

Dishing out the dirt on organic waste

By Don Turner, Condamine Alliance

The mountain of organic fertiliser produced right on their doorstep each year by the booming lot-feeding business is — literally — a mixed blessing for Darling Downs farmers.

A survey of end-users of these animal or plant wastes by the Condamine Alliance shows that while they are valued as a resource, most producers and end users — more than 80 per cent — believe they can be applied with no risk to the environment.

But over-application of the nutrients contained in “recycled organics” — especially high-strength effluents produced by abattoirs, feedlots and piggeries that are irrigated — can have a severe impact on water quality and soil quality, says Condamine Alliance CEO Phil McCullough.

The Alliance has produced a question-and-answer sheet to address the most frequently asked questions about recycled organics and also assessed treatment methods, which are available for download at www.condaminealliance.com.au (“Enhancing Markets for Recycled Organics”).

Condamine Alliance has contracted FSA Consulting to show alternative methods for handling recycled organics — especially effluent — that can reduce the environmental risks for industries and farmers.

FSA consultant Stephen Wiedemann will host a series of workshops and field days over the next three months around the Darling Downs to provide information to end users on how to manage recycled organics in a sustainable way, and to demonstrate alternative methods for re-use, such as composting or evaporation.

The workshops will cover nutrient value, soil health benefits, application rates and issues of concern with recycled organic usage, such as salt and heavy metal contamination.

The first of these workshops, run in Allora recently, was a great success with farmers showing interest in ways to improve sustainable reuse of manure, particularly using manure to offset fertiliser inputs.

“The main message of the day was about estimating manure value and applying it at a rate that will meet crop demands,” says Stephen.

Condamine Alliance will establish an incentive program for producers and end-



A windrow machine turns cotton gin trash windrows while simultaneously wetting the material with effluent as part of a trial at a piggery west of Toowoomba.

users that could involve funding of monitoring equipment, irrigation infrastructure, or solids handling and spreading equipment.

Recycled organics range from animal manures, sludges and effluent to sawdust, cotton trash and straw. In the past, their application in both solid and liquid form has been blamed for pollution in waterways, such as blue-green algae.

Sustainable re-use is the answer to this problem — matching applications to crop or pasture needs and applying the product at the optimal time.

There is also growing interest in composting, which can provide some management benefits for re-use. Contractors have only recently begun to compost and co-compost, with the biggest stumbling block for farmers being price.

Types of manure

Feedlot manure is the most readily available, but it often requires ageing and screening to ensure good spreading distribution. Several feedlots produce aged and screened manure at a cost of \$6–12 per tonne at the feedlot.

Poultry manure is available in limited quantities. It spreads well compared with fresh feedlot manure, but also benefits from time in a stockpile on farm, and ranges from \$20 to \$35 per tonne.

Composted feedlot manure and several other organic products (pig, poultry, bio-solids) that may contain additives such as

sawdust, are available from commercial operators for \$40 to \$60 per tonne.

The survey conducted in 2005 for the Condamine Alliance revealed that at least 363,000 tonnes of solid waste and 7400 megalitres of effluent are produced each year.

It is estimated that the solid material contains 9000, 3600 and 7200 tonnes of N, P and K respectively — and the effluent contains 2500, 600 and 6000 tonnes of N, P and K respectively.

Despite the mountain of waste produced each year, the 2005 survey revealed that the catchment can safely use all of the waste, provided it is handled properly.

If all the solids and effluent were applied uniformly to dryland and irrigated cropping areas (900,631 hectares and 128,682 hectares respectively) this would be a nutrient loading rate of 11, 4 and 13 kg of nitrogen (N), phosphorus (P), and potassium (K) per hectare.

“Crop removal is far in excess of the N, P and K loading rate derived from recycled organic products,” Phil says.

But in reality, application of both solids and liquids is concentrated in small areas adjacent to the site of production and solids are applied at rates between three and 25 tonnes per hectare per year.

Fact sheets on sustainable usage of recycled organics are available from the Condamine Alliance web site www.condaminealliance.com.au or Stephen Wiedemann at FSA Consulting (07) 4632 8230.