Western Port Greenhouse Alliance Agricultural Emissions Project

Idea No: 51 **Footprint Rating:**

Feed Additives

Description: Methane is produced by the methanogen bacteria in the gut of ruminant animals. The use of feed additives in the diets of livestock can help reduce methane emissions and will directly increase production as the formation of methane is a result of food that is not being used by the cow. Tannins, such as those in lotus spp and acacia mearnsii (black wattle) have been shown to decrease methane production by up to 25%. Fats, such as cottonseed oil and saponins (found in Yucca plants) will reduce methane production and methanogen populations.

Environmental Benefits as opposed to the current system

% reduction in GHG emissions:	5.99%
% increase in water efficiency:	2.42%
% reduction in waste to landfill:	0.00%
% increase in production:	6.00%

Benefits: Reduce enteric methane and increase production

Costs: $1,500 in extra feed costs per year

Savings: 13t CO2e per year
71,000 L water
$4980 from increased beef production

Measuring methane emissions from a cow.

Implementation/Monitoring/Reporting

Tannins extracted from the acacia mearnsii (left) and the oil produced from cottonseed are both useful feed additives that reduce methane emissions.

For more information see the following websites:

http://www.mla.com.au/TopicHierarchy/InformationCentre/Environment/Default.htm#mla
http://www.dpi.nsw.gov.au/__data/assets/pdf_file/0019/302266/I-and-I-NSW-methane.pdf
http://asae.frymulti.com/abstract.asp?aid=25512&t=2
http://www.ghgonline.org/methaneruminants.htm

http://img.alibaba.com/photo/100168580/Cotton_Seed_Oil.jpg
http://www.underutilized-species.org/images/species/Acacia%20mearnsii.jpg
http://www.dpi.nsw.gov.au/__data/assets/pdf_file/0019/302266/I-and-I-NSW-methane.pdf