

PO Box 586 Moama 2731
T +61 (0)3 5480 0755 F +61 (0)3 5480 0233
E enquiries@nuffield.com.au W www.nuffield.com.au
A.B.N. 33 092 327 396

2009 SCHOLARSHIP SUPPORTERS

Australian Wool Innovation	Impact Fertilisers
Fisheries Research and Development Corporation	Landmark
Estates of the late RC and EC Cappur Webb	Macquarie Agricultural Services
Geoffrey Gardiner Dairy Foundation	Meat & Livestock Australia
Grain Growers Association	Rabobank
Grains Research and Development Corporation	Rural Finance Corporation
Kondinin Group	Sidney Myer Fund

19 December 2008

Scholar investigates benefits of chicken poo power

By Catherine Norwood

The power of chicken poo is soon to reduce the environmental impact of intensive chicken-meat farming in Western Australia and Nuffield Scholar Rob Kestel has been one of the first Australians to see first-hand the type of pyrolysis plant being proposed for the state.

Mr Kestel visited a pilot pyrolysis plant in Georgia, US, as part of his 2008 Nuffield Scholarship study tour, to see the spent litter from commercial chicken farms being converted to electricity and bio-char.

He says the development proposed for Western Australia, in which he will be a shareholder, will be on a larger scale and will make a number of positive environmental contributions - managing waste and generating beneficial outputs - and will add to Australia's already high standing in the management of environmental issues.

"I wanted to see what (chicken-meat producers in) other countries were doing in terms of environmental management, and I found that Australia stacks up reasonably well," says Mr Kestel, whose Nuffield Scholarship was sponsored by the Rural Industries Research and Development Corporation's Chicken Meat Program.

In Western Australia management of waste has become a vexed issue for chicken-meat producers because the wastes, which are commonly used as fertiliser in the horticulture industry, harbour the biting stable fly *Stomoxys calcitrans*. The use of raw poultry manure from chicken production will be banned in the state from 2010 in an effort to reduce fly populations. Mr Kestel says the impact of stable fly has been exacerbated by urban sprawl expanding into agricultural areas and more intensive livestock production, with people, domestic pets, horses and other livestock all targets for the fly.

The pyrolysis plant is expected to be operating by 2011 on the outskirts of Perth. It will use syngas generated from heating the chicken litter (50 per cent sawdust and 50 per cent droppings) to power a spark ignition gas engine, generating 'green' electricity. The byproduct, known as bio-char, will provide a cleaner, quality fertiliser for horticulturalists and other users. Mr Kestel says one of the best things about the bio-char is that it is carbon negative - actually capturing carbon from the atmosphere - and will allow the plant operators to enter the emissions-trading arena.

Mr Kestel expects to benefit from the plant as it presents an effective way of disposing of wastes from his chicken enterprise at Gingin north of Perth. The pyrolysis plant's development company Blair Fox Generation is part-owned by members of Western Australia's poultry industry, although additional investors are being sought.

During his Nuffield travels Mr Kestel also looked at management systems designed to reduce the impact of the chicken-meat industry on nearby urban populations and says there are some innovations Australia could adopt from the United Kingdom, particularly related to air quality.

“In the new controlled-environment housing we simply exhaust the air from the sheds, but in the UK they have air-cleaning filters. The filters are expensive, they’re about \$2000 per fan, and a shed might have anything from 10 to 15 fans, although in the UK the cost is subsidised.”

He is confident about the future of the chicken-meat industry in Australia, but says he was shocked by the low status of growers in the US. When he visited Alabama, Georgia, Arkansas and Florida, farmers raising chicken were among the lowest ranked in the social and economic order. They were paid less than the cost of actually raising the chickens (during winter) and processors controlled the prices because there were no industry groups among producers to help them strengthen their position.

Mr Kestel says his Nuffield travels have only strengthened his belief in the need for farmers to act as professionals and to support industry groups in order to have a greater involvement in the decision-making process. He has long been active in industry groups, initially as an employee of chicken-meat processors, and for the past 14 years as a grower himself. He is currently a member of the Western Australian Broiler Growers Association executive committee and is deputy to the Western Australian director of the Australian Chicken Growers Council.

He sees challenges for the industry coming from increasingly stringent production standards, and from the need for chicken-meat enterprises to become larger in order to achieve greater efficiencies. Decreasing returns have put on hold his own plans to expand his operation from 175,000 to 400,000 birds.

Mr Kestel says environmental and food safety standards worldwide are getting tougher all the time, with Europe and the UK leading the way. In Australia there was a major tightening of production standards more than five years ago, but the past two years have brought a greater focus on biosecurity with some of the most stringent production requirements in the world now in place.

Australian commercial broiler producers are required to completely disinfect sheds between each six-week production period to remove all risk of salmonella or other bacterial infection in the birds, and all contact with other animals and birds – domestic or wild – must also be eliminated to prevent the spread of disease, such as avian influenza.

ENDS

For more information contact Robert Kestel (08) 9575 2395, mobile 0429 778 560, email robertkestel@bigpond.au

For more information on Blair Fox Generation contact Matthew Rosser (08) 6461 6216, email mrosser@blairfox.com.au

A high resolution photograph of Rob Kestel can be downloaded from the gallery menu link (to media images) at www.nuffield.com.au