



# FSA Update

FSA Consulting  
FSA Environmental  
FSA Irrigation  
Feedlot Services Australia

FSA Update

July-Sept 2002

## FSA Consulting – Out & About

Since our last newsletter, we have been busily involved in “spot the FSA Staffer”. You may have run into us at any of the following industry events:

Megan Howard and Pieter Deinum participated in the National Precision Livestock Farming Workshop in Adelaide.

Robyn Tucker organised a facilitator-training workshop for the new Australian Pork Limited package “*Environmental Management Plans for Piggeries*”. This was held in Sydney on 1 & 2 August. Pieter Deinum and Peter Nicholas were among the trainees.

Robyn Tucker trained in “Principles of Wastewater Treatment” at the International Winter Environmental School at Noosa on 5, 6 and 7 August.

FSA Consulting sponsored the *Burnett Pork Producers Dinner* at Murgon on 18 July. Dave Williamson and Eugene McGahan attended and “a fine night was had by all!”

Pieter Deinum and Megan Howard promoted FSA Consulting’s services at the *South Australian Pork and Poultry Fair* held at Murray Bridge on 15 August. They also participated in a very interesting tour of the Big

River Pork abattoir.

FSA Consulting sponsored Australian Pork Ltd’s “*Uptake 2002*” in Canberra on 26 & 27 August 2002. Robyn Tucker presented a paper entitled “Challenges Facing Environmental Consultants”. Eugene McGahan also attended and clients tell us that he networked hard after the conference dinner!

Megan Howard participated in the Dairy Conversions workshop in Warrnambool on 6 September. The workshop was geared at helping farmers enter the dairy industry.

Dave Williamson will rub shoulders with the feedlot fraternity at the ALFA Industry Field Day and Workshop at Tamworth on 17 & 18 September.

Pieter Deinum and Robyn Tucker will man the FSA stand at the Grenfell Pig Field Days on 27 & 28 September.

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## NEW STAFF

### WE HAVE A NEW ADMINISTRATION TEAM

**Valerie Elbourne** has joined FSA Consulting as our new Administration Manager. Based in the Horsham office, Val will be responsible for processing all our financial transactions.

**Lauren Hackett** has recently joined the FSA Consulting team as a Toowoomba-based Administration Assistant. Lauren is completing a 12 month traineeship while with FSA Consulting and we hope she will continue with us for many years after that.

**WELCOME TO VAL & LAUREN.**



Some of the FSA team at recent “Mexican Pictionary” night—don’t ask!

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## NEW SERVICE FOR PIGGERIES ENVIRONMENTAL CONTROL AND BUILDING DESIGN

FSA Consulting now offers a pig housing evaluation and building design service. This consultancy service is based on thermo-dynamic software developed and know-how gained by **Pieter Deinum**. This unique software allows for the physiological requirements of different pig categories, actual local climatic conditions e.g. temperature and humidity variations, wind and solar radiation, rather than "typical average or book" values. The thermo-dynamic computer model was developed to calculate minimum and maximum ventilation rates, heating and cooling capacities for pig buildings in any location in the Southern Hemisphere.



The consulting process involves the following procedures:

- The producer carefully completes a design questionnaire on his building, he records details of the building, i.e. dimension, building materials, orientation, type(s) of animals housed, feeding and stocking details. This information together with meteorological data provides the input data for the software.
- The software output addresses the following issues:
  - Minimum ventilation rates for CO<sub>2</sub> and moisture control.
  - Minimum heating capacity.
  - Maximum ventilation rate for natural ventilation.
  - Minimum dimensions for the side wall and ridge vent openings.
  - Maximum ventilation rate for evaporative cooling.
  - Cooling capacity.



This information forms the basis for the design of the building and or climate control system. It will indicate the appropriate level of structural insulation, essential configurations of natural ventilated buildings and the most appropriate ventilation systems for given buildings designs. Furthermore the output information is used to specify and select climate control equipment, i.e. number and size of fans, heaters, sizing of air inlets and evaporative cooling systems.

This independent service ensures that the advice is thorough, honest and un-biased from commercial interests. This technically sound, low cost service of thermodynamic assessment has been used to select building designs, construction materials and appropriate equipment for many pig buildings throughout Australia and generated tremendous operational cost savings and animal production improvements.

For further information contact:

**Pieter Deinum:** 08-8522 3965 0427 328 010 Pieter.Deinum@fsaconsulting.net

### FSA CONSULTING PREPARES NATIONAL PIGGERY GUIDELINES

FSA Consulting is currently preparing a draft set of National Piggery Guidelines. Whilst we are consulting with various State regulatory agencies, we also need input from pig producers and any other interested parties.

If you have anything that you would like included in new guidelines, *please contact us:*

Snail mail or Email—we can handle either



### ENVIRONMENTAL MONITORING

Regulatory pressures are continually increasing on all industries that produce waste. Most environmental licences now include various levels of environmental monitoring. This can be time-consuming, expensive and confusing. FSA Consulting can take care of this task for you.

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## Land and Water Management Plans



With the growing crisis in Australia about salinity and inadequate water resources, most States have responded by encouraging the preparation, by water users, of Land and Water Management Plans (LWMPs). These plans go by different names in different States and, at this stage, everyone is trying to understand what should be included in these plans and how they should work. Various degrees of regulatory enforcement are included.

**WATER SHOULD BE USED EFFICIENTLY AND IN A SUSTAINABLE MANNER—BUT HOW !**

Recognising of this uncertainty, the National Centre for Engineering in Agriculture (NCEA) obtained funds from the National Heritage Trust to develop a model for the preparation of LWMPs. To ensure a practical outcome, the NCEA decided to deliver the project by using consultants experienced in irrigation, natural resources and environmental management. FSA Consulting was chosen as one of the consultants.

FSA Consulting took up the challenge and has now developed a model for LWMP based on preparing 12 LWMPs for a range of clients covering surface and spray irrigation, livestock and cropping, fresh water and effluent, good soils and bad. This wide range of real-life circumstances has allowed FSA to develop a holistic model for LWMPs based on site-specific risk assessment.

The Steps in our model are:

- **Determine the short-term and long-term goals for the farming enterprise.**  
Find out what the farmer really wants to achieve on their property.  
Look at environmental sustainability and water use efficiency
- **Undertake a resource assessment for the site.**  
Resources include land area & location, zoning, current & past land use, climate, topography, vegetation, hydrology, flooding, groundwater, soils and existing approvals.
- **Evaluate the existing irrigation infrastructure.**  
Quantify storage capacity, field areas, pump sizes, distribution efficiency, system reliability, water quality.
- **Review current farming practices.**  
Review irrigation management practices, erosion control, soil management, chemical usage.
- **Undertake a Risk Assessment of potential environmental risks and possible water use efficiency opportunities.**

**Environmental Risks:**  
⇒Riparian Zone Degradation  
⇒Flooding Damage  
⇒Soil Erosion  
⇒Surface Water Pollution  
⇒Groundwater Pollution  
⇒Soil Salinity  
⇒Soil Degradation  
⇒Biodiversity



**Water Use Opportunities:**  
⇒Water Loss Reduction:  
⇒In Storages  
⇒In Distribution System  
⇒In-field  
⇒Yield Improvements by:  
⇒Irrigation Uniformity  
⇒Irrigation Scheduling  
⇒Soil Improvement

- **Develop an Action Plan.**  
Having identified High Risks and Good Opportunities, develop a plan to implement changes.
- **Set up a Monitoring and Review process.**
- **Do it all again! - Review and repeat in a couple of years.**

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## Staff Profile—Justin Galloway

**Justin Galloway** is a Soil Scientist with experience in soil and land resource mapping, pedology, salinity assessment and GIS systems. After completing his Applied Science at Massey University in Palmerston North, NZ, Justin moved to the "deep" south and worked as a pedologist for the Topoclimate South project. This project involved the soil mapping of over 800,000 hectares.

He made the big move to Queensland last year to work on the NCEA and NR&M project "Working towards water use efficient irrigation management systems in the Queensland Murray- Darling Basin". The outcome is to provide a framework to review farmer's irrigation efficiency and sustainability and recommend im-

provements.

Since working for FSA Consulting, he has worked on various projects including the preparation of Land and Water Management Plan's and soil investigation covering several intensive livestock industries such as abattoirs, piggeries and feedlots.

**Position:** Soil Scientist

**Special Work Interests:**

Soil and land resource mapping and environmental impact assessment

**Leisure Time Interests:**

Socialising with friends, golf, fishing and motor

**Justin Galloway**

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## Staff News

There's excitement at the office, for the word has passed around  
That Simon, our piggery guru, is engaged,  
And has bought his love a diamond - it was worth a thousand pound....  
.....or thereabouts!  
*After almost four years,  
it's about time!*



Congratulations to  
**Simon and Nickie**  
on their recent engagement.  
Best wishes from everyone at  
FSA!

# FSA Consulting

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