

### Treatment of Hog Manure at Van Schepdael Farm

Manure samples were taken from a treated pit and from an untreated pit with similar characteristics as the treated rooms. These samples were then submitted to NorWest Laboratories in Winnipeg, where they were analyzed for nutrient content.

	Non-Treated	BIO4SWINE™	Impact
<b>Nutrients (g/l)</b>			
Total Nitrogen	10	8.3	<b>17% Reduction</b>
Phosphorus	3.14	2.5	<b>20.4% Reduction</b>
Potassium	3.51	2.98	15.1% Reduction
Sulphur	0.61	0.49	19.7% Reduction
Calcium	2.73	2.28	16.5% Reduction
Nitrate	< 0.05	< 0.05	
Ammonium	7.79	5.26	32.5% Reduction
Magnesium	1.02	0.88	13.7% Reduction
Total Organic N	2.21	3.04	<b>37.6% Increase</b>
Sodium	1.03	0.84	18.5% Reduction

From these results we see that there is a decrease in the ammonium level for the **Bio4Swine™** treated room. The decrease in the ammonia level is a positive result as the treated manure will have a reduced odour, especially when applied on fields.

The treated manure also shows a decrease in the total nitrogen which is offset by an increase in organic nitrogen. This suggests that the nitrogen is being converted to organic nitrogen. This will reduce the pollution potential of the manure, as the rate of leaching is less for organic nitrogen than for ammonium or nitrate. This reduction will ensure that the nitrogen will remain in the soil for a longer period of time and will result in a slow release fertilizer with increased plant uptake.



The impact of the treatment is positive. The **Bio4Swine™** treated manure:

- contains significantly less nitrogen which can leach out into groundwater after land application
- contains less Phosphorus which can leach out into groundwater after land application and will theoretically allow more manure to be spread per acre
- contains significantly less ammonia which should reduce odours in the barn and during land application
- contains significantly more Organic Nitrogen which is the preferred form for crop uptake

Excerpts from an email from Joe Van Schepdael detailing pumping history of his lagoon on his hog production facility.

Oct 25/01- 570000 gal.

Oct 18/02- 785000 gal.

Oct 04/03- 965000 gal. Total Nitrogen, Nitrate, Ammonium, 4.4 kg/1000 litres

Nov 11/04- 1,310000 gal.

Apr 29/05- 1,095000 gal. Total Nitrogen, Nitrate, Ammonium, 4.8 kg/1000 litres

I believe that pump out volume increase in 2004 was due to treatment with your product, it released solid sludge from the lagoon.

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