



Beak Trimming Handbook

**A report for the
Australian Poultry Cooperative Research Centre**

By

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Foreword

Cannibalism is a significant problem for layer farm managers in Australia. It is a source of production loss and reduced welfare of birds. There are a number of strategies to reduce cannibalism with the main one being hot blade beak trimming. While this strategy helps to control cannibalism it can also affect production and bird welfare and is a source of debate in – and outside – the egg industry.

This project produced a beak-trimming handbook to provide farm managers with a tool to revise the strategies they use to combat cannibalism. The handbook provides an overview of the problem and various solutions available now and those likely in the near future. The handbook can be used by farm managers as a ‘benchmark’ tool to compare current strategies with those considered to be best practice.

Because hot blade beak trimming is the dominant method of combating cannibalism, the handbook concentrates on describing the farm manager’s role in ensuring that it is carried out to best practice standards. The handbook provides the how, when and why birds are trimmed and their responses to trimming – information that can help managers to better care for beak-trimmed birds. It also examines current industry views on the topic including those of farmers, industry consultants and researchers.

While mechanical beak trimming has been the norm for the last sixty years in Australia, newer technologies are likely to become more prevalent in the next ten years. The handbook examines these methods as well as alternative management strategies that do not require any trimming at all. These different methods and strategies will increasingly become more viable as further research is carried out to ensure their effectiveness in reducing cannibalism and maximizing bird welfare.

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

- www.poultrycrc.com.au

Professor Mingan Choct
Chief Executive Officer
Australian Poultry CRC

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Executive Summary

In Australia beak trimming of commercial layer replacement pullets is a critical management tool. The practice averts losses of up to 15-25% of the flock annually. However, beak trimming has always been a concern for welfare groups. In many European countries, feather pecking and cannibalism is a problem but bans on beak trimming have already been enforced despite more recent research providing greater credibility for the operation. Beak trimming is likely to continue to be practised in Australia for the foreseeable future until feather pecking and cannibalism is bred out of the bird. In the meantime, however, to reduce cannibalism and feather pecking, consistent and effective beak trimming practices need to be adopted which minimise welfare problems and maximise production.

The need for more consistent beak trimming to improve bird welfare was recognised in Australia in April 2001, when the Egg Program of RIRDC provided funds to develop a training manual for beak trimmers. The impetus was a recommendation by State and Territory Agriculture Ministers that beak trimmers in Australia be accredited. The main problems being faced with beak trimming in Australia are achieving appropriate beak length and shape of beak to minimise further pecking. Operators report variations in beak hardness, bleeding of beaks following trimming and a lack of experienced, well-trained personal to conduct the operation. The beak trim training manual and trainer's guidelines were developed for the Australian Egg Industry and have been published by RIRDC

While the beak trimming training manual describes the procedures that should be followed by beak trimmers to achieve the standards, the manual does not provide details on why, how and when birds are trimmed, methods of trimming, production responses to trimming, welfare of trimmed birds and alternative solutions to avoid trimming. All of this information would be of value to farm managers to assist in their decisions on beak trimming and management of beak-trimmed birds. During the development of the beak trim training manual and the beak trim review considerable practical and scientific information on trimming and alternatives to trimming were gathered.

The opportunity was taken with funding provided by the Poultry CRC to prepare an easy to read producer handbook from this information. A considerable number of beak trimming enquiries are received at the Pig and Poultry Production Institute from producers around Australia and worldwide. Some people making the enquiries are critical of the practice; others seek urgent help to overcome pecking and cannibalism problems in their layer flocks, particularly in alternative systems where beak trimming is not generally practised. The beak-trimming handbook will be a useful resource in Australia and worldwide to service these enquiries.

The outcome of the beak trimming handbook project is a resource for farm managers, particularly in the Australian Egg Industry, to support the industry's commitment to maintaining high standards of beak trimming and to support the Industry to use methods that do not require beak trimming. Utilisation of the beak trimming handbook will enable farm managers to manage beak trimmed birds with greater confidence, improve standards of beak trimming and improve the welfare of birds.

In conclusion, this project meets its objective of providing documentation for education and training of farm managers. However, for the outcomes to be realised, it requires the industry to circulate the handbook widely and provide opportunities for Industry personnel to implement the ideas and guidelines recommended in the handbook.

Introduction

Beak-trimming is performed early in the life of commercial hens to decrease injuries caused by the behavioural vices of cannibalism, bullying and feather and vent pecking and to avoid feed wastage. Beak-trimming is known to help flocks with a hysteria problem. For the majority of birds beak-trimmed in the world today, it involves the partial removal of the upper and lower beak using an electrically heated blade. Without a correct beak-trimming program, the egg producer risks heavy losses of chickens and pullets from cannibalism and, in the laying stage, from protrusion and vent pick outs. In many cases these losses represent the major part of mortality not caused by infectious disease. If birds are not trimmed, mortality of 25% of the flock can occur and can cause similar financial losses to a disease outbreak.

Welfare groups have expressed the view that beak-trimming is “a discredited mutilation and farmers who still practice it should be brought into line by law. It is a last ditch measure to avoid the consequences of bad management. If stocking densities are too high, the diet not balanced, or if lighting is at fault, stress-aggression occurs. To overcome it the beak is burned off cutting through a bed of highly sensitive nerve tissue, similar to the quick of the human finger nail”.

Many producers believe that on balance the practice of beak-trimming is to be favoured, provided that the operation is performed properly. When birds are trimmed using best practice techniques chronic pain in the beak is minimised and far outweighs the pain and fear birds suffer when bullied and feather pecked by untrimmed birds. The main role of beak trimming, however, is to prevent the trauma birds suffer from being pecked to death.

Decisions about beak-trimming include the need to trim, the age to trim, amount of beak to remove, temperature of the blade and length of time to cauterise the beak. These factors coupled with differences in beak growth characteristics have the potential to create an endless number of combinations, many of which may result in harm to the individual bird. The beak-trimming method needs to be tailored to the strain of bird; one method may work with one strain but may be quite inadequate for another strain. In general, however, if the beak is cut near the tip of the bone, at the correct angle and blade temperature, trimming will be successful. The problem facing producers is that they are sometimes unsure of the best age to trim chickens and method to use for their circumstances.

In Australia, the Welfare Code recommends that, if beaks are to be trimmed, no more than half of the upper and one third lower beak be removed. On occasions, however, excessive cannibalism reported in imported brown layers has meant that both beaks are being cut shorter than recommended in the Code of Practice.

With greater precision now required when beak trimming there was a need to develop an easy to read beak trim handbook to enable farm managers to select the appropriate methods for beak trimming birds, to provide guidance on management of beak trimmed birds and information on alternative methods that reduce the need to beak trim.

Objectives

- To publish a beak trimming handbook for use by Australian producers.
- Contribute to the Poultry CRC's pool of educational material for the Egg Industry.
- Improve management of beak-trimmed birds and use of alternative strategies to reduce the need to beak trim.

Methodology

Industry Survey

The methodology included a specifically designed questionnaire (see below), which targeted industry specialists with knowledge or experience of beak trimming or alternatives to trimming. The survey of experienced beak-trimmers, egg producers, veterinary and industry consultants in Australia was undertaken to obtain practical knowledge on beak trimming and possible alternatives to trimming in Australia. The survey requested industry people to comment on the advantages and disadvantages of beak-trimming, bird welfare considerations, current methods, costs of trimming and methods to minimise use of trimming. The information provided by industry was used to write a chapter in the handbook that reflected the current state of industry knowledge about beak trimming. The target audience of the handbook is farm managers. The Industry perspectives on beak trimming will enable the practical knowledge provided in this section of the book to be made available to current industry managers and help to improve the management of beak-trimmed birds and also provide alternative strategies to trimming.

SURVEY QUESTIONS

INDUSTRY VIEWS ON BEAK TRIMMING

Provide information in the spaces provided or attach extra pages.
Tick (✓) as many boxes as required in each question

1. What roles have you had that involve beak trimming? Circle your current role.
 - Beak trimmer
 - Farm manager
 - Stock attendant
 - Service person
 - Other

2. How many years have you been involved with beak trimming?
 - Less than 5
 - 6 to 10
 - 11 to 15
 - 16 to 20
 - 20 to 30
 - Greater than 30

3. How did you first become involved with beak trimming?
 - Working as a general assistant with a beak trimming crew
 - Helping out family members or friends
 - Working as a stock attendant on an egg farm
 - Providing advice to the egg industry
 - Other

4. How has beak trimming changed during your involvement?
- | | | | |
|---------------------------|--------------------------------|------------------------------------|-----------------------------------|
| • Bird welfare | <input type="checkbox"/> Worse | <input type="checkbox"/> No change | <input type="checkbox"/> Improved |
| • Equipment | <input type="checkbox"/> Worse | <input type="checkbox"/> No change | <input type="checkbox"/> Improved |
| • Working conditions | <input type="checkbox"/> Worse | <input type="checkbox"/> No change | <input type="checkbox"/> Improved |
| • Benefit to the farmer | <input type="checkbox"/> Worse | <input type="checkbox"/> No change | <input type="checkbox"/> Improved |
| • Benefit to the industry | <input type="checkbox"/> Worse | <input type="checkbox"/> No change | <input type="checkbox"/> Improved |

Comments

5. Describe the advantages of beak trimming.
(In your answer outline the benefits to your business, the bird and/or any other factors).
6. Describe the disadvantages of beak trimming.
(In your answer outline any problems your business has experienced (eg. as a result of trimming, quality of trimming and impacts on bird welfare)
7. Discuss the current methods used for trimming and retrimming
(In your answer include age trimming is done, methods used, i.e. block cuts, step etc, variation of method with strain and how this might have changed over the years)
8. Discuss the current costs of trimming and retrimming
(In your answer think about the benefit gained for the cost incurred)
9. Discuss alternatives to trimming.
(In your answer describe how and why you have been able to not trim, and strategies you use to avoid or minimise the need to beak trim)
10. Describe cannibalistic events you have experienced in poultry flocks.
(In your answer give your views on factors that initiated the problem and your strategies to reduce the problem. Provide as much detail as possible).
11. Give your opinion on the future of trimming.
(Include what you think may be practical in the future and what you would require to meet your needs)
12. Provide any other information you feel about beak trimming that would be beneficial for farm managers
13. Any other comments?

Development of the Handbook

The first draft of the handbook was a lengthy document and comprised the following chapters.

1. What is beak trimming?
2. Why are birds beak trimmed?
3. Methods of beak trimming.
4. Code(s) of Practice for beak trimming in Australia and overseas.
5. Best practice methods of beak trimming and retrimming.
6. Training of beak trimmers.
7. Production responses of beak trimmed birds.
8. Welfare of beak trimmed birds.
9. Alternatives to beak trimming.
10. Industry perspectives on beak trimming.

After discussion with Michael Bourke of NSW TAFE and comments from John Barnett, Welfare Program Manager of the Poultry CRC, draft 1 of the handbook was revised. The major changes were to reduce the wordage and focus the book on the target audience of farm managers. The second draft commenced with a chapter, which assessed pecking problems and cannibalism. Then followed a chapter examining beak trimming, the various methods available, the worldwide variation in Codes of Practice concerning beak trimming and training of beak trim operators. The third chapter provided tips for best practice trimming including a checklist for operators. The fourth chapter discussed the major welfare concerns associated with beak trimming. The producer is always concerned about how to manage birds before, during and after beak trimming. Tips and a checklist on these aspects and the likely impact of beak trimming on the performance of birds was discussed in chapter 5, including comments from industry contributors. The final chapter was devoted to providing information to farm managers on the methods they could use to avoid the need to beak trim birds. A glossary and illustrations were included in the handbook.

Draft 2 of the handbook was once again reviewed with some further recommendations taken into consideration. All the welfare issues associated with beak trimming were consolidated into one chapter with information on Codes of Practice and training of beak trimmers included. The final draft had a greater emphasis on ensuring that the target audience of farm managers was addressed in the book. In particular beak trimming issues that farm managers should be aware of are highlighted. At the end of each chapter a list of management checks are provided to remind managers of their responsibilities. A new addition to the handbook was the final chapter that guides farm managers through the decisions that need to be made concerning beak trimming or alternatives to trimming.

RESULTS AND DISCUSSION

Survey

The participation by beak trimmers, farmers, veterinarians and industry consultants in the survey proved to be successful, with a total of 8 questionnaires completed and 6 others who provided verbal information.. The farmers and beak trimmers provided some useful practical input into the survey. Some of the issues that were highlighted by them were;

- Large variation in current hot blade methods of beak trimming.
- Use of lighting, diet and housing to reduce pecking problems.
- The range of factors, which can lead cannibalism.

The beak trim handbook

The HACCP documentation on beak trimming which was initially developed during the RIRDC project to develop the beak trim training manual (SAR-35A) was used to prepare the first draft of the handbook. While the HACCP documents were too long, too detailed and impractical to use as a handbook, they contained very useful factual information, which required editing into a concise easy to read format.

It became clear as the various drafts of the handbook developed that the documentation had to be reduced to manageable sections that could be easily read. Farm managers need to be provided with concise information so that they can make decisions on clear facts. The focus therefore was to prepare 2-3 key dot points at the commencement of each chapter to advise the reader what the chapter is about and then at the end of the chapter to provide a list of management checks. Brief supporting information to back up the management checks are provided to support these management decisions.

In brief the final version of the handbook is set out as follows in the following chapters

Chapter 1. PECKING PROBLEMS - This chapter help farm managers recognise pecking and cannibalism problems in birds. After reading this chapter managers should be able to recognise signs of cannibalism, different types of feather pecking and recognise a bird's position in a pecking order.

Chapter 2. **BEAK-TRIMMING METHODS** - This chapter will help farm managers familiarise themselves with the variety of beak-trimming methods available. They will be able to identify appropriate ages to beak-trim your birds, the most suitable available method and identify the different methods of beak-trimming

Chapter 3. **BEST PRACTICE BEAK-TRIMMING** - This chapter will help farm managers to monitor the quality of a beak-trim and be able to recognise if equipment is set up correctly, identify that birds are handled according to best practice, identify best practice beak-trimming and ensure best practice biosecurity is implemented.

Chapter 4. **MANAGING BEAK-TRIMMED BIRDS** - This chapter helps farm managers to implement best practice management of beak-trimmed birds. It also provides advice on how to identify precautions required during and after beak-trimming, recognise health and production responses of beak-trimmed birds and implement management practices that ensure beak-trimmed birds achieve maximum production.

Chapter 5. **WELFARE OF BEAK-TRIMMED BIRDS** - This chapter help managers to understand the welfare issues involved in beak-trimming and to identify different views concerning beak-trimming, identify Codes of Practice that apply to beak-trimming and understand the role that training can play in maximising bird welfare.

Chapter 6. **INDUSTRY PERSPECTIVES ON BEAK-TRIMMING** - This chapter will help managers to familiarise themselves with current industry views. They will be able to describe industry views on advantages and disadvantages of beak-trimming and the future of beak-trimming.

Chapter 7. **ALTERNATIVES TO BEAK-TRIMMING** - This chapter helps managers to consider strategies that could be used to reduce the need for beak-trimming. They will be able to describe devices that can be used to reduce pecking problems, understand the genetic strategies being used to reduce feather pecking in strains of birds and outline lighting techniques that can reduce feather pecking in birds.

Chapter 8. **STRATEGIES TO MINIMISE CANNIBALISM** - This chapter helps managers to develop a strategy to minimise cannibalism. After reading this chapter managers will be able to document and justify the strategies they plan to use to minimise cannibalism.

In conclusion, this project meets its objective of providing documentation to assist farm managers make decisions that will improve the management and welfare of beak trimmed birds. However, for the outcomes to be realised, it requires industry to ensure the handbook is distributed widely.

IMPLICATIONS

Use of the beak trim handbook is likely to lead to improved standards of beak trimming and bird welfare in the Australian egg industry. The handbook provides advice to farm managers on how to ensure that high standards of beak trimming are achieved and the strategies required to manage beak trimmed birds.

RECOMMENDATIONS

- Consideration should be given to translating the beak trim handbook into other languages. It could be sold to countries like China and India where the layer industries are large and the market potential for the book is high.
- The Poultry CRC is encouraged to develop a communications strategy to inform the whole of industry of the beak trim handbook.

COMMUNICATIONS STRATEGY

The beak trim handbook could be promoted at the;

- 7th European Poultry Welfare Symposium in Lublin, Poland in July 2005
- Australian Poultry Science Symposium in February 2006
- Poultry Information Exchange on Gold Coast in April 2006
- Australian and overseas industry magazines

PUBLICATIONS

Nil to date. To coincide with publication of the handbook, the author will prepare an article for industry journals and an article for the CRC website.

COMPENDIUM SUMMARY

Project Title:	Beak trimming handbook
CRC Project No.:	03-22
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Objectives	<ul style="list-style-type: none"> • To publish a beak trimming handbook for use by Australian producers • Contribute to the Poultry CRC's educational material for the Egg Industry • Improve welfare through improved management of beak-trimmed birds • Encourage use of alternative strategies to reduce the need to beak trim
Background	<p>The need for more consistent beak trimming to improve bird welfare was recognised in Australia in April 2001, when the Egg Program of RIRDC provided funds to develop a training manual for beak trimmers. While the beak trimming training manual describes the procedures that should be followed by beak trimmers to achieve the standards, the manual does not provide details on why, how and when birds are trimmed, methods of trimming, production responses to trimming, welfare of trimmed birds and alternative solutions to avoid trimming. It was recognised that there was a need to prepare an easy to read producer handbook containing this information to improve the management of beak-trimmed birds.</p>
Research	<p>The methodology included a specifically designed questionnaire, which targeted industry specialists with knowledge or experience of beak trimming or using alternatives to trimming. The information provided by industry was used to write a chapter in the handbook that reflected the current state of industry knowledge about beak trimming. HACCP documentation on beak trimming which was initially developed during the development of the beak trim training manual (Bourke et al. (2002). Beak Trimming Training Manual, (RIRDC) was revised into an easy to read handbook with 8 chapters. The target audience for the book was farm managers. Each chapter comprises 2-3 dot points at the commencement of each chapter to advise the reader what the chapter is about and then at the end of the chapter a list of management checks are provided. Brief supporting information to back up the management checks is given in the body of the chapter.</p>
Outcomes	<p>The outcome of the beak trimming handbook project is a resource for farm managers in the Australian Egg Industry (and managers in other countries that beak trim) to support the industry's commitment to maintaining high standards of beak trimming and to support the industry to use methods that do not require beak trimming. Utilisation of the beak-trimming handbook will enable farm managers to manage beak-trimmed birds with greater confidence, improve the standards of beak trimming and improve the welfare of birds.</p>
Implications	<p>Use of the beak trim handbook is likely to lead to improved standards of beak trimming and bird welfare in the Australian egg industry.</p>
Publications	<p>Nil to date. Industry articles in preparation</p>