

Curriculum Vitae

Nicolas Tremblay

Agronomist, Ph. D.

Plant nutrition and crop management specialist

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Studies

B.S.A. (1982), Bio-agronomy, Laval University, Quebec, Canada

Ph.D. (1986), Plant Science, Laval University, Quebec, Canada

Summary

Dr. Tremblay is active at HRDC since 1985. He leads an important research program on crop nitrogen fertilization and he is known for his ability in generating new knowledge for the benefit of the agricultural sector. Dr. Tremblay is currently involved in the variable rate management of N applications, which leads him into the use of remote sensing, geomatics and geostatistics for this very purpose. He has conducted research on the potential of laser-induced fluorescence for the detection of stresses affecting crops. Dr. Tremblay has been solicited as an expert on new technologies in agriculture by the Senate of Canada. His expertise in the production of vegetable transplants is also well known. He leads a team of five research assistants, one postdoctoral fellow, three Ph.D. students and one M.Sc. Dr. Tremblay is adjunct-professor at Laval University, University of Ottawa and Henan's Agricultural University in China and at the Université de Montréal. He has acted as associate-editor (horticulture) for Canadian Journal of Plant Science for six years. He has been President (acting) of the *Commission chimie et fertilité des sols* which is the official body for fertilizer recommendations in Quebec, and has also of its *ad hoc* committee on fertilization of vegetable crops. He is member of: American Society of Agronomy (ASA), Crop Science Society of America (CSSA), Soil Science Society of America (SSSA), International Society of Horticultural Sciences (ISHS), Canadian Society of Horticultural Science (CSHS), *Association québécoise des spécialistes en sciences du sol* (AQSSS). He has been vice-president of the Montreal sections of the *Ordre des agronomes de Québec* for four years.

Selected publications

- **Tremblay, N.**, M.Y. Bouroubi, B. Panneton, P. Vigneault and S. Guillaume. 2010. Space, time, remote sensing and optimal nitrogen fertilization rates - A fuzzy logic approach. GIS Applications in Agriculture. Taylor & Francis Group. Book chapter no 6. In press.
- Chen, P., D. Haboudane, **N. Tremblay**, J. Wang, P. Vigneault, B. Li. 2010. New spectral indicator assessing the efficiency of crop nitrogen treatment in corn and wheat. *Remote Sensing of Environment*. 114: 1987–1997.
- Chen, P., **N. Tremblay**, J. Wang, P. Vigneault, W. Huang and B. Li. 2010. New index for crop canopy fresh biomass estimation [in Chinese]. *Spectroscopy and Spectral Analysis* 30 (2): 512-517.
- Yu, H., **N. Tremblay**, Z. Wang, C. Belec, G. Yang and C. Grant. 2010. Evaluation of Nitrogen Sources and Application Methods for Nitrogen-Saturated Reference Plot Establishment in Corn. *Agronomy Journal* 102:23-30.
- **Tremblay, N.**, Z. Wang, C. Bélec. 2010. Performance of Dualex in Spring Wheat for Crop Nitrogen Status Assessment, Yield Prediction and Estimation of Soil Nitrate Content. *Journal of Plant Nutrition* 33(1): 57-70.
- Samborski, S.M., **N. Tremblay**, and E. Fallon. 2009. Strategies to make use of plant sensors-based diagnostic information for nitrogen recommendations. *Agronomy Journal* 101(4): 800-816.
- **Tremblay, N.**, Z. Wang, B.L. Ma, C. Belec and P. Vigneault. 2009. A comparison of crop data measured by two commercial sensors for variable-rate nitrogen application. *Precision Agriculture* 10(2): 145-161.
- Zebarth, B.J., C.F. Drury, **N. Tremblay** and A.N. Cambouris. 2009. Opportunities for improved fertilizer nitrogen management in production of arable crops in eastern Canada: A review. *Canadian Journal of Soil Science* 89(2), pp. 113-132.
- **Tremblay, N.**, Z. Wang and C. Bélec. 2007. Evaluation of the Dualex for the Assessment of Corn Nitrogen Status. *Journal of Plant Nutrition* 30(7-9), p. 1355-1369.
- Apostol, S.L., A.A. Viau and **N. Tremblay**. 2007. A comparison of Multivavelength Laser Induced Fluorescence Parameters for the Remote Sensing of Nitrogen Stress in Field Cultivated Corn. *Canadian Journal of Remote Sensing* 33(3): 150-161.
- **Tremblay, N.**, and C. Belec. 2006. Adapting nitrogen fertilization to unpredictable seasonal conditions with the least impact on the environment. *Horttechnology* 16:408-412.
- **Tremblay, N.** 2004. Determining Nitrogen Requirements from Crops Characteristics. Benefits and challenges. *Recent Research Development in Agronomy & Horticulture* 1. Chapter 9. p.157-182. ISBN : 81-7736-222-4.

Fellowship

Fellowship “Vegetation fluorescence as a specific crop nitrogen status indicator” granted by the Organisation for Economic Co-operation and Development (OECD). Co-operative research programme: Biological resource Management for Sustainable Agricultural Systems program. The fellowship covered the period of October 17th, 2005 to December 8th 2005 at the Institute for Applied Physics "Nello Carrara" (Florence) of the Italian National Research Council.