



final report

Project code: A.PIA.0150
Prepared by: Dr. Mike Johns
Johns Environmental
Date submitted: May 2010

PUBLISHED BY
Meat & Livestock Australia Limited
Locked Bag 991
NORTH SYDNEY NSW 2059

Environmental issues for QCMPA members

Meat & Livestock Australia acknowledges the matching funds provided by the Australian Government and contributions from the Australian Meat Processor Corporation to support the research and development detailed in this publication.

This publication is published by Meat & Livestock Australia Limited ABN 39 081 678 364 (MLA). Care is taken to ensure the accuracy of the information contained in this publication. However MLA cannot accept responsibility for the accuracy or completeness of the information or opinions contained in the publication. You should make your own enquiries before making decisions concerning your interests. Reproduction in whole or in part of this publication is prohibited without prior written consent of MLA.

Contents

		Page
1	Background	3
2	Environmental Issues	3
3	R&D Thoughts	4
3.1	Handling of Blood	4
3.2	General Guidance	4

1 Background

Queensland Country Meat Processors Association (QCMPA) represent small meat processors, of which there are approximately 60, in Queensland. The State is unusual in having such a high concentration of such facilities – other States generally have few, except for some in South Australia.

An undergraduate (Simon Doull) in the MLA program spent two days in the 2008/09 summer visiting a number of QCMPA processors and provided a brief description of many of the facilities and some environmental matters. I used this report to gain further appreciation of these facilities to supplement Johns Environmental's own experience, which was with one of the larger members – Carey Brothers of Yangan.

Under a grant from MLA, I discussed how environmental matters were handled with 6 processors in May 2010 and subsequently delivered a tailored presentation on environmental issues to the QCMPA Workshop held in Townsville on 15th May 2010. A pdf version of the presentation was subsequently emailed to MLA.

2 Environmental Issues

As a group, the QCMPA processors have relatively few significant environmental issues. They are fortunate in:

- Operating on small throughputs and sometimes only few days/week;
- Being far from major urban centres;

Major issues that tend to arise include:

1. **Disposal of offal and raw material.** None of the processors I spoke to had problems with this material. Two had on-site render plants. One composted the material (Chinchilla). Two plants accessed the AJ Bush & Sons service which picks up blood and offal on a regular basis. This had assisted solving problems of disposal at one facility.
2. **Disposal of Blood.** Blood is a very strong organic material with high nitrogen and chloride levels. Blood was handled differently at each site. Methods used included render, composting, discharge to ponds, or sent off-site for rendering. The sustainable handling of blood is probably an issue for many facilities. ‘
3. **Disposal of wastewater.** Some plants have ponds (Jambour, MacLagan, Sarina) followed by irrigation. The ponds have had a tendency to accumulate solids. Other facilities discharge direct to irrigation (Yangan, Chinchilla, Monto). Either approach is suitable provided care is taken not to overload the land with nutrient. Simon Doull did some calculations regarding pond size for each of 11 facilities. These conclusions should be treated with caution.
4. **Odour** was rarely a problem at most sites, due often to good buffer distances.
5. **Condemns and Deads** were handled in a variety of ways including render, burial or dry composting. QCMPA were the first to use dry composting in this manner and the technique has spread successfully to larger facilities.

Many of these matters are covered in my Workshop presentation.

3 R&D Thoughts

There appeared to be no pressing requirements for R&D in the environmental area. However some value could be obtained from:

3.1 Handling of Blood

Blood is inevitably generated during processing of animals. The amounts produced may not warrant installation of traditional blood processing equipment and facilities may not be able to locate a suitable off- site processor.

Due to its high organic strength and the presence of significant concentrations of nitrogen, chloride and sulphur, blood can be a problem to dispose of in a sustainable manner. Discharge to ponds, compost or soils all can lead to serious short- term (especially odour), or longer term (excessive soil nitrogen and chloride) problems.

There may be value in assisting these processors to find approaches that can assist them in turning the blood into a valuable product at minimum capital cost, or guidelines for its sustainable disposal.

3.2 General Guidance

There is probably some value in producing a targeted, very concise set of fact sheets to do with topics such as:

- Screening wastewater;
- Types of ponds and how to manage them;
- Simple guidelines for irrigation.
- What is in wastewater and useful tests.

I am thinking 1-2 pages with the odd table & picture. This could assist processors.

A note of warning though – many of them complained about the avalanche of “material” that arrives on their email/desk each day. So it could be useful to locate the information on a web- site they can go to when they want the information.