



5072 Vista View Crescent  
Nanaimo B.C. V9V 1L6  
Canada

## **Publications and Reports on the Analysis of Liquid Manures by Near-infrared Spectroscopy**

### **Primary Publications**

- Saeyes, W., P. Darius, and H. Ramon. 2004. Potential for on-site analysis of hog manure using a visual and near infrared diode array reflectance spectrometer. *J. Near Infrared Spectrosc.* 12, 299–310.
- Malley, D.F., L. Yesmin, and R.G. Eilers. 2002. Rapid analysis of hog manure and manure-amended soils using near-infrared spectroscopy. *Soil Sci. Soc. Am. J.* 66: 1677-1686.
- Millmier, A., J. Lorimor, C. Hurburgh Jr., C. Fulhage, J. Hattey, and H. Zhang. 2000. Near-infrared sensing of manure nutrients. *Transactions of the ASAE* 43: 903-908.

### **Non-refereed Publications and Conference Proceedings**

- Dolud, M, H. Andree, and T. Hügle. 2005. Rapid analysis of liquid hog manure using near-infrared spectroscopy in flowing condition. Pp 115 – 122. In S. Cox (ed.) *Precision Livestock Farming '05*. Wageningen Academic Publishers, The Netherlands.
- Dagnew, M. D., T.G. Crowe, and J.J. Schoenau. 2002. Reflectance models for prediction of nutrients in hog manure. AIC 2002 Meeting, CSAE/SCGR Program, Saskatoon, SK, 14-17 July 2002.
- Malley, D.F. 1999. Rapid, accurate, on-site analysis of hog manure: A possibility with near-infrared spectroscopy. *World Wise '99 Conference Proceedings*, Winnipeg MB, 7-8 December 1999, Track 1C on CD Rom
- Malley, D.F., R. G. Eilers, E. Rempel, M. Van Wallegghem, and P.D. Martin. 1999. Rapid analysis of nutrient and salt concentrations in hog manure by near-infrared spectroscopy. *Manure Management '99 Proceedings of a Tri-provincial Conference on Manure Management*. Saskatoon, SK, 22-24 June 1999, p 633-641.

### **Technical Reports**

- Malley, D.F., P.D. Martin, and P.C. Williams. 2005. Performance of a field-portable, in-stream hog manure nutrient sensor prototype in the laboratory. PDK Projects, Inc. December. Revised June 2006. 33 pp.
- Fitzgerald, M.M. and G.J. Racz. 2001. Long-term effects of hog manure on soil quality and productivity. Volume 1. Properties and composition of hog manure samples. Final Report on Project #98-124 prepared for the Agri-Food Research and Development Initiative. 72 pp. April

- Fitzgerald, M.M. and G.J. Racz. 2001. Long-term effects of hog manure on soil quality and productivity. Volume 2. Loadings of various hog manure constituents. Final Report on Project #98-124 prepared for the Agri-Food Research and Development Initiative 66 pp + Appendices 27 pp. April
- Malley, D.F. and P.D. Martin. 2001. Field testing of applicability of two portable near-infrared spectrophotometers for on-site measurement of composition of hog manure. Second Progress Report to CETAC-West. February, 16 pp
- Malley, D.F., P.D. Martin, and L. Dettman. 2001. Analysis of nutrients in hog manure by field-portable near-infrared spectroscopy: Results for the Zeiss Corona® spectrometer. Final Report 3 of 3 to CETAC-West on Manure Demo Project. July, 28 pp.
- Malley, D.F., P.D. Martin, and L. Dettman. 2001. Analysis of minor elements and metals in hog manure by field-portable near-infrared spectroscopy: Results for the Zeiss Corona® spectrometer. Final Report 3 of 3 to Manitoba Livestock Manure Management Initiative Inc. July, 16 pp
- Malley, D.F., P.D. Martin, and T. Moffatt. 2001. Analysis of nutrients in hog manure by field-portable near-infrared spectroscopy: Results for the Textron/Case NH ProSpectra™ Spectrometer. Final Report 2 of 3 to CETAC-West on Manure Demo Project. July, 28 pp
- Malley, D.F., P.D. Martin, and T. Moffatt. 2001. Analysis of minor elements and metals in hog manure by field-portable near-infrared spectroscopy: Results for the Textron/Case NH ProSpectra™ Spectrometer. Final Report 2 of 3 to Manitoba Livestock Manure Management Initiative Inc., July, 17 pp
- Malley, D.F., P.D. Martin, and S.E. Woods. 2001. Analysis of nutrients in hog manure by field-portable near-infrared spectroscopy: Development of a mobile laboratory and results for Foss NIRSystems Inc. Model 6500 spectrophotometer in the laboratory. Final Report 1 of 3 to CETAC-West on Manure Demo Project. July, 33 pp
- Malley, D.F., P.D. Martin, S.E. Woods, and L. Dettman. 2001. Analysis of minor elements and metals in hog manure by field-portable near-infrared spectroscopy: Results for Foss NIRSystems Inc. model 6500 spectrophotometer in the laboratory. Final Report 1 of 3 to Manitoba Livestock Manure Management Initiative Inc., July, 35 pp
- Malley, D.F., P. Badiou, and P. Williams. 2000. Evaluation of mobile, short wave, near-infrared spectrophotometer for hog manure analysis. Report to the Industrial Research Assistance Program, National Research Council of Canada on Project # 375093. April, 23 pp.
- Malley, D.F. and R.S. Currie. 1999. Feasibility study on the rapid analysis of available N and P in hog manure and manure-amended soils by near-infrared spectroscopy. Report to The Manitoba Livestock Manure Management Initiative Inc. and The Prairie Farm Rehabilitation Administration. March, 36 pp.
- Malley, D.F. and L. Vandenbyllaardt in collaboration with G. Racz, M. Fitzgerald, G. Plohman, and J. Hicks. 1999. Feasibility study on the rapid compositional analysis of hog manure by near-infrared spectroscopy. Report to The Manitoba Livestock Manure Management Initiative Inc. on Project 99-01-25. August, 31 pp.

### **Conference Presentations**

- Andree, H., M. Dolud, and P. Tillmann. 2005. Sampling device for liquid manure. Poster at NIR 2005, 12<sup>th</sup> International Conference on Near-InfraRed Spectroscopy. Auckland, New Zealand, 9 – 15 April 2005.

Malley, D.F. and P.D. Martin. 2001. Variability in the nutrient, metal, and minor element composition of hog manure over the pump-out cycle of several manure stores in Manitoba. Poster presented at Livestock Options for the Future conference, 25 - 27 June 2001, Winnipeg MB

Martin, P.D. and D.F. Malley. 2001. Demonstration mobile laboratory built for on-site testing of manure nutrient content. Poster presented at Livestock Options for the Future conference, 25 - 27 June 2001, Winnipeg MB