guidelines

The requirements for indirect suppliers to meet the needs of supermarkets for supply of safe, quality food gradually evolved over the duration of this project. In the second year of the project it became evident that suppliers to wholesalers had to become approved suppliers by implementing certain food safety practices.

In response to industry confusion about what was required in an approved supplier program, the project team initiated development of an 'Approved Supplier Guide'.

Team member Scott Ledger convened a national 2-day meeting (after approval from HRDC) to discuss development of a checklist of requirements that would satisfy all stakeholders; growers, market service businesses and other vendors, supermarket retailers and the Australia New Zealand Food Authority (ANZFA). ANZFA was involved to ensure the guidelines would meet the requirements of proposed food safety legislation.

The meeting was held in September 1998 in Sydney. Members of the national working group included representatives of State Departments of Agriculture (Queensland, New South Wales, Victoria, Tasmania, South Australia), Australian Horticulture Corporation, HRDC, ANZFA, and some industry groups.

An initial draft of the guide was developed at the meeting and further improvements made subsequent to the meeting.

In October 1998 a public draft of the guide was widely circulated to all sectors of the Australian horticulture industry for comment. Based on these comments, the guide was further refined in both format and content.

The final draft was completed in December 1998 and was released in February 1999.

The activity of forming a national working group and developing an Approved Supplier Guide replaced the National QM Training Forum which was planned for the end of this project. The development of the guide was seen as a priority to help growers meet the needs of supermarkets and so continue to have access to this important market outlet.

In association with development of the guide, a leaflet entitled, 'Quality Management for Fruit and Vegetable Growers – what do I need' was developed to help guide growers through the maze of different quality systems and conflicting advice about what was needed to meet supermarket requirements.

Evaluation of Training

The evaluation results are a compilation of information provided by 155 businesses (213 people).

Feedback sheet responses

Participants completed a feedback sheet at the end of each workshop. Based on responses the project team made continuing improvements to the workshop format. At the end of workshop 10, participants were asked to complete a final feedback sheet about the series of 10 workshops. The detailed results of feedback are presented in **Appendix 2**.

A summary analysis of feedback to each of the questions asked in the final feedback sheet follows:

Question 1. How would you rate the training course: very useful, useful, just ok, of limited use, or of no use?

72% of participants rated the workshop series very useful, 26% rated the series useful and 2% just OK.

Question 2. What did you find most useful about the training course?

A theme analysis of comments indicated the most frequently mentioned items were:

- Record keeping and documentation
- HACCP
- Interaction and sharing with other growers
- Increased awareness of how to improve the business by using QM principles and practices
- Understanding what makes up a quality management system
- Understanding the importance of food safety and quality to customers

Question 3. Were 10 workshops too many, too few or just right?

Each group attended 10 half-day workshops over 18 months. 85% indicated 10 workshops were just right, 13% indicated too many, 2% indicated too few.

Question 4. Was the period between workshops too long, too short or just right?

Workshops were conducted about one month apart on average, with occasional longer intervals to avoid busy harvest periods. 73% indicated the time between workshops was just right, although a significant 23% indicated the time between workshops was too long.

The main reason participants indicated workshop intervals were too long was that information was forgotten between workshops, so that time was taken up refreshing participants' memories about the previous workshop.

Question 5. How could we have improved the course?

The main issues identified by participants were:

- More group work between workshops (15% of responses).

In some regions, participants met between workshops to complete their HACCP plans that were started during the workshops. They found these meetings very beneficial as indicated in the responses to this question.

- Video of, or visit to, farms where QM is in operation (10% of responses).
Participants wanted to see for themselves how a QM system has been implemented in a real situation.
- Use of more examples and formatted documents, real-life documents (10% of responses).
Participants were keen to hear more examples of how various aspects of QM had been implemented, and to see more examples of quality documents.
- More experts for brief sessions. For example, auditors, retailers (8% of responses).
Participants wanted actual auditors to talk about auditing and how they do their job. Similarly they would have liked to speak face to face with retail chain representatives.
- Better introduction to the course – scope outlined, full set of notes up-front, more detail on the coming topics (8% of responses).
Participants wanted to know details of each topic at the start of the workshop series so they could be more prepared for each workshop. We handed out relevant workshop notes at the start of each workshop, rather than hand out the full set of notes at the start of the course.

Self-Assessment of Participant's Progress in QM

During workshop 10, we provided a work sheet to participants listing the various aspects of QM covered in the course. For each aspect, they were asked to rate their level of progress before and at the end of the workshops into one of four categories; Haven't started, Started, Advanced and In Place.

The results of this self-assessment (average of all participants) are tabulated in **Appendix 3**.

Some progress over the duration of the project was apparent with all activities listed. Overall the participants made most progress with the activities related to HACCP development. Very few had started HACCP development at the start of the project.

Those activities rating the highest level of implementation at the end of the workshops were:

- Each consignment inspected to check whether product meets specification.
- Product defects identified and allowances are documented.
- Documented product specifications are either provided by customer or developed with customer.
- Customer orders and sales are documented.
- List of immediate customers is prepared.
- Final product is clearly identified and a record is kept of product identification and destination.
- Records are established to enable product to be traced and recalled, and problems identified.

In general these items also had the highest levels of implementation at the start of the project.

Participant's priorities for six months following workshops

At the end of Workshop 10 (October-November 1998) participants were asked 'What are your priorities for improving your quality system for the next six months'. The main responses were:

Improve record keeping and documentation	36%
Implement HACCP plan	25%
Document a HACCP plan and work towards implementing it	14%
Implement an approved supplier system	8%
Document and work towards an approved supplier system	3%
Prepare work instructions	8%
Improve training and managing of staff	7%
Develop product ID and traceability	7%
Achieve SQF 2000 ^{cm}	7%

A full list of responses is in **Appendix 4**.

Discussion

Training

The ten-workshop series provided very good understanding to participants of quality systems and what their customers required. Awareness of QM should always be the first subject delivered so growers are then more able to make decisions about what they need and how to best achieve it. Growers attending the training made various decisions depending on their individual circumstances. Those needing QM standards incorporating Codex HACCP (as direct suppliers to supermarkets) took various courses of action as follows:

- ◆ Attended the workshop series and implemented their own QM system (very few).
- ◆ Attended the workshop series and contracted a consultant during the series to help take them to certification (most).
- ◆ Decided to stop supplying directly to supermarkets, implement approved supplier practices and supply to wholesalers (some smaller suppliers).

Adoption of quality management systems

The major objective of this project for participating businesses was for them to have an improved QM system leading to enhanced customer satisfaction and improved business efficiency. For the vegetable industry generally, the major objectives were to improve awareness and understanding of QM systems and their benefits, and help growers become more capable of meeting customer requirements for certified quality systems.

The awareness meeting and first workshop provided basic information about QM systems to attempt to de-mystify QM systems and provide a clear understanding of the benefits and costs of implementing a QM system.

Over the duration of the project, supermarket requirements for indirect suppliers were slowly crystallising and as part of the project the team conveyed to participants these emerging requirements. The team also prepared a publication to help growers understand the industry trends and decide what level of QM they needed for their individual situations.

The participants' self-evaluation of progress comparing before and after the training course indicates all participants did achieve improved QM systems. Most growers did not achieve SQF 2000sm, ISO 9002 + HACCP or supermarket Vendor QM systems during the project, but many were well placed to progress to those levels of QM.

Those businesses that had sufficient resources usually contracted a consultant to help them through to certification, and the project team encouraged this for those whose business situation required it (direct supermarket suppliers or with a strong business vision to broaden their marketing options).

Growers who used a consultant after doing our training understood QM systems and were able to interact with their consultant more knowledgably and meaningfully resulting in a QM system that they understood and had ownership of. The consultant provided guidance and motivation to the grower, and the growers' understanding of QM facilitated staff training activities. Support with documentation and the auditing process was possibly the main role of consultants.

Most businesses were small to medium family farms and could not afford to contract consultants. These businesses also had few employed staff (apart from casuals during harvest) and time was a premium for them. Finding the time to conduct normal farm activities and also plan and implement a QM system was a great barrier to these businesses.

Quality management documentation

Most growers are not comfortable with documentation (which is a significant part of the QM standards or codes incorporating HACCP) and find this the most challenging part of a QM system.

During this project, the team provided a number of example documents in the training workbook but these were not sufficiently tailored to grower's specific management systems. We then devoted workshop time for groups of participants to develop record forms suited to their farming systems. We prepared these into an MS Word file and distributed them to participants of all workshop groups as either hard or soft copy as requested.

Only about 10% of participants requested the forms on computer disk, reflecting the level of computer use by this cross-section of growers.

Most participants needed individual help with documentation. The project team did not have the resources to provide this to all participants, but did help some of the more advanced businesses develop documentation for SQF 2000^{cm}. The team encouraged participants to use the services of consultants to finalise their quality management documentation if they wished to progress to one of the QM standards (ISO 9002 + HACCP, SQF 2000^{cm}, or supermarket vendor QM standard).

Some small farms enlisted the help of family members not directly involved in running the farm to help with documentation and record keeping.

Approved supplier guidelines

Our experience with over 200 horticulture businesses learning about and trying to implement QM systems has clearly shown some businesses do not have the capability to implement QM standards incorporating Codex HACCP. A large proportion of small to medium growers fall into this category.

These growers need to implement more basic practices (variously called Good Agricultural Practices, Good Manufacturing Practices, support programs, pre-requisite programs) before being confronted with Codex HACCP. All authoritative texts on HACCP support this view.

If these basic practices are implemented, then some other practices and supporting documentation can be added that are achievable for small to medium horticulture businesses and will better meet the requirements of customers.

If businesses are required to implement management systems that are beyond their resources and capability to achieve, then they may either stop supplying to those customers making the demands, or will grudgingly implement the facade of a QM system. They will not have the motivation, understanding or capability to use the system to bring about enduring change in everyday business operations. They will do just enough to pass an audit.

This leaves a real risk that unsafe food will get into the community, and worse, all businesses in the supply chain will have a false sense of security.

If growers implement achievable QM practices providing a level of security appropriate to the recognised level of risk, then these businesses will implement enduring everyday changes to their business that will safeguard Australia's supply of fresh fruit and vegetables.

The Approved Supplier Guidelines were developed to provide this level of QM, and to complement QM standards incorporating Codex HACCP.

At the time of writing, all supermarkets in Australia required their direct suppliers of fresh fruit and vegetables to implement QM standards incorporating HACCP, so the Approved Supplier Guidelines were only relevant to those growers supplying wholesalers, processors or other intermediary businesses selling into supermarkets.

If the requirements demanded of indirect suppliers increase to include Codex HACCP, then the Approved Supplier practices will have taken them along the path to practices and documentation meeting over 50% of the requirements of Codex HACCP.

Freshcare

The development of the Approved Supplier Guidelines originating from this project have subsequently formed the basis for a national, industry-driven independent auditing program for approved suppliers, called Freshcare. This program will relieve wholesalers and other intermediaries from auditing their own suppliers (replaced by an independent auditor), and will allow one grower audit to satisfy all that grower's intermediary customers.

Intermediary customers will still have to make arrangements to verify their suppliers' approved supplier programs (for example by product testing).

Future QM-related requirements

Environmental management

Based on developments overseas, it appears the next wave of requirements from the retail sector may be environmental management, including use of genetically modified foods. There is an existing international standard dealing with this issue, ISO 14000 series, which follows the same basic structure as ISO 9000.

But it would be more efficient to incorporate environmental requirements into QM standards that horticultural businesses currently have in place. For example, HACCP is simply a risk management tool, and the scope of HACCP could be expanded to include environmental risks, the same as it has recently been expanded to include product quality risks (it was originally developed for food safety risks only).

Similarly, practices to manage the environment could be added to the current list of practices in the Freshcare Approved Supplier program.

Workplace health and safety

Regulations governing management practices to ensure staff will remain healthy and safe have been in place for many years, but the increasing number of litigations from staff has highlighted this now as a major issue. Growers now need very good records to demonstrate due care and diligence to protect them from litigation.

Their practices and documentation related to workplace health and safety overlap with QM systems, and could become part of their QM system.

Project Resources

Quality Management Training Workbook. Department of Primary Industries Queensland 1997.

Developing an Approved Supplier Program for Fresh Produce – A guide for customers and suppliers. DPI Queensland 1999.

Quality Management for fresh fruit and vegetable growers – what do I need? DPI Queensland 1999.

Melon Defects poster. Master developed for Melon Sub-committee of QFVG, yet to be printed.

Copies of these resources are available from the project principal investigators.

Recommendations

1. Awareness training needed to overcome confusion

Growers need a clear understanding of what constitutes a QM system and what is involved in developing a QM system (activities, costs and so on) before progressing further. When customers started requiring growers to implement QM systems, the growers in our project needed a clear statement of what the different customers in the supply chain were requiring for QM systems. This was very difficult during the course of the project because many customers had not clearly spelled out what they required.

2. Group training plus individual support needed for effective implementation

Feedback from participants indicated they found interaction and sharing with other growers very useful during group training. They were able to share practical application of QM principles.

Between workshops, not many had implemented aspects of QM due to daily work pressures and a general dislike of documentation. Some practices had been improved or implemented, but documents had not often been prepared.

So the ideal support to help growers implement QM systems is a combination of group training and individual on-farm support, particularly with documentation.

Growers who require certification to SQF 2000^{cm}, ISO 9002 + HACCP or a supermarket vendor quality management standard will benefit from a combination of activities:

- ◆ Training to help them understand the principles of QM and how it can be used to improve their business,
- ◆ Direct on-farm help to develop their QM documentation,
- ◆ Assessment of on-farm activities and documentation leading up to an external audit.

3. Simple systems needed for small to medium size businesses

Small to medium growers need simple systems that are achievable (given limited resources) and appropriate to manage their food safety and quality risks.

During this project, approved supplier guidelines were developed to meet the needs of those small to medium growers who supply to intermediary customers such as wholesalers, processors or direct-supply packers. These guidelines were subsequently developed into a national, industry-driven program for independent auditing of approved supplier practices, called Freshcare.

We recommend this program to those businesses that do not have the resources and capability to meet the requirements of a QM standard incorporating HACCP, and who will remain suppliers to intermediary customers (not direct suppliers to supermarkets).

The supermarkets will, of course, be the final arbiters of what QM systems will be acceptable to them, and growers are advised to consult their customers to determine these requirements.

Acknowledgments

We thank AUSVEG (the National Vegetable Industry Committee), the Joint Stone Fruit, the Mango, the Melon Sub-committees of QFVG and the Horticultural Research and Development Corporation for their financial support.

We also acknowledge the support of the Vegetable sub-committee of Queensland Fruit and Vegetable Growers for promoting the training activities conducted as part of this project.

We wish to thank the Quality Assurance team of the DPI Queensland's Centre for Food Technology for helping us develop, conduct and administer the Horticulture-specific HACCP training provided in this project.

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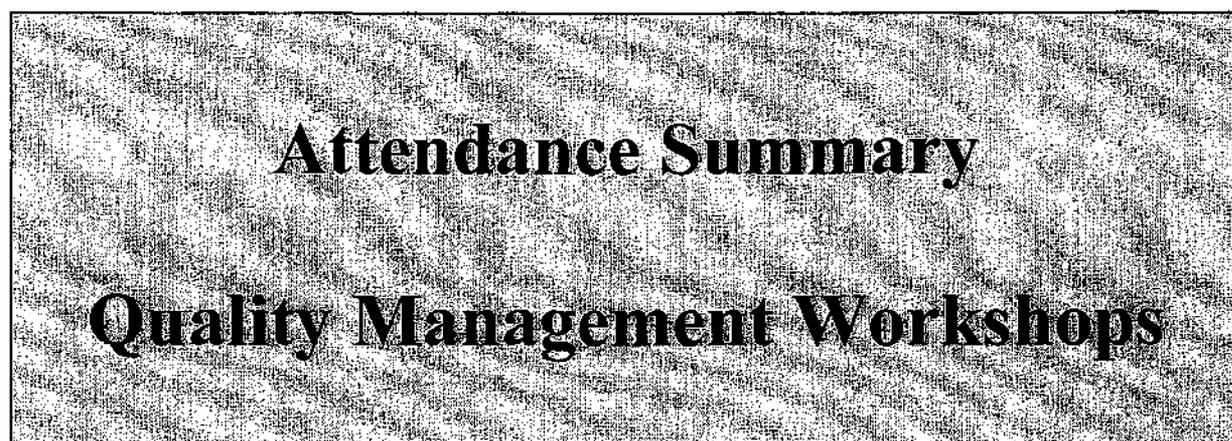
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Appendix 1



QUALITY MANAGEMENT TRAINING PROJECT
 (Vegetable, Melon, Stone Fruit, Mango)
Workshop Attendance

District	No 1		No 2		No 3		No 4		No 5		No 6		No 7		No 8		No 9		No 10	
	Businesses	People																		
Ayr	19	35	19	28	19	31	18	33	18	25	15	19	16	18	16	18	15	18	17	18
Bowen	13	20	12	19	11	19	12	20	8	13	10	12	8	12	3	4	5	6	5	6
Chinchilla	6	9	6	12	5	12	6	7	5	6	5	6	4	6	5	8	5	7	5	7
Bundaberg	26	37	24	36	23	32	24	34	25	35	23	32	21	28	21	27	14	17	20	26
Gatton	27	46	25	34	26	42	28	44	28	38	25	32	24	31	22	31	20	26	19	27
Gympie	17	28	14	25	15	24	18	30	13	23	15	24	16	22	16	26	17	21	14	21
Kalbar	9	15	8	14	6	9	6	11	5	8	7	9	7	9	7	10	5	7	5	7
Mareeba	18	30	18	25	14	21	14	18	16	20	16	22	14	20	14	18	16	20	13	19
Nambour	11	15	7	10	10	16	11	18	7	10	9	11	11	16	8	12	10	15	11	18
Rockhampton	27	42	26	39	20	34	22	34	20	29	24	34	21	26	23	32	24	34	21	31
Stanthorpe	22	40	22	32	16	24	20	30	17	28	18	29	18	29	20	31	14	21	16	23
TOTAL	195	317	181	274	165	264	178	279	162	235	167	230	160	207	155	217	145	192	146	203

Appendix 2

Feedback Sheet Findings

PARTICIPANT FEEDBACK

Quality Management Training Course

Question 1: How would you rate the training course, very useful, useful, just OK, of limited use, or of no use?

Group	Very Useful		Useful		Just OK		Of Limited Use		No use	
	No.	%	No.	%	No.	%	No.	%	No.	%
Ayr mango	13	93	1	7						
Ayr veg	2	50	2	50						
Bowen mixed	2	50	2	50						
Bundaberg mango	12	80	3	20						
Bundaberg melon/veg	3	37	5	63						
Chinchilla	3	50	3	50						
Gatton veg A	1	20	4	80						
Gatton veg B	10	71	4	29						
Gympie mango	10	71	2	14	2	14				
Gympie veg	9	90	1	10						
Kalbar	4	66	2	34						
Mareeba A	9	90	1	10						
Mareeba B	11	85	2	15						
Nambour st/f	14	100								
Rockhampton mango	17	77	5	23						
Stanthorpe stonefruit	7	59	4	33	1	8				
Stanthorpe vegetable	1	13	6	74	1	13				
TOTAL	128	72	47	26	4	2				

Question 2: What did you find most useful about the training course?

Item	Number	%
Record keeping and documentation	51	29%
HACCP	38	21%
Increased awareness of how to improve my business by using QM principles	34	19%
Interaction and sharing information with other growers	27	15%
Understanding what makes up a quality system	18	10%
Understanding the importance of food safety and quality to customers	7	4%
Relating QM skills to our business	5	3%
Having access to materials and documents, becoming more professional	3	2%
Given a clear understanding of what was needed to meet customer requirements. Saw where industry was headed.	3	2%
Auditing	2	1%
Everything	2	1%
Obtaining certificate of attainment	1	1%

Question 3: Were 10 workshops too many, too few or just right?

Group	Too Many		Too few		Just right	
	No.	%	No.	%	No.	%
Ayr mango			2	14	12	86
Ayr vegetable			1	25	3	75
Bowen mixed					5	100
Bundaberg mango	1	7			13	93
Bundaberg vegetable	2	25			6	75
Chinchilla	2	33			4	67
Gatton veg A	1	20			4	80
Gatton veg B			1	8	12	92
Gympie mango	5	36			9	64
Gympie vegetable	2	20			8	80
Kalbar					5	100
Mareeba A					10	100
Mareeba B	1	8			12	92
Nambour stonefruit	2	14			12	86
Rockhampton mango	4	18			18	82
Stanthorpe stonefruit	1	8			11	92
Stanthorpe vegetable	1	13			7	87
TOTAL	22	13	4	2	151	85

Question 4: Was the period between the workshops too long, too short, or just right?

Group	Too long		Too short		Just right	
	No.	%	No.	%	No.	%
Ayr mango	1	7	1	7	12	86
Ayr vegetable	1	25	1	25	2	50
Bowen mixed			2	40	3	60
Bundaberg mango	6	40			9	60
Bundaberg vegetable	2	25			6	75
Chinchilla	1	14	1	14	5	72
Gatton veg A	1	20			4	80
Gatton veg B	3	23			10	77
Gympie mango	4	29			10	71
Gympie vegetable	3	30			7	70
Kalbar	1	20			4	80
Mareeba A	3	30	1	10	6	60
Mareeba B	2	15			11	85
Nambour stonefruit	5	36			9	64
Rockhampton mango	3	14	2	10	16	76
Stanthorpe stonefruit	4	33			8	67
Stanthorpe vegetable	1	13			7	87
TOTAL	41	23	7	4	129	73

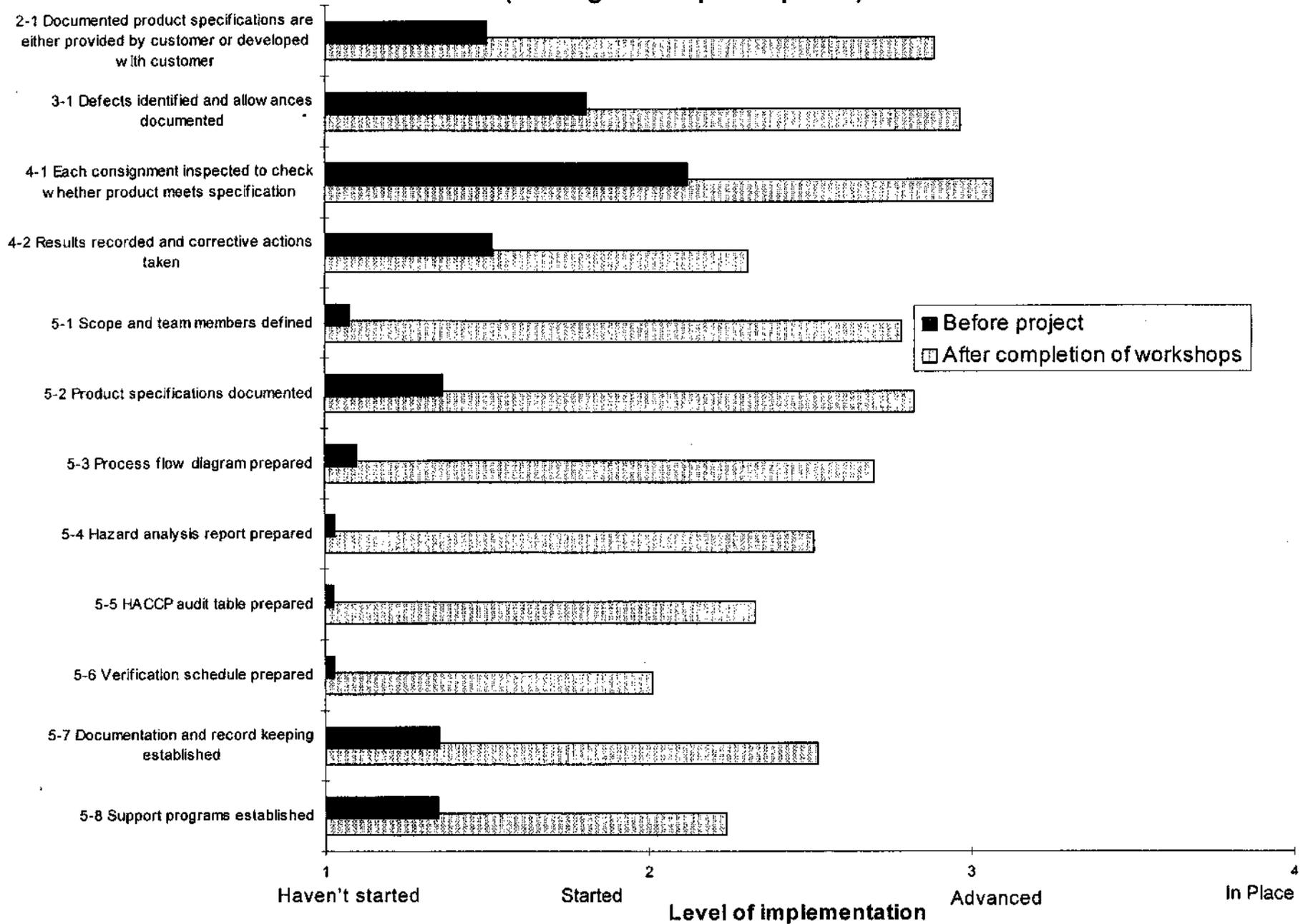
Question 5: How could we have improved the course?

Item	Number
More group work between workshops	8(15%)
Video of, or visit to, farm where QM is in operation	5(10%)
Use of more examples and formatted documents (real-life documents)	5(10%)
More experts for brief sessions eg auditors, retailers	4(8%)
Better introduction to course-scope outlined, full set of notes up-front. More detail on the coming topics.	4(8%)
Refresher course / follow up	2(4%)
Shorter course	2(4%)
Workshops closer together so less need for revision	2(4%)
Knowing precise audit costs	1(2%)
Another speaker to assist	1(2%)
More on SQF 2000	1(2%)
Lessons slightly longer	1(2%)
Receive a HACCP plan first and then dissect it rather than trying to make one from scratch	1(2%)
HACCP information should have been later in course.	1(2%)
Would have liked to have a choice of dates so as to attend HACCP training course.	1(2%)
Read from manual more	1(2%)
Too expensive	1(2%)
Growers of same crop to attend course	1(2%)
Review some topics before others	1(2%)
More info on marketing and developing marketing feedback	1(2%)
Less paperwork	1(2%)
More direct instructions on how to implement the components	1(2%)
More hands-on work to develop our specific documents or quality program. Eg, a sample of a receival form to suit.	1(2%)
Weekends or nights would have suited better	1(2%)
Wholesalers should attend first	1(2%)
Course could be full time over 2-3 weeks. Difficulty with preparing own required written material	1(2%)
Should be more in depth – not hard enough	1(2%)
Making it suit our industry better – some topics not relevant	1(2%)

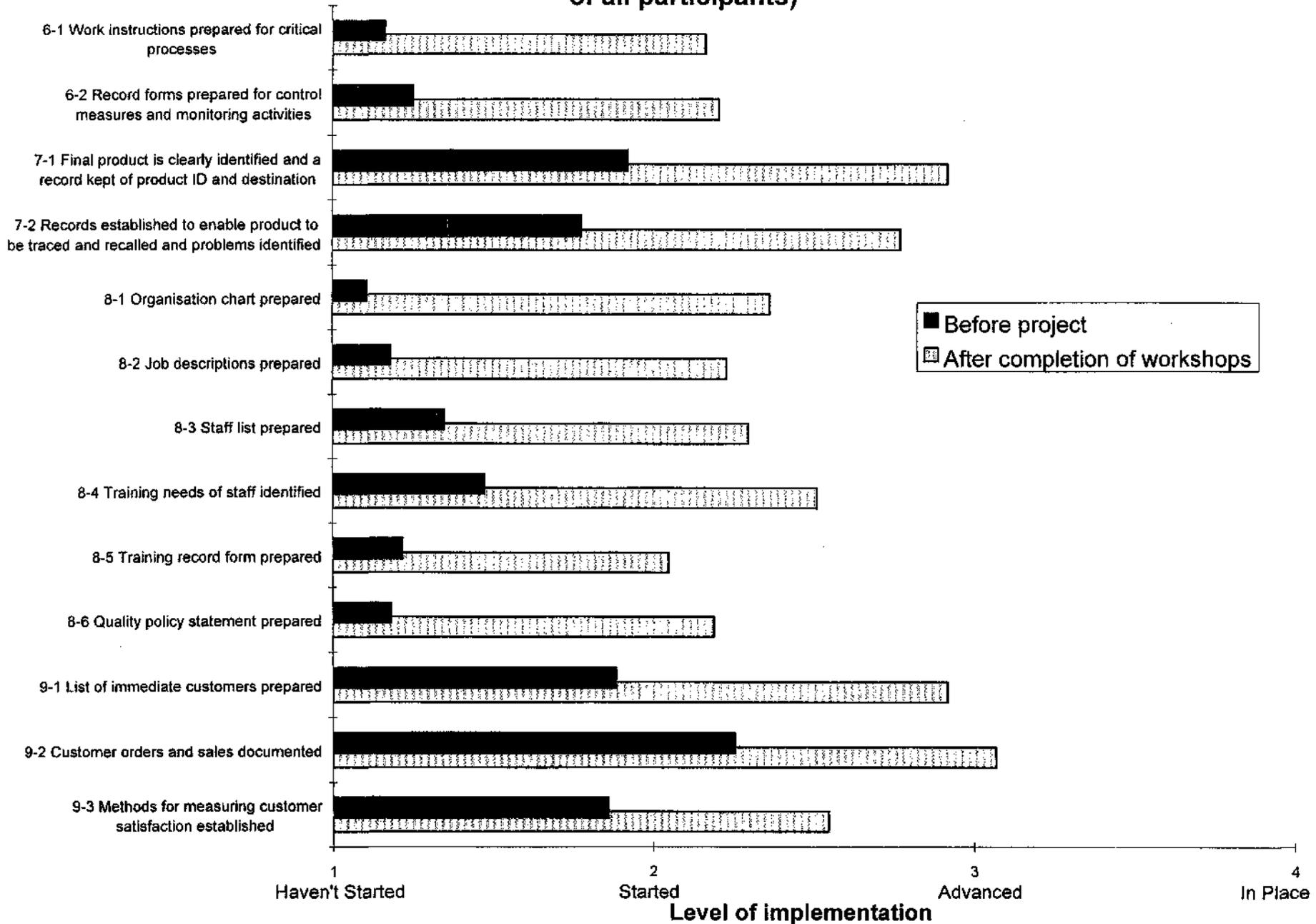
Appendix 3

Assessment of Participant's Progress in Quality Management

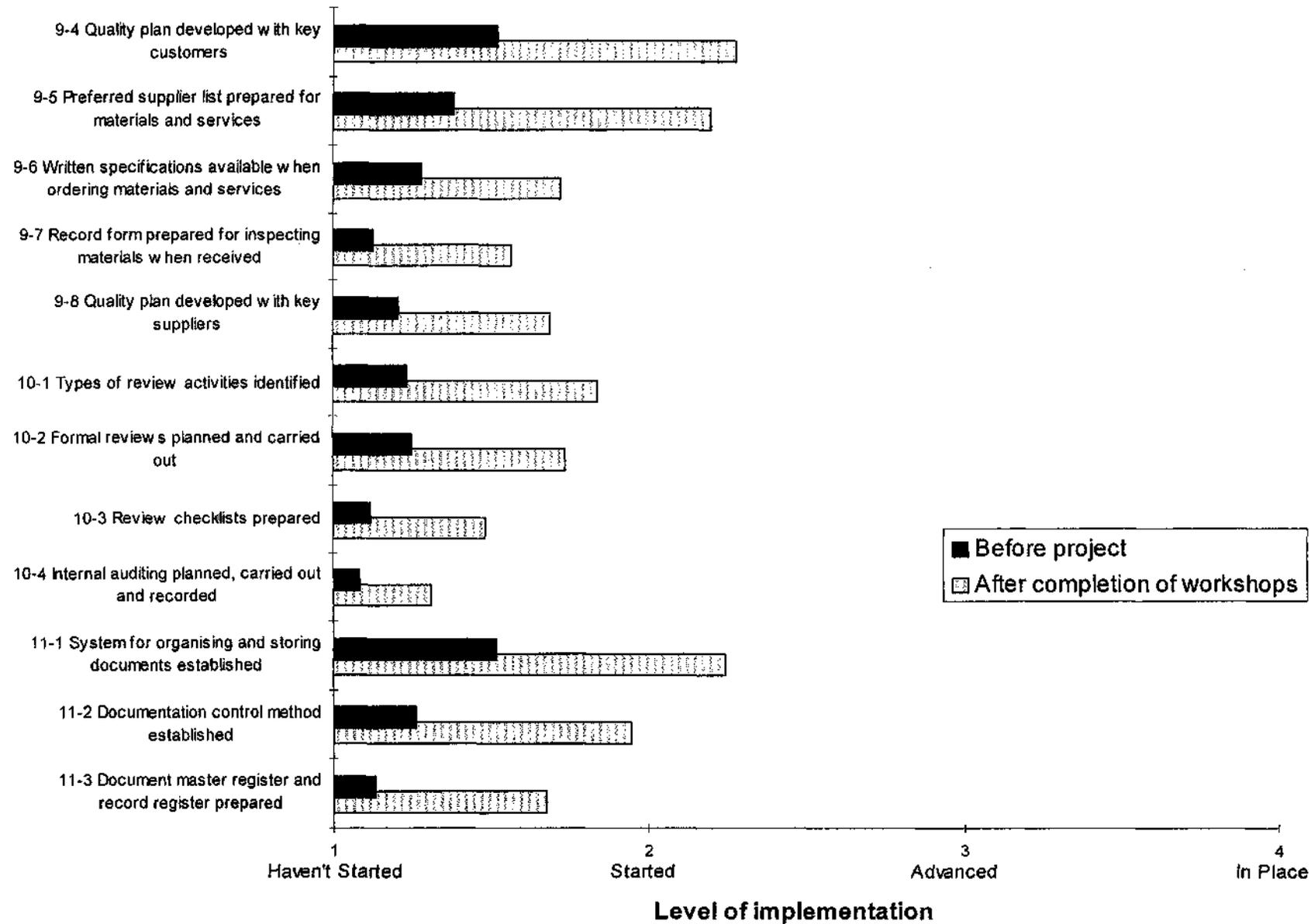
Participants' progress in on-farm QM practices over the project duration (average of all participants)



Participants' progress in on-farm QM practices over the project duration (average of all participants)



Participants' progress in on-farm QM practices over the project duration (average of all participants)



Appendix 4

Participants' Priorities for Six Months Following Workshops

What are your priorities for the next six months?

Item	Number	%
Improve record keeping and documentation	64	36%
Implement HACCP plan	44	25%
Document a HACCP plan and work towards implementing it	24	14%
Implement an approved supplier system	15	8%
Document and work towards an approved supplier system	5	3%
Prepare work instructions	15	8%
Improve training and managing of staff	13	7%
Develop traceability and product ID	13	7%
To achieve SQF 2000	13	7%
Work towards achieving SQF 2000	2	1%
Work with customers	8	5%
Write job descriptions	7	4%
Implement a QM system	5	3%
Improve product quality and consistency	4	2%
To achieve ISO 9000	3	2%
To become more computer literate	2	1%
To comprehend workshop series	2	1%
Develop product specifications	2	1%
To decide what Quality system is needed for my business	1	1%
Woolworths Vendor Quality Management System in place	1	1%
AQIS CA certification	1	1%
Upgrade postharvest handling system	1	1%
Develop better growing techniques	1	1%
Get to desk audit stage	1	1%
Increase efficiency	1	1%
Final product inspection in place	1	1%
Become an approved Skilled HACCP Practitioner	1	1%
Work hard	1	1%