



Managing Farm Safety in the Sugar Industry Field Sector

**A report for the Rural Industries Research
and Development Corporation**

by C.J. Allen

October 2002

RIRDC Publication No 02/...
RIRDC Project No STR-1A

STR1A Managing Farm Safety in the Sugar Industry Field Sector

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ISBN 0 642 (...RIRDC to assign)
ISSN 1440-6845

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Publication No. 02/
Project No. STR-1A

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Researcher Contact Details

Chris Allen
STR Applications Pty Ltd
PO Box 2343, Hawthorn, VIC 3122
Phone: 0412203733
Fax: (03) 98483191
Email: chris@strapplications.com.au
In submitting this report, the researcher has agreed to RIRDC publishing this material in its edited form.

RIRDC Contact Details

Rural Industries Research and Development Corporation
Level 1, AMA House
42 Macquarie Street
BARTON ACT 2600
PO Box 4776
KINGSTON ACT 2604

Phone: 02 6272 4539
Fax: 02 6272 5877
Email: rirdc@rirdc.gov.au
Website: <http://www.rirdc.gov.au>

Published in

Printed on environmentally friendly paper by Canprint

Foreword

It is a sad fact that rural industry contributes more than its fair share of workplace accidents and fatalities. Statistically, farming is one of the most hazardous industries in Australia. RIRDC has been actively supporting several organisations to introduce safety initiatives into rural industries.

This project has focussed on the development of the materials necessary to introduce a safety management system into the sugar cane industry. The objective is to promote a risk management culture in rural industries.

This project was funded by two R&D Corporations — RIRDC and SRDC. These Corporations are funded principally by the Federal Government.

This report, a new addition to RIRDC's diverse range of over 600 research publications, forms part of our (Human Capital, Communication and Information Systems) R&D program, which aims to enhance human capital and facilitate innovation in rural industries and communities.

Most of our publications are available for viewing, downloading or purchasing online through our website:

- downloads at www.rirdc.gov.au/reports/Index.htm
- purchases at www.rirdc.gov.au/eshop

Peter Core
Managing Director
Rural Industries Research and Development Corporation

Acknowledgements

This project was a collaborative effort involving a wide cross section of organisations and many individuals throughout the industry. The author particularly wishes to acknowledge the valuable contributions made by the following organisations:

- The Australian Centre for Agricultural Health and Safety, The University of Sydney;
- CANEGROWERS;
- Caneharvesters;
- Engineering Safety Solutions Australia Pty Ltd;
- Farmsafe Queensland;
- Queensland State Government Department of Primary Industries; and
- Queensland State Government Division of Workplace Health & Safety.

The author particularly wishes to acknowledge the valuable contributions made by the following individuals:

- Jamie Cupples (Farmsafe Queensland);
- Lyn Fragar (Australian Centre for Agricultural Health and Safety);
- Wilf Harding (Engineering Safety Solutions Australia);
- James Houlahan (Australian Centre for Agricultural Health and Safety); and
- Greg Trost (CANEGROWERS).

The project would not have been possible without the help and support of many individuals from the industry who participated, anonymously, in the testing of checklists.

Abbreviations

OH&S	Occupational Health and Safety
ASMC	Australian Sugar Milling Council

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The information presented herein forms a summary of the project. The project outcomes have generated a variety of other reports and materials. This report should be read in conjunction with those materials, which are listed in Chapter 8.

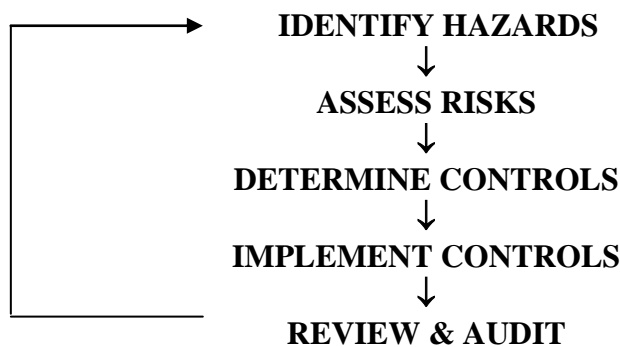
Executive Summary

Farming is one of the most hazardous industries in Australia. Until recently, it has been largely exempt from occupational health and safety laws. This is now changing, with State Governments turning their attentions to the rural industries with a view to reducing workplace deaths and injuries.

This project has produced a range of outcomes that can be used by farm and harvester owners and managers in the sugar industry field sector to improve workplace health and safety and achieve compliance with legislation.

There is a need to change the culture of the sugar industry field sector to adopt a risk management approach to all aspects of the business. The risk management approach is represented by the six step process shown below.

The six-step risk management process can be applied to all areas of life and to all types of risks. It is consistent with all Australian legislation, standards and codes of practice.



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This process becomes a continuous improvement loop to reduce risks to acceptable levels.

The outcomes of this project include:

- A risk management booklet and risk matrix
- Guidance materials on all aspects of sugar industry field sector OH&S
- Training materials
- A web site which presents all of the information generated at www.farmafe.com.au
- Hazard identification/audit checklists.

The key issue identified is the need to provide effective extension of the information generated to an industry that is currently in a financial crisis.

1. Introduction

The agricultural sector (growing and harvesting) plays an essential role in the sugar industry. In general in Australia, the safety performance of the agricultural sector is very poor. There is a need to develop a plan to improve safety performance in this sector of the sugar industry.

Since the introduction of the Workplace Health & Safety Act in 1989, the overall lost time injury frequency rate has decreased by 30%. However there are still around 100 direct workplace fatalities in Queensland every year and in the 12 months ended 30th June 1996 there were 41,626 compensated work injuries.

WorkSafe Western Australia reports that "Farms are amongst the most dangerous work places in Australia. More than eight (8) out of every one hundred (100) farm employees are injured at work each year. The figure would be much higher if all injuries to farmers, their employees, their families and their friends were officially recorded."

In Queensland in 1995/96, agricultural sector employees had 35,491 days lost time (representing 4.5% of all days lost in Queensland) and the average number of days lost was 32.2 compared with 19.0 for all industries. This represents 93.4 workdays absent per 100 employees compared with 63.0 for all industries.

In addition, 13.7 % of the injuries were classified as severe, compared with 7.8% for all industries. The most common injuries were sprains and strains, followed by fractures and dislocations and open wounds. Lower limb injuries accounted for 29.3% of injuries while 14.2% were falls from heights. Over \$4 million was paid out in compensation, averaging \$3,606 per injury, compared with \$2,564 for all injuries. The average compensation payment per employee was \$104.56, compared with \$85.15 for all industries. **If the agricultural sector compensation costs were reduced to industry average, there would be a saving of \$740,000 per annum.**

A 1998 study by the National Occupational Health & Safety Commission reported on deaths occurring in all industries. For the period 1989 to 1992 there were 20 deaths per 100,000 workers in the agriculture industry. This figure is **4 times higher** than the all industry average of 5.5 deaths per 100,000 workers.

Of the workers who died, 65% were managers and 24% labourers. The key farm activities being performed at the time of the fatal accidents were:

- Transport 31%
- Working with crops 14%
- Working with animals 13%
- Maintenance 12%
- Moving goods 8%
- Clearing or felling trees 7%

In addition, on average, 29 non-employees died each year in farm related accidents.

Many injuries or exposures, such as noise and chemical exposure, never get reported to the regulatory authorities.

There is limited specific data available on the sugarcane growing and harvesting industry, however it is unlikely to differ significantly from other agricultural industries within the state.

2. Objectives

The original objectives of this project were to develop an effective safety management system for the sugarcane growing industry in Australia and to provide the training and extension services to introduce and test the system in the work place.

This project was established to work for and with the sugarcane industry to:

- Develop a profile of OH&S hazards and risks (*completed*);
- Develop and pilot sugarcane farm health & safety audit checklists (*completed*);
- Produce specific industry guidance for managing relevant health & safety hazards and risks (*completed*);
- Develop and test a sugarcane farm worker safety induction resource (*developed but not tested*);
- Develop and test a sugarcane farm management safety training course (*completed*);
- Evaluate the success of this project in enhancing health & safety associated with sugarcane production (*not done*).

The outputs from this project were to be:

- Industry specific guidelines for managing hazards and risks (*completed*);
- A farm audit checklist (*completed*);
- A safety-training program for farm workers (*partially completed*);
- A safety-training program for farm managers (*completed*).

Initial extension work was planned be undertaken so that the outputs would be tested in the industry, evaluated and modified as required. This objective was partially achieved.

As part of the final stages of the project, appropriate trainers were to be identified, to continue the change process on completion of this project. This objective is discussed in the recommendations.

As with any project of this nature and duration, the objectives were modified based on the project experiences. In particular, the parlous financial state of the industry that has significantly worsened over the life of the project has focussed the attentions of sugar cane growers on their very survival in the industry. The adoption of safety management systems has become a very low priority. The extension of many of the outputs has therefore been delayed.

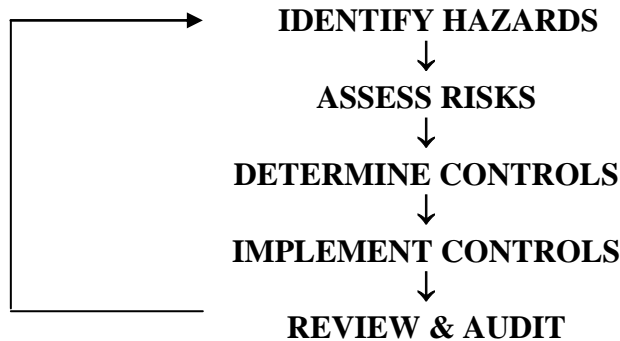
In addition, it became very obvious that there was already an enormous amount of information available to farmers. The focus of this project became more one of collating and presenting appropriate information, rather than “reinventing the wheel.”

These considerations lead to the development of a new outcome – the development of a web site to present much of the information in a clear way and provide links to access other appropriate information. The web site is a very public way of presenting the results of this project. While much of the information is available to general browsers, some information is only available to participants who have successfully completed the “Managing Rural Workplace Health and Safety” course.

3. Methodology and Findings

3.1 Risk Management

In recent years, OH&S legislation has moved from a prescriptive approach to one of risk management. Essentially the risk management process can be represented as follows.



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The key objective of this project has been to get sugar cane growers and harvesters to take a risk management approach to their businesses – not just in OH&S aspects but in all aspects of running a business. This message is presented during the Managing Rural Workplace Health & Safety training course.

This project was undertaken in collaboration with many industry participants. All aspects of the process were thoroughly reviewed at each stage.

The project began by compiling a set of industry specific hazards and risks. This work was published¹. The project has developed a risk matrix for use by growers and harvesters. The matrix is supported by a risk management booklet, which presents the risk management approach in detail.

The booklet and matrix were reviewed and modified during the project and tested with some industry participants. It is planned to launch the matrix and booklet in early 2003. All participants in the growing and harvesting sectors will receive a copy. This publication will be partly funded from the final RIRDC payment for this project and partly by CANEGROWERS.

There is a need to change the culture of the industry. This is a long-term process and should be the focus of future funding in this area. Mill owners, who are in the process of achieving a similar change have also recognised the need to achieve similar outcomes in the field sector. CSR, in particular, has been highly supportive of this project. The author has been invited to present this project's findings to the ASMC Safety Conference in 2003.

¹ Occupational Health and Safety Risk Associated with Sugarcane Production, National Farm Injury Data Centre (available from The Australian Centre for Agricultural Health and Safety, The University of Sydney)

3.2 Hazard Identification Checklists

A checklist approach was judged to be the most effective approach to hazard identification. This is consistent with the approach used by Farmsafe Australia and Farmsafe Queensland in other agricultural sectors.

When developing the topics and content of checklists, careful consideration was given to the potential multiple uses of the lists and its topics and questions.

1. The **lists** were designed for use by various envisaged users:

- Employers of field sector workers
- Self-employed cane growers
- Farm Managers
- Farmsafe Course Development Officers
- Farmsafe Course Trainers and Trainees

2. The **topics** were arranged in modules for various reasons:

- To permit adoption of a set of questions for use in other types of farming, where common hazards are present.
- To permit the progressive identification of hazards and the subsequent risk assessment of a wide range of tasks and situations.
- To permit planning and progressive implementation of risk reduction measures.
- To provide a readily identifiable means of monitoring implementation of risk controls.
- To facilitate organised training course material in related matters.
- To enable the field user to disregard any topic that does not apply to the property, eg. green harvesting / cane firing / contract harvesting / irrigation

3. The **questions** in each module were framed in such a way that:

- Each question can be readily answered, without the complication of an “and” or an “or” in mid-sentence, which effectively creates separate issues.
- The question asked will elicit a “yes” or “OK” answer if the related risk is deemed to be **acceptable**, rather than having a mixture of positive and negative responses.
- The question asked avoids the need to *immediately* gather related criteria or information (e.g. an Australian Standard, or legislation) that is best referenced and detailed within separate training material. If there is a lack of knowledge or uncertainty when seeking to answer, the preferred answer is to “plan” to find out whether the risk is satisfactorily controlled against criteria that may be stated in regulations or Australian Standards.
- Where a *specific* legislative obligation exists, a separate question is asked.
- *Options* for risk control are permitted. Best practice can be addressed in the training materials and courses, where the hierarchy of risk controls will become better understood.

Use of Checklists

1. When all modules of the Hazard Identification Checklist are arranged in sequence, the complete document is quite lengthy, being over 40 pages. This makes the use of the entire document at a single session a very time-consuming process. In the trial of these checklists, several participants made comments regarding this aspect, expressing concern that few

canefarmers could, or would, devote the time necessary to address all modules in a thorough manner.

2. As many safety practitioners and educators would know, some topics are still seen as “academic” (manual handling, heat stress, guarding of PTO shafts) and first reactions to checklist questions are often scornful. Whilst no records of such issues were compiled during the trial of the checklists, it would appear that the task ahead to change both employer and employee attitudes to these risks is indeed a tall one.
3. For the reasons mentioned, potential use by the cane farmer of these checklists as a management tool should not be jeopardised by the inclusion of questions that are likely to be seen as theoretical rather than important. Whilst every effort has been made to cover situations and tasks in which known hazards and foreseeable risks are present, and to accommodate issues of the times, this has led to comprehensive documents that may lie beyond the resources allocation or motivation levels of many who would reap benefits from their ongoing use.
4. One comment (indicative of his perception of both time pressures and OH&S obligations, and perhaps symptomatic of a common human trait of wanting something for nothing) made by a participant cane farmer was that he wanted employees who could think for themselves, rather than those who needed, or waited for, direction at every turn. At the same time, he acknowledged that much of the content of the checklists “was the sort of stuff we all needed to know”.
5. The application of these and other such checklists within respective modules of Farmsafe Queensland training courses will create a growing understanding and therefore help to change attitudes, but it appears a difficult task to encourage and achieve written risk assessments and such records in an industry sector where “paperwork” appears to be seen as wasting precious time.

3.3 Management Training

Rather than try to create a new course, the information generated during this project was used to improve the existing “Managing Rural Workplace Health and Safety” course presented by Farmsafe Queensland.

Following the addition of the information, Chris Allen attended a course presented by Jamie Cupples of Farmsafe Queensland to a group of banana growers in Tully. (It was not possible to attend a course for sugar cane growers because of the current lack of interest in such courses in the crisis stricken industry.) A feedback report on the course was prepared in order to assist with additional improvements. These suggestions are currently being implemented by Farmsafe Queensland.

The key to the extension of the information generated by this project is to get as many farm owners and managers as possible to attend the Managing Rural Workplace Health and Safety training course.

The issues identified as preventing attendance were:

- Assessment frightens them
- It is not understood to be a good thing to do
- It is not perceived as being a good investment
- Fears that “it will open up a can of worms” and will identify a lot of work to do
- Cost
- Too busy to worry about documentation
- Complacency (“we know the dangers”)
- Lack of time to attend

There are widely held views such as:

- “We can hide away from our responsibilities by working alone”; and
- “We can get away from our responsibilities by hiring a competent tradesperson”.

An effort needs to be made to sell the benefits of this training. The main motivator is likely to be the need for compliance given the increasing focus of State Governments on the atrocious safety record of rural industry.

3.4 Induction Training

There is a need for structured induction training for all employees. Managers receive a lot of information to assist in this area when they attend the Managing Rural Workplace Health and Safety training.

The risk management process needs to be introduced to employees immediately and the culture established from day one.

Clearly, induction is a workplace specific exercise and covers far more than just OH&S information. This project has developed a tool kit for the safety part of the induction process that can be easily modified for individual workplace use.

3.5 Guidance Materials

There already exists an abundance of guidance materials. The original objective of this project was to create specific materials for the sugar industry field sector. However, when it became obvious that most guidance materials already existed, the focus became to identify the most appropriate guidance materials and to fill in any gaps.

Most guidance materials were already available on line. The development of the Farmsafe Queensland web site, which was not envisaged in the original proposal, has allowed the collection of all appropriate materials in one place.

There is also an important issue of presenting too much information. Farm managers can feel swamped by the amount of information they are presented with. This project has attempted to present the most important information, in a simple way, and to provide references for more detailed information should it be required.

One of the other outcomes, also not envisaged in the original proposal, is a set of plam cards or stickers that capture the main elements of a range of key safety issues.

3.6 Web Site

The on-line distribution of information is the way of the future. While it is recognised that not all growers and harvesters have access to the internet, it is believed that this will change in the future.

The opportunity was taken to develop a web site for Farmsafe Queensland to present all of the information generated by this project.

CANEGROWERS will promote this web site and growers who do not have access to the internet at home will be able to access the site from CANEGROWERS' offices.

The on-going maintenance and development of the site will be taken over by Farmsafe Queensland, which has plans to add other rural industries to the site.

3.7 Meetings

The project involved a diverse range of inputs. All information was subject to a rigorous review process. The following project management meetings were held. Most participants funded their own attendance at the meetings.

- (1) 28 April 2000 – CANEGROWERS Brisbane
- (2) 29 November 2001 – CANEGROWERS Brisbane
- (3) 20 August 2002 – Division of Work Place Health & Safety Townsville

In addition there were regular meetings between Chris Allen (STR Applications), Wilf Harding (ESSA) and Jamie Cupples (Farmsafe Queensland).

Chris Allen and Wilf Harding also visited the Australian Centre for Rural Workplace Health and Safety at Moree.

4. Outcomes

All of the project outcomes described below are included with this report on cd-rom. It should be recognised that these are living documents and they will be continually improved and updated. The responsibility for future updates will pass to Farmsafe Queensland at the completion of this project.

4.1 Risk Management

A risk management booklet has been written. The base version can be downloaded from the Farmsafe Queensland web site. An improved version, with added graphics, will be published by CANEGROWERS and launched in 2003. It will be distributed to all farm and harvester owners and managers in the industry. The funding for this will be partly from the final RIRDC payment for this project and partly from CANEGROWERS.

The booklet is supported by a risk management matrix and worksheet. These can also be downloaded from the Farmsafe Queensland web site. They will also be available from CANEGROWERS, Caneharvesters and Farmsafe Queensland.

4.2 Hazard Identification Checklists

A full set of hazard identification checklists have been produced. Some are generic (such as tractors) while some are specific to the industry.

It is recognised that managers need training in their use, to ensure they are used effectively. Therefore, these are only available to participants who have successfully completed the Managing Rural Workplace Health and Safety training. The checklists are available from Farmsafe Queensland or from the Farmsafe Queensland web site using a password.

4.3 Management Training

All materials produced by this project are available to Farmsafe Queensland for inclusion in the Managing Rural Workplace Health and Safety training course.

The development and presentation of this course is undertaken by Farmsafe Queensland.

4.4 Induction Training

An induction-training document has been prepared and is customisable for individual workplaces. It can be downloaded from the Farmsafe Queensland web site.

4.5 Guidance Materials

All guidance materials are presented on the Farmsafe Queensland web site. These include new information compiled specifically for the sugar industry field sector and references and links to existing materials.

A set of palm cards/stickers can be reviewed on the web site and obtained from Farmsafe Queensland.

4.6 Web Site

The Farmsafe Queensland web site www.farmsafe.com.au has been established as the primary outcome of this project. A full copy of the web site is included on the cd-rom that accompanies this report. This site was built using the in-house resources of STR Applications Pty Ltd.

At the conclusion of this project, responsibility for its on-going support and development will pass to Farmsafe Queensland.

5. Implications

The sugar industry is currently in financial crisis. The consideration of workplace health and safety issues has limited priority in the minds of most industry participants.

This project has either identified all of the key safety guidance information available or has created new materials to fill any gaps identified.

The way forward is to identify how to ensure that the available information is taken up and used by the industry. Effective extension is therefore the priority.

The way ahead for the industry, in all aspects of its operations, is effective risk management. It is important to change the culture of the industry and to introduce the concepts of risk management. Safety should not be seen as an isolated area, but rather just one important component of running a business.

The plan for 2003 is to introduce the risk management process to all industry participants. This work will be undertaken by CANEGROWERS, Caneharvesters and Farmsafe Queensland using the outcomes of this project. STR Applications will be available to assist as required.

6. Recommendations

This project has generated a great deal of information. Extension of this information is now the priority. It is recommended that:

- (1) Future R&D support by RIRDC/SRDC should be directed at extension of the currently available information, rather than the generation of more materials.
- (2) Support should be directed at a culture change within the industry to implement a total business based risk management approach. Although the timing is difficult, the current financial crisis in the industry may make the industry participants more open to change.
- (3) Consideration should be given by RIRDC/SRDC to providing financial support to the effective extension of this project's outcomes to the industry. This may be most effectively achieved by some means of encouraging managers to attend the Farmsafe Queensland Managing Rural Workplace Health and Safety training.

7. References

8. Additional Information

The information presented in this report forms a summary of the project. The project outcomes have generated a variety of other reports and materials. This report should be read in conjunction with those materials, which are listed below.

- (1) The project website at www.farmsafe.com.au
- (2) “Managing Rural Workplace Health and Safety” training course presented by Farmsafe Queensland
- (3) Occupational Health and Safety Risk Associated with Sugarcane Production, National Farm Injury Data Centre (available from The Australian Centre for Agricultural Health and Safety, The University of Sydney)
- (4) Managing Workplace Risks in the Sugar Industry Field Sector (ready for publication by CANEGROWERS) or available for download at www.farmsafe.com.au
- (5) Sugar industry risk matrix (available for download at www.farmsafe.com.au)
- (6) A set of “palm cards” (ready for publication by CANEGROWERS) or available at www.farmsafe.com.au
- (7) A set of hazard identification checklists (available for participants who have successfully completed the managing safety course in hard copy or via www.farmsafe.com.au)
- (8) Guidance materials available from www.farmsafe.com.au or in hard copy from Farmsafe Queensland
- (9) Induction training materials available from www.farmsafe.com.au or in hard copy from Farmsafe Queensland
- (10) Report on a trial of self-auditing checklists, by Wilf Harding Engineering Safety Solutions Australia (available through STR Applications Pty Ltd to approved applicants)
- (11) Review of Farmsafe Queensland Managing Rural Workplace Health and Safety Training Course by Chris Allen of STR Applications Pty Ltd (available through Farmsafe Queensland to approved applicants)