Developing a model for meat inspection and quality assurance employment outcomes for University graduates and undergraduates

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1.0 EXECUTIVE SUMMARY

In recent years the 'pool' of talent from which to attract future meat inspectors and QA personnel has considerably dwindled. In particular, the recruitment of new meat inspectors to the industry has become a major challenge and threat to the sustainability of the industry.

Across Australia the average age of meat inspectors in many plants is over 60, and there are frequent stories of meat inspectors being encouraged to delay retirement in order to fill urgent gaps. There has also been a significant increase in overseas recruitment. Likewise, the pool of potential QA staff lacks the academic background to implement and maintain increasingly complex HACCP based QA systems.

This two-year project has developed and trialed a model of training whereby undergraduate and graduate animal science or agriculture students receive training as meat inspectors and quality assurance officers. The training was made available to both undergraduate and post graduate students at the Charles Sturt University in Wagga.

Overall this has been a highly successful training program with all but two of the fifteen students completing the *Certificate III in Meat processing (Meat Safety).* All the remaining thirteen students have enrolled in the Certificate IV but to date only four have completed this qualification.

The project was overseen by a technical steering group consisting of representatives from the university, the three participating meat processing companies, Eville and Jones, Verto (RTO) and the Department of Agriculture and Water Resources.

The project commenced with negotiations with Charles Sturt University and resolving the logistical requirements of the course such as insurance, timetabling, travel and the accommodation costs to be covered.

This initial planning stage was followed by an information session at CSU that drew over sixty agriculture undergraduates and from this group there were fifteen students recruited to join the program. It is interesting that 13 of the fifteen were female students.

The training was delivered in two phases. The first was the delivery of the *Certificate III in Meat Processing (Meat Safety)* which involved the industry placements. This Certificate is the minimum qualification required for registration as a meat inspector anywhere in Australia.

The second phase of delivery has involved the students enrolling in the *Certificate IV in Meat Processing (Meat Safety)* that would be undertaken by distance education and the units would be focused on QA training.

For the Certificate III course the students completed an initial one week intensive of face to face instruction on campus followed by approximately 120 hours of on the floor training. Then the course work was finished through a distance education program. The group of students was divided into two with half undertaking the ante and post mortem inspection Unit for Ovine and half taking the comparable bovine inspection Unit. Four of the students voluntarily did both Units.

Following the industry placements needed for the completion of the Certificate III e conducted evaluations of the job placements with both the companies and the students see Appendices 9.2 and 9.3 . Both students and processors provided positive feedback on the industry placements.

Despite the success in getting the students through the *Certificate III in Meat Processing (Meat Safety)* there were, however, significant learnings from this initiative. In future programs, based on this model, will incorporate modifications that address the issues identified by the students.

Many of the students have struggled to complete the course units by distance education. Initially, it was hoped that the students would be completing the Certificate III within six months of commencing. However, the project team established early that this was an unrealistic target. There were a couple of contributing factors.

Firstly, the students were having to concentrate on their undergraduate course work during the university semester and this reduced the time they had to devote to what were extra curricula studies. This was a factor we hadn't anticipated because while they didn't struggle with the content, given their backgrounds, they did struggle with making the hours available.

Secondly and unexpectedly, the team found the students didn't cope well with the flexibility we allowed them in terms of the completion dates for the course work. It has become apparent that the students needed more support and structure around their distance education program.

Interestingly, and perhaps not unexpected, was the students' use of social media and emails to gain support and assistance from RTO staff and other students. In the future training materials and resources will need to be made available in one location on-line rather than on a memory stick. This will enable the course provider to easily update and add to resources over time and the students have the materials on hand at the click of a button.

The shift to making the diseases and conditions library and the exam generator available via an app and accessible via the mobile phone will also enhance the resources available to the students.

The major failing of this project has been to get students to complete the *Certificate IV in Meat Processing (Meat Safety)* with only 4 students completing the Certificate IV course. When quizzed on why they hadn't completed the course they all said a shortage of time was the major issue and the need to work over the summer vacation had slowed them down. However, all said they intended to complete it as this qualification was what would gain them credits to their degrees. The TAFE is funded via state funding to continue to deliver the program to the remaining students.

Vacation employment opportunities were also limited for the students because the majority had not gained their Certificate III qualification by the time the major summer vacation began. However, companies are now looking at using the program to provide relief inspectors.

Of those three program participants who have graduated from CSU two of the three have gained employment in the industry. One undergraduate studying part time has gained employment with the NSW DPI's regulatory arm responsible for overseeing domestic processors.

MINTRAC is intending to continue its communications with and support for the students and

University. MINTRAC will also continue to connect with employers especially those who have expressed interest in the graduates and these include

- Nippon
- JBS
- Teys
- Milton
- Kurri Kurri
- Eville and Jones
- Meat Inspectors Pty Ltd.

This communication will include circulating CVs as the students approach graduation. MINTRAC will also promote the model through the MI and QA network to encourage graduate employment.

2.0 INTRODUCTION

The industry is suffering an ongoing shortage of new recruits who are young, able and qualified for meat safety and quality assurance positions. The aim of this project is to encourage undergraduates to view the meat processing sector as a potential career pathway and to equip university students with the skills to make them "work ready" and attractive to the processing industry.

This two-year project sought to develop and trial a model of training whereby undergraduate University animal/agriculture science students received training as meat inspectors and quality assurance officers.

The rationale was that the industry not only needed to attract candidates who could perform inspection and QA duties on appointment but also those that could develop a career in the industry bringing with them the skills and abilities found in competent graduates. Additionally, graduates with agriculture and animal science qualifications will also have a comprehensive understanding of the supply chain. As companies are increasingly vertically integrated and corporate customers require QA systems to cover livestock production as well as processing there is a requirement for QA managers to have a detailed understanding of all the steps in the supply chain.

Charles Sturt University's Wagga Campus was chosen as the partner for this trial because the students there were:

- studying animal science and livestock courses
- coming from and living in regional centers
- familiar with the concept of and nature of the livestock supply chain.

It was an assumption of this project that it was going to be far easier to attract students to the industry at its regional locations from among a student body that had lived and been educated in

regional Australia.

The long term impact of this project on graduate recruitment will be difficult to assess given the two year time frame of this project. This is in part due to the fact that the majority of students are yet to graduate. However, early indications are positive with three having gained employment in the industry. Only an ongoing engagement by the industry with the University will achieve the long term recruitment patterns that the industry is looking for.

Similarly, it is not possible to assess the long-term career aspirations of the graduates in this two years. One concern is how the industry and its existing personnel will react to incoming graduates who will need to have a different career pathway to that experienced by the bulk of existing personnel.

Existing managers often came up through the ranks spending years working in a wide range of operator positions before becoming leading hands, supervisors and then managers. Graduates will have different expectations which will have to be managed by the current managers.

There is no doubt the industry has a need for capable, educated and competent recruits but the challenge will be how to retain such recruits as this may require a significant change to in-house culture. This project has not assessed the ability of industry to fully utilize graduates if they employ them and this may require educating managers about how to get the most out of graduate recruits.

Similarly, this project does not address the interaction of labour market forces. The project has through the model developed a viable method for increasing the supply of potential employees. The model also informs the demand side of the market by providing an on plant interaction with the potential employees and on a broader scale provides the industry as a whole with contacts with graduates.

What the model does not address is how the demand and supply forces interact. In short it may well be that the existing lack of quality candidates and the high turnover in inspection staff may be a function of the salaries that are being offered. The salaries offered will need to match rates being offered within the industry and in the labour market generally.

3.0 PROJECT OBJECTIVES

The objectives of this project were to:

- develop a model of meat inspection and QA training and recruitment which can be implemented in partnership between Australian Universities and the red meat industry.
- address and resolve a meat inspector and QA recruitment problem affecting the red meat industry in Australia.
- provide university students with a recognized qualification which will enhance their employment prospects into an organized graduate program.

3.1 Develop a model of meat inspection and QA training and recruitment which can be implemented in partnership between Australian Universities and the red meat industry.

This objective informed the project's interaction with the University which allowed us to develop a training model that will enable undergraduates to complete the meat inspection course at the same time as their University studies.

The other objective of this program is to provide the students with a new and comprehensive insight into the processing sector including how they can build a career in the red meat industry. Through industry placements students can also gain understanding of the nature of the career opportunities in an industry with a supply chain that extends from livestock producers in Australia through to 130 importing countries around the world. These insights should increase the number of graduates seeking employment in the red meat industry.

Secondly, the model will allow the industry to assess the usefulness and potential of graduates not only to work as meat inspectors but to build a career in management in the processing sector.

3.2 Address and resolve a meat inspector and QA recruitment problem affecting the red meat industry in Australia.

There are three categories of employers of meat inspectors:

- processing companies that employ their own meat inspectors and includes all the domestic processors (except a few in WA) and some export works
- the Department of Agriculture and Water Resources employs inspectors at some but not all export works
- Third Party Employers who provide meat inspectors to both export and domestic abattoirs.

MINTRAC has generated strategies to inform employers and enable them to access the details of those who will graduate with the required qualifications. However, this can not be a passive exercise for employers and will require some proactivity in terms of them approaching MINTRAC and the students.

This project has also addressed the supply side of the labour market equation by creating a model that allows students to be trained efficiently and cost effectively in meat inspection and QA.

3.3 Provide university students with a recognized qualification which will enhance their employment prospects into an organized graduate program.

This objective required the project team to develop a model that allows for the cost effective training of undergraduates and the placement of trainee inspectors into a range of establishments for practical on the job training.

The model should also be attractive to undergraduates and enable a significant competition rate given that it provides unit credits in their undergraduate course.

4.0 METHODOLOGY

The aim of this project is to encourage undergraduates to view the meat processing sector as a

potential career pathway and to equip university students with the skills to make them "work ready" and attractive to the processing industry.

This project sought to develop and trial a model of training whereby undergraduate animal/agriculture science students received training as meat inspectors and quality assurance officers.

The rationale was that the industry not only needed to attract candidates who could perform inspection and QA duties on appointment but also candidates that could develop a career in the industry bringing with them the skills and abilities found in competent graduates.

Processing companies are increasingly vertically integrated and corporate customers require QA systems to cover livestock production as well as processing. Thus, there is a requirement for QA managers to have a detailed understanding of all the steps in the supply chain. Again, the graduates with agriculture and animal science qualifications bring with them a comprehensive understanding of the supply chain.

Charles Sturt University's Wagga Campus was chosen as the partner for this trial because the students there were:

- studying animal science and livestock courses
- coming from and living in regional centers similar to the location of the majority of abattoirs
- familiar with the concept of and nature of the livestock supply chain.

This initial step in the recruitment of students involved an information session at CSU that attracted over sixty agriculture undergraduates and of these fifteen students were recruited to join the program. The group consisted of the thirteen female and two students.

The selected students were enrolled in the *Certificate III in in Meat Processing (Meat Safety).* They first undertook an intensive week long face to face program which provided the theory training required prior to the on-plant practicum. The group of students was divided into two with eight undertaking the ovine inspection Unit and the other seven taking the bovine inspection Unit. Four students voluntarily did both ovine and bovine inspection.

The practicums involved approximately 120 hours of on the floor training and observation of ante mortem inspections. These practical sessions initially involved standing on the line alongside inspectors and observing the inspection process. Then with time the students started performing some of the inspection tasks and their dispositions were checked by the meat inspector. The on-line inspectors also tutored the students in the identification of diseases and conditions. The RTO tutors ensured the interactions between the company and the students went smoothly as well as providing coaching.

The course work for the Certificate III was finished through a distance education program where students were provided with hard copy and electronic resources. They also completed a number of assignments and assessment tasks. Thirteen of the fifteen students completed the Certificate III.

At this point students were enrolled in the *Certificate IV in Meat Processing (Meat Safety)* and this

course is dominated by quality assurance Units. To date four students have completed the Certificate IV. However, all the students when asked said that they intended to complete Certificate IV as this qualification was what would gain them credits in their degrees. The TAFE is funded via the State Department of Education to continue to deliver the program to the remaining students.

Initially it was envisaged that this qualification would offer a pathway to vacation employment for the students, but this was not an immediate outcome of the project. This was because the majority had not gained their Certificate III qualification by the time the major summer vacation began. However, companies are now looking at using the program to provide relief inspectors.

Of those three program participants who have graduated from CSU two of the three have gained employment in the industry. One undergraduate studying part time has gained employment with the NSW DPI's regulatory arm responsible for overseeing domestic processors.

MINTRAC is intending to continue its communications with and support for the students and University. MINTRAC will also continue to connect employers with the students. Companies that have expressed interest in the graduates include:

- Nippon
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This communication will include circulating CVs as the students approach graduation. MINTRAC will also promote the model through the MI and QA network to encourage graduate employment.

5.0 PROJECT OUTCOMES

The project has largely achieved the objectives that we set out to achieve. The project team has developed a model for delivering meat inspection and QA training to undergraduates at the Charles Sturt University on the Wagga Campus.

The Technical Steering Group (TSG) for the project was able to establish the contacts that the project team need to implement the training program and to attract students. Plus, they facilitated the on-site practical sessions for the students.

The model attracted the requisite number of students in the target group and retained all but two students through to the completion of the Certificate III in Meat Processing (Meat Safety). This is the minimum qualification required to work as a meat inspector throughout Australia.

The delivery plan to have an intensive week of introductory lectures followed by the work placements has proved effective. The students performed well in their work placements and

impressed industry personnel with their enthusiasm. All the participating companies are keen to provide placements for the next intake. The students who had done their work placements at domestic works with slower chain speeds and different and older categories of livestock appreciated the slower speeds to master the inspection process and the opportunity to see a much wider range of diseases and conditions.

In order, to maximise the students benefit from the abattoir placements however it is important to have a good ratio of tutors to students in the plants and a prearranged structure for observing ante mortem inspection. Similarly knife sharpening was an ongoing issue for some of the students.

The students have also succeeded in completing the distance education component of the course although this took them significantly longer than was anticipated. The students seem to require more structure to the self paced study and perhaps would have benefited from a prescribed order of study and set deadlines for each Unit.

All of the 13 remaining students are now enrolled in the *Certificate IV in Meat Processing (Meat Safety) which* is principally focused on quality assurance. Of those enrolled 4 students have now completed this Certificate IV course.

There will be ongoing work to maintain the connection between the industry and the students to maximise the employment opportunities for the students both in the vacations and on their graduation.

The opportunities to roll this model out to other regions with other Universities are promising. MINTRAC has recently secured funding in Victoria to duplicate the CSU model at the Mt Helen Campus of Federation University.

Queensland TAFE South West are keen to implement this model in conjunction with Teys at Beenleigh and Rockhampton. Representatives from Murdoch and New England Universities have also expressed interested in offering similar opportunities to their students.

6.0 DISCUSSION

In summary the project has established that:

- there is an appetite among agricultural undergraduates to undertake VET qualifications in meat inspection and QA as part of their degree programs
- students are able to complete meat inspection courses as extra curricula studies
- regional universities are willing to collaborate with industry to help “work ready” their graduates
- based on a limited sample there is student interest in working in the meat processing sector
- processing companies are willing to make contact with graduates who are keen to have a career in the red meat sector
- processing companies have demonstrated an ongoing commitment to the model

- that students require an extend period of 9 -12 months to complete a *Certificate III in Meat Processing (Meat Safety)* and a similar time for the *Certificate IV in Meat Processing (Meat Safety)*
- RTOs need to ensue adequate tutoring on site to maximise the benefit students receive from the industry placements
- RTOs need to have an elearning strategy if the distance education component of the course is going to effective
- arranging vacation employment opportunities will require a proactive and pre planned strategy on the part of MINTRAC, companies and the students.

7.0 CONCLUSIONS/RECOMMENDATIONS

The project has proved the viability of the model and the student engagement suggests that this is an industry recruitment strategy which that offers real promise. It will however involve the active involvement of employers, universities and industry bodies.

8.0 APPENDICES

8.1 Appendix 1

The SnapShot for the Model Meat Inspection Training.

8.2 Appendix 2

The results of the survey of the companies hosting placements.

8.3 Appendix 3

The results of the student survey with regard their placements

Appendix 1 SnapShot

See separate to Final Report

Appendix 2 Management evaluation of student Placement

Those surveyed:

- Cowra : QA and Meat Inspection Manager Gary Bryant
- Wagga Teys: Eville and Jones General Manager David Jones
- Gundagai Meat Processors: QA Manager David Clapham

Survey Tool

1. Did you find the placements of CSU students at your plant?
   - Poor
   - Too little
   - As expected
   - Good
   - Very good
2. How supportive were your staff to the placement of CSU students?
   - Poor
   - Too little
   - As expected
   - Good
   - Very good
3. How did you find the students attitudes and behaviour?
   - Poor
   - Too little
   - As expected
   - Good
   - Very good
4. Did the RTO & MINTRAC prepare you adequately for the placement?
   - Poor

- Too little
- As expected
- Good
- Very good

5. Would you have other student placements at the plant in the future?

Results:

1. Did you find the placements of CSU students at your plant?
   - *All the plants agreed that student placements were good or very good.*
2. How supportive were your staff to the placement of CSU students?
   - *All the respondents said their employees found the experience a positive experience*
   - *Greater initial briefing of the meat inspectors would help .*
3. How did you find the students attitudes and behaviour?
   - *All the students had worked hard in their placements and had exhibited a positive attitude to the work of an abattoir.*
4. Did the RTO & MINTRAC prepare you adequately for the placement?
   - *The respondents were satisfied with the briefing and preparation but were keen to have the RTO tutors brief their inspectors about how to mentor.*
5. Would you have other student placements at the plant in the future?
   - *All are keen to have other student placements.*

Appendix 3: Student evaluation of industry placement

Those surveyed:

12 of the 15 students were phone interviewed as to their experience with work placements

Survey Tool

1. How did you find the support your received from the RTO tutors?
   - Poor
   - Too little
   - As expected
   - Good
   - Very good
2. Support you received from plant inspectors?
   - Poor
   - Too little
   - As expected
   - Good
   - Very good
3. How hard did you find the work?
   - Poor
   - Too little
   - As expected
   - Good
   - Very good
4. Did you see a variety of diseases?
   - Poor
   - Too little
   - As expected
   - Good

- Very good

5. Did you have trouble completing your practice diary?
6. What would you like changed in your practice sessions?

Results:

Q1. How did you find the support your received from the RTO tutors?

- *Very good when the tutors were there but many said the tutors were not there for all the time.*

Q2. How did you find the support you received from plant inspectors?

- *The general experience was good but two students felt they were left to get on with it.*
- *Very good.*

Q3 How hard did you find the work?

- *Most said that getting used to the chain speed was difficult but keeping knives sharp was the major issue.*

Q4 Did you see a variety of diseases?

- *In general, they found they saw a lot but those who were working at domestic works doing a variety of categories of stock saw much more*
- *One student felt that they saw a lot of different diseases and conditions but that the inspectors didn't always know what it was.*

Q5 Did you have trouble completing your practice diary?

- *The students found it easy to keep their diaries*
- *Some students were not always sure who should sign it especially for ante mortem.*

Q6 What would you like changed in your practice sessions?

- *Overall the students found it a good experience especially those at the domestic works*
- *Many said that more on floor tutoring would have greatly improved the experience.*