

Feed Wastage: Dollars Down the Drain...

A case study from the APL “Environmental Training Package for Piggery Managers”

Prepared by Robyn Tucker, National Coordinator

Feed wastage in sheds increases the concentration of organic matter and nutrients in effluent or spent bedding. This raises environmental issues. Reducing feed wastage may also have a major effect on the financial performance of a piggery.

This case study is the third of a series modified from the APL “Environmental Training Package for Piggery Managers”. Participants at workshops for the training package work through a series of case studies each highlighting problems and dilemma’s faced by the fictional Farmer MacDonald.

Background Information

Feed wastage is an environmental issue since it increases the concentration of organic matter and nutrients in effluent or spent bedding. Organic matter in effluent is generally treated using an anaerobic pond, sometimes in conjunction with a solids separator (e.g. a screen or screw press) and / or other ponds. For adequate effluent treatment, the capacity of the anaerobic pond needs to be sized in proportion to the organic matter load. In other words, a larger pond is needed if there is more organic matter in the effluent stream. Ultimately, the nutrients in effluent or spent bedding will need to be spread on land. The more nutrients in the effluent or spent bedding, the larger the land area needed for sustainable irrigation or spreading.

Feed wastage is also a serious financial issue since feed is the biggest operational cost at a piggery. From research by the Queensland Department of Primary Industries, feed wastage within sheds can range from 5% to 27% of feed supplied, depending on the type of feed used (meal V pellets), feeding system and class of pigs. Seventy percent of the herds studied wasted over 10% of the feed offered (Willis ND). This is equivalent to tipping one truck of feed in every ten straight down the drain!

The Problem

Farmer MacDonald has compared the feed use and feed conversion efficiency at his 100 sow farrow-to-finish piggery with the performance by others in his recording scheme. Following are his estimated feed intake and feed wastage levels for each class of pigs:

Pig Class	Feed Intake (t/yr)	Feed Wastage (%)	Feed Wastage (t/yr)
Dry sows & boars	83.0	5%	4.15
Lactating sows	28.0	10%	2.80
Suckers	1.5	20%	0.29
Weaners	89.4	20%	17.87
Growers	302.5	10%	30.25
Finishers	201.4	10%	20.14
TOTAL	705.8		75.5

Farmer MacDonald works out the cost of feed wastage (\$/yr) from the annual wastage of each diet type (t/yr) and the diet costs (\$/t):

Pig Class	Feed Wastage (t/yr)	Feed Cost (\$/t)	Feed Wastage Cost (\$/yr)
Dry sows & boars	4.15	\$250	\$1037.50
Lactating sows	2.80	\$300	\$840.00
Suckers	0.29	\$580	\$168.20
Weaners	17.87	\$380	\$6790.60
Growers	30.25	\$276	\$8349.00
Finishers	20.14	\$276	\$5558.64
TOTAL	75.5		\$22,743.94

Assessment

From this data, Farmer MacDonald sees that he is flushing \$22,744 of feed straight down the drain.

Naturally, he wishes to reduce feed wastage to improve his profitability. As a starting point, he decides to try to reduce the feed wastage of weaner pigs to 10%, and the feed wastage of growers and finishers to 5%.

This would produce the following feed use and feed wastage results:

Pig Class	Feed Intake (t/yr)	Feed Wastage (%)	Feed Wastage (t/yr)
Dry sows & boars	83.0	5%	4.15
Lactating sows	28.0	10%	2.80
Suckers	1.5	20%	0.29
Weaners	89.4	10%	8.94
Growers	302.5	5%	15.13
Finishers	201.4	5%	10.07
TOTAL	705.8		41.38

Farmer MacDonald works out the cost of feed wastage (\$/yr) from the annual wastage of each diet type (t/yr) and the diet costs (\$/t):

Pig Class	Feed Wastage (t/yr)	Feed Cost (\$/t)	Feed Wastage Cost (\$/yr)
Dry sows & boars	4.15	\$250	\$1037.50
Lactating sows	2.80	\$300	\$840.00
Suckers	0.29	\$580	\$168.20
Weaners	8.94	\$380	\$3397.20
Growers	15.13	\$276	\$4175.88
Finishers	10.07	\$276	\$2779.32
TOTAL	41.38		\$12,398.10

If Farmer MacDonald can achieve the target performance, he can save himself over \$10,000 per year!

Solutions

Consider using pellets rather than mash.

Consider changing from floor feeding or inefficient feeders. Well-designed and maintained competition feeders tend to have low wastage. Mash fed with single space wet / dry feeders generally produces significantly less wastage than floor feeding of mash. If \$10,000/year can be saved, the payback period may be quite short.

Regularly check and maintain feeders. Incorrect feeder adjustment and damaged or faulty feeders contribute to higher feed wastage levels. Staff may need training in this area.

Regularly check feed to ensure that it is fresh and palatable. Wet feed quickly becomes sour and unpalatable.

Monitor feed use, feed conversion and feed costs continually. Compare results with those of other producers. Participation in a recording scheme that monitors these parameters is usually very worthwhile.

References

This case study is based on the following references:

Little, S. 1998 *Ensuring efficient feed use*, "Australian Pork Newspaper", May 1998.

Willis, S. ND *The extent and economic value of feed wastage in Queensland piggeries*, "Proceedings of Feed Wastage Workshops", Department of Primary Industries, Toowoomba.

This case study is the third of a series condensed from the APL "Environmental Training Package for Piggery Managers". Participants at these workshops work through a series of case studies each highlighting the dilemma's faced by the fictional Farmer MacDonald.

The Environmental Training Package for Piggery Managers is now being presented as a series of workshops throughout Australia. Your group may be eligible for APL funding assistance. For more information, please contact the National Co-ordinator, Robyn Tucker, on 03 – 5381 0709 or 0419 – 787 137.

