



FSA Update

FSA Consulting
FSA Environmental
FSA Irrigation
Feedlot Services Australia

FSA Update

January - March 2002

FSA - closer links with NCEA

In the past few years, FSA Consulting and the National Centre for Engineering in Agriculture (NCEA) have worked together on a number of projects. These have included research projects such as the Pink Ponds Project (see page 2), training programs such as "Environmental Principles for Piggeries" funded by Australian Pork Limited and the development of Land & Water Management Plans for irrigators in the Queensland section of the Murray Darling Basin (see page 3).

This has been a very successful arrangement and both parties have decided to strengthen the relationship.

FSA Consulting and NCEA have

agreed to an arrangement where each partner is the preferred contractor on appropriate research and training projects. This arrangement will not preclude the partners from working with other groups but will enhance the already-proven team approach.

Improved outcomes for private and public clients are expected.

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Management Guidelines for the re-use of solid by-products

A number of State governments in Australia are developing guidelines for the re-use of solid by-products. Solid by-products include animal manures as well as sludge from effluent treatment processes in animal industries, abattoirs, food processing and sewage treatment plants. The guidelines under development focus on sustainable loading rates for nutrients and heavy metals.

In all states, the guidelines are currently applied to sales of by-products for application off-site. The sustainability of application rates with on-site re-use is generally assessed during licence applications. The main difference between the guidelines in different states is that heavy metal loading rates are not currently assessed for on-site re-use.

For the pig, poultry and feedlot industries, manure concentrations of copper and zinc are those most likely to exceed guideline levels. Anaerobic treatment ponds used in piggeries will particularly concentrate levels of heavy metals in effluent. Heavy metals found in effluent may come from feed, water, supplements provided or from corrosion of building or fencing materials that are in contact with animal manures. For further information contact:



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Pink Piggery Ponds—are they less odorous?

Anaerobic piggery ponds are currently designed to provide a minimal treatment volume based on volatile solids loading rates for a region, plus some allocation for sludge accumulation. This maintenance of active volume is provided to minimise odour generation, but to date no data has been collected on the influence of volatile solids loading rate on pond odour emission rate.



Much of the emissions data collected in the past have not included measurements that provide an indication of which factors most effect pond odour emissions. For this project, data was collected from a number of anaerobic ponds to provide information on odour emissions, including which factors influence odour emission rate. In particular, we tried to determine whether the presence of purple-sulphur bacteria decreased odour emission rate—hence the Pink Ponds Project.

The results were surprising and too complicated to explain here. For further information, go to our website and download the project report (<http://www.fsaconsulting.net/publications.htm>.)

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130 million eggs - and ALL of them broken!



Recently, two of FSA Consulting's long-standing clients wished to move from the fresh egg market into egg processing. This involves a joint-venture development of an egg pulp processing factory. They called on FSA Consulting to obtain the Development Approval.

The factory will wash, break and empty fresh eggs. The white and yolk will then be processed in a variety of ways including drying and freezing. Very high levels of hygiene are required. When fully operational, the factory will break a staggering 130 million eggs per year and produce 880 tonnes of shells. Talk about egg on your face!

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Foreign Affairs

Last year, FSA Consulting employed an exchange student from Canada. Many clients will remember Lisa Stepnuk (pictured) who contributed enthusiastically to various activities including the Farm Dams for the Sugar Industry project.

Well, FSA Consulting is expanding our foreign ventures even further. In May, Jill Roos is arriving from Winnipeg, Manitoba, Canada and Jocelyn Thebaut is coming over from Nantes in France.

If you hear a different accent on the phone, don't be surprised! It might be French.





Land & Water Management Plans—Get them cheap!

FSA Consulting has teamed up with the National Centre for Engineering in Agriculture (NCEA) to deliver Land and Water Management Plans (LWMP) for irrigators in the Queensland Murray Darling Catchment. The project is funded by the National Heritage Trust.

In each plan, emphasis is placed on demonstrating current, and improving future, water use efficiency and environmental sustainability. FSA Consulting currently has openings for irrigators to get these plans done for their farm for a relatively small subsidised fee. Significant subsidies are also available to irrigators for on ground works that improve water use efficiency. For further information contact:



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PRACTICAL PIGGERY ENVIRONMENTAL TRAINING IS AVAILABLE

FSA Consulting has Australian Pork Ltd (APL) funding to run environmental workshops for piggery managers and regulators throughout Australia. “*Environmental Principles for Piggeries*” workshops have recently been run at Young and at Casino. Murray Bridge is the venue for the next workshop. These workshops provide participants with a good understanding of the interactions between piggeries and the environment and ideas for reducing adverse impacts.

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Robyn Tucker and Ian Kruger have recently finalised the APL project to develop “*Environmental Management Plans for Piggeries*” training materials. Participants at a two-day workshop will use these materials to develop an Environmental Management Plan (EMP) for their piggery. The extent of environmental monitoring included in the EMP will depend on the risks the piggery poses to the environment. Sample collection and results interpretation are covered in the workshop.

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Abattoir Irrigation Management Plans

In recent months, FSA Consulting has prepared a number of Irrigation Management Plans for abattoirs in eastern Australia. Environmental Protection Agencies are placing increased pressure on abattoirs and other effluent-producing industries to utilise effluent in a sustainable manner.

The first step in the analysis is to estimate the quantity and quality of effluent produced. FSA Consulting has a growing database of abattoir effluent characteristics and can benchmark performance against other facilities and to world’s best practice.

The next step is to model the hydraulic and nutrient balance of the effluent irrigation over the long term. We use **MEDLI**—**Model for Effluent Disposal using Land Irrigation**. It was developed as a collaborative effort between the Cooperative Research Centre (CRC) for Waste Management and Pollution Control and the Queensland Departments of Primary Industries and Natural Resources and Mines. To find out more about MEDLI, go to:

<http://www.dpi.qld.gov.au/environment/5721.html>

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Staff Profile—Dave Williamson

Dave Williamson recently joined FSA Consulting after spending the past 20 years with the DPI based in various centres of Queensland. From 1994 to June 2001, Dave worked in the Intensive Livestock Environmental Management Services (ILEMS) group of the DPI based in Toowoomba. He was involved in assessing applications for both feedlots and piggeries, as well as conducting site visits and annual inspections. This work gave Dave a good understanding of the legislative requirements of intensive livestock operations.

Since starting work with FSA Consulting, Dave has been compiling piggery and feedlot applications for clients as well as assisting them to understand the processes involved under the various Acts relating to their applications.

Position

Environmental Consultant

Special Work Interests

Environmental monitoring is a field that Dave envisages becoming more important in the future. Feedlots and piggeries have monitoring requirements attached to their environmental licences and are required to undertake this monitoring on an annual basis. Assisting producers to meet their monitoring conditions is an important part of Dave's work.

Leisure Time Interests

If I get time, fishing at Fraser Island is fun. Playing tennis is one of my favourite pastimes.

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Staff and Business Achievements

FSA Consulting moves up in the World!

Due to continued expansion of the practice, we have been desperately in need of more room. So rather than more out, FSA moved up! We have just built a second storey at our Toowoomba office.

Luxury—sheer luxury!

Dr Peter Watts has been appointed to the position of Honorary Associate Professor with the Faculty of Engineering and Surveying at the University of Southern Queensland.



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