

Publications

Please use the following link for the list of publications for 2012.

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Publications between January 1, 2012 and December 31, 2012.

List of all academic staff members:

Emeritus Professors: Estey, R.H.; Buszard, B.

Professors: Dutilleul, P.R.; Smith, D.L.; Watson, A.K.

Associate Professors: Bede, J.; de Blois, S.; Donnelly, D.J.; Jabaji, S.H. (Assoc. Dean – Research); Kushalappa, A.C.; Seguin, P. (Chair); Stewart, K.A. (Post-retirement May 31, 2010); Stromvik, M.V.; Waterway, M.J.

Assistant Professors: Charron, J.B.; Singh, J.

Faculty Lecturers: Begg, C.; Wees, D.

Adjunct Professors: Bertrand, A.

A) Publications in Refereed Journals

DE BLOIS, S.

Kettenring, K., **de Blois, S.**, and Hauber, D. 2012. Moving from a regional to a continental perspective of *Phragmites australis* invasion in North America. *Annals of Botany*. 2012: pls040 (doi: 10.1093/aobpla/pls040).

Taddeo, S., and **de Blois, S.** 2012. Coexistence of introduced and native common reed (*Phragmites australis*) in freshwater wetlands. *EcoScience*. 19: 99-105.

DONNELLY, D.J.

Baig, M.M.Q., Hafiz, I.A., Abbasi, N.A., Yaseen, M., Akram, Z., and **Donnelly, D.J.** 2012. Reduced-stature *Rosa* species through in vitro mutagenesis. *Canadian Journal of Plant Science*. 92: 1049-1055.

Nassar, A.M.K., Sabally, K., Kubow, S., Leclerc, Y.N., and **Donnelly, D.J.** 2012. Some Canadian-grown potato cultivars contribute substantial dietary mineral nutrient content. *Journal of Agricultural and Food Chemistry*. 60: 4688-4696.

DUTILLEUL, P.

- Allaire, S.E., Lange, S.F., Lafond, J.A., Pelletier, B., Cambouris, A.N., and **Dutilleul, P.** 2012. Multiscale spatial variability of CO₂ emissions and correlations with physico-chemical soil properties. *Geoderma*. 170: 251-260.
- Aziz, S., **Dutilleul, P.**, and Kermasha, S. 2012. Lipase-catalyzed transesterification of krill oil and 3,4-dihydroxyphenyl acetic acid in solvent-free medium using response surface methodology. *Journal of Molecular Catalysis B: Enzymatic*. 84: 189-197.
- Carrière, Y., Ellers-Kirk, C., Hartfield, K., Larocque, G., Degain, B., **Dutilleul, P.**, Dennehy, T.J., March, S.E., Crowder, D.W., Li, X., Ellsworth, P.C., Naranjo, S.E., Palumbo, J.C., Fournier, A., Antilla, L., and Tabashnik, B.E. 2012. Large-scale, spatially-explicit test of the refuge strategy for delaying insecticide resistance. *Proceedings of the National Academy of Sciences of the USA*. 109: 775-780.
- Carrière, Y., Goodell, P.B., Ellers-Kirk, C., Larocque, G., **Dutilleul, P.**, Naranjo, S.E., and Ellsworth, P.C. Effects of local and landscape factors on population dynamics of a cotton pest. *PLoS one*. 7: e39862 (doi:10.1371/journal.pone.0039862).
- Haltigin, T.W., Pollard, W.H., **Dutilleul, P.**, and Osinski, G.R. 2012. Geometric evolution of polygonal terrain networks in the Canadian High Arctic: Evidence of increasing regularity over time. *Permafrost and Periglacial Processes*. 23: 178-186.
- Lafond, J.A., Han, L., Allaire, S.E., and **Dutilleul, P.** 2012. Multifractal properties of porosity as calculated from computed tomography (CT) images of a sandy soil, in relation to the relative soil gas diffusion coefficient. *European Journal of Soil Science*. 63: 861-873.
- Manceur, A.M., Beaulieu, J., Han, L., and **Dutilleul, P.** 2012. A multidimensional statistical model for wood data analysis, with density estimated from CT scanning data as an example. *Canadian Journal of Forest Research*. 42: 1038-1049.

JABAJI, S.

- Aliferis, K.A., Copley, T., and **Jabaji, S.** 2012. Gas chromatography-mass spectrometry metabolite profiling of worker honey bee (*Apis mellifera* L.) hemolymph for the study of *Nosema ceranae* infection. *Journal of Insect Physiology*. 58: 1349-1359.

- Aliferis, K.A., and **Jabaji, S.** 2012. FT-ICR/MS and GC-EI/MS metabolomics networking unravels global potato sprout's responses to *Rhizoctonia solani* infection. *PLoS one*. 7: e42576 (doi:10.1371/journal.pone.0042576).
- Aliferis, K.A., and **Jabaji, S.** 2012. Deciphering plant-pathogen interactions applying metabolomics: principles and applications. *Canadian Journal of Plant Pathology*. 34: 29-33.
- Aliferis, K., Cubeta, M., and **Jabaji, S.** 2012. Chemotaxonomy of fungi in the *Rhizoctonia solani* species complex using GC/MS metabolic profiling. *Metabolomics*. 9: 150-169.
- Chennupati, P., Seguin, P., Chamoun, R., and **Jabaji, S.** 2012. Effects of high-temperature stress on soybean isoflavone concentration and expression of key genes involved in isoflavone synthesis. *Journal of Agricultural and Food Chemistry*. 60: 1241-12427.
- Copley, T.R., Chen, H., Giovenazzo, P., Houle, E., and **Jabaji, S.** 2012. Prevalence and seasonality of *Nosema* species in Quebec forager honeybees. *The Canadian Entomologist*. 144: 577-588.
- Pakpour, S., **Jabaji, S.**, and Chenier, M.R. 2012. Frequency of antibiotic resistance in a swine facility 2.5 years after a ban on antibiotics. *Microbial Ecology*. 63: 41-50.

KUSHALAPPA, A.C.

- Kumaraswamy, G.K., **Kushalappa, A.C.**, Choo, T.M., Dion, Y., and Rioux, S. 2012. Differential metabolic response of barley genotypes, varying in resistance, to trichothecene-producing and nonproducing (tri5-) isolates of *Fusarium graminearum*. *Plant Pathology*. 61: 509–521.
- Raghavendra, G., **Kushalappa, A.C.**, Duggavathi, R., Fox, S., and Somers, D.J. 2012. Integrated metabolo-proteomic approach to decipher the mechanisms by which wheat QTL (Fhb1) contributes to resistance against *Fusarium graminearum*. *PLoS one*. 7: e40695 (doi:10.1371/journal.pone.0040695).

SEGUIN, P.

- Amer, S., Hassanat, F., Berthiaume, R., **Seguin, P.**, and Mustafa, A.F. 2012. Effects of water soluble carbohydrate content on ensiling characteristics, chemical composition and in vitro gas production of forage millet and forage sorghum silages. *Animal Feed Science and Technology*. 177: 23-29.
- Amer, S., **Seguin, P.**, and Mustafa, A.F. 2012. Effects of feeding sweet sorghum silage on milk production, nutrient utilization, and ruminal fermentation parameters of lactating dairy cows. *Journal of Dairy Science*. 95: 859–863.
- Chennupati, P., **Seguin, P.**, Chamoun, R., and Jabaji, S. 2012. Effects of high temperature stress on soybean isoflavone concentration and expression of key genes involved in isoflavone synthesis. *Journal of Agricultural and Food Chemistry*. 60: 12421-12427.
- Chung, I.M., Kim, J.W., **Seguin, P.**, Jun, Y.M., and Kim, S.H. 2012. Ginsenosides and phenolics in fresh and processed Korean ginseng (*Panax ginseng* C.A. Meyer): effects of cultivation location, year, and storage period. *Food Chemistry*. 130: 73-83.
- Ker, K., **Seguin, P.**, Driscoll, B.T., Fyles, J.W., and Smith, D.L. 2012. Switchgrass establishment and seeding year production can be improved by inoculation with rhizosphere endophytes. *Biomass and Bioenergy*. 47: 295-301.
- Leblanc, V., Vanasse, A., and **Seguin, P.**, and Bélanger, G. 2012. Sweet pearl millet yields and nutritive value as influenced by fertilization and harvest dates. *Agronomy Journal*. 104: 542-549.
- Odenigbo, A., Rahimi, J., Ngadi, M., Wees, D., Mustafa, A., and **Seguin, P.** 2012. Quality changes in different cultivars of sweet potato during deep-fat frying. *Journal of Food Processing and Technology*. 3: 156.
- Sivesind, E.C., Leblanc, M.L., Cloutier, D.C., **Seguin, P.**, and Stewart, K.A. 2012. Impact of selective flame weeding on onion yield, pungency, flavonoid concentration, and weeds. *Crop Protection*. 39: 45-51.

SINGH, J.

- Ahmad, S., Singh, M., Lamb-Palmer, N. D., Lefsrud, M., and **Singh, J.** 2012. Assessment of genetic diversity in 35 *Pisum sativum* accessions using microsatellite markers. *Canadian Journal of Plant Science*. 92: 1075-1081.

- Khadapanahi, E., Lefsrud, M., Orsat, V., **Singh, J.**, and Warkentin, T. 2012. Study of pea accessions for development of an oilseed pea. *Energies*. 5: 3788-3802.
- Singh, M., and **Singh, J.** 2012. Seed development related expression of ARGONAUTE 4_9 class of genes in barley: possible role in seed dormancy. *Euphytica*. 188: 123-129.

SMITH, D.L.

- Khan, W., Zhai, R., Souleimanov, A., Critchley, A.T., **Smith, D.L.**, and Prithiviraj, B. 2012. A commercial extract of *Ascophyllum nodosum* improves root colonization of alfalfa by its bacterial symbiont sinorhizobium meliloti. *Communications in Soil Science and Plant Analysis*. 43: 2425-2436.
- Wang, N., Khan, W., and **Smith, D.L.** 2012. Soybean global gene expression after application of lipo-chitoooligosaccharide from *Bradyrhizobium japonicum* under sub-optimal temperature. *PLoS one*. 7: e31571 (doi:10.1371/journal.pone.0031571).
- Wang, R., Dai, S., Tang, S., Tian S, Song, Z., Deng, X., Ding, Y., Zou, X., Zhao, Y., and **Smith, D.L.** 2012. Growth, gas exchange, root morphology and cadmium uptake responses of poplars and willows grown on cadmium-contaminated soil to elevated CO₂. *Environmental Earth Sciences*. 67: 1-13.

STRÖMVIK, M.V.

- Archambault, A., and **Strömvik, M.V.** 2012. Evolutionary relationships in *Oxytropis* species, as estimated from the nuclear ribosomal internal transcribed spacer (ITS) sequences point to multiple expansions into the Arctic. *Botany*. 90: 770-779.
- Archambault, A., and **Strömvik, M.V.** 2012. The Y-segment of novel cold dehydrin genes is conserved and codons in the PR-10 genes are under positive selection in *Oxytropis* (Fabaceae) from contrasting climates. *Molecular Genetics and Genomics*. 287: 123-142.

WATERWAY, M.

- Escudero, M., Hipp, A. L. **Waterway, M. J.**, and Valente, L. M. 2012. Diversification rates and chromosome evolution in the most diverse angiosperm genus of the temperate zone (*Carex*, Cyperaceae). *Molecular Phylogenetics and Evolution*. 63: 650-655.

WEES, D.

Odenigbo, A., Rahimi, J., Ngadi, M., **Wees, D.**, Mustafa, A., and Seguin, P. 2012. Quality changes in different cultivars of sweet potato during deep-fat frying. *Journal of Food Processing and Technology*. 3: 1-5.

BERTRAND, A. (ADJUNCT PROFESSOR)

Adekele, R.A., Cloete, T.E., **Bertrand, A.**, and Khasa, D.P. 2012. Iron ore weathering potentials of ectomycorrhizal plants. *Mycorrhiza*. 22: 535-44.

Castonguay, Y., Dubé, M.-P., Cloutier, J., **Bertrand, A.**, Michaud, R., and Laberge, S. 2012. Molecular physiology and breeding at the crossroads of cold hardening improvement. *Physiologia Plantarum*. DOI:10.1111/j.1399-3054.2012.01624.x

Castonguay, Y., Dubé, M.-P., Cloutier, J., Michaud, R. **Bertrand, A.**, and Laberge, S. 2012. Intron-length polymorphism identifies a Y₂K₄ dehydrin variant linked to superior freezing tolerance in alfalfa. *Theoretical and Applied Genetics*. 124: 809-819.

Duceppe, M.-O., **Bertrand, A.**, Pattathil, S., Miller, J., Castonguay, Y., Hahn, M.G., Michaud, R., and Dubé, M.-P. 2012. Assessment of genetic variability of cell wall degradability for the selection of alfalfa with improved saccharification efficiency. *Bioenergy Research*. 5: 904-914.

Dubé, M.-P., Castonguay, Y., Coutier, J., Michaud, J., and **Bertrand, A.** 2012. Characterization of two novel cold-inducible K3 dehydrin genes from alfalfa (*Medicago sativa* L.). *Theoretical and Applied Genetics*. 126: 823-35.

Dhont, C., **Bertrand, A.**, Castonguay, Y., Cooke, E.K., and Isabel, N. 2012. Tree size affects accumulation of carbon and nitrogen metabolites in white spruce seedlings during shot day-induced bud formation. *Botany*. 90: 941-953.

Juge, C., Prévost, D., **Bertrand, A.**, Bipfubusa, M., and Chalifour, F.-P. 2012. Growth and biochemical responses of soybean to double and triple microbial associations with *Bradyrhizobium*, *Azospirillum* and arbuscular mycorrhizae. *Applied Soil Ecology*. 61: 147-157.

Morin, C., Bélanger, G Tremblay, G., **Bertrand, A.**, Castonguay, Y., Drapeau, R., Michaud, R., Berthiaume, R., and Allard, G. 2012. Diurnal variations of nonstructural carbohydrates and nutritive value in timothy. *The Canadian Journal of Plant Science*. 92: 883-887.

Morin, C., Tremblay, G.F., Bélanger, G., **Bertrand, A.**, Castonguay, Y., Drapeau, R., Michaud, R., Berthiaume, R., and Allard, G. 2012. Nonstructural carbohydrate concentration during field wilting of PM- and AM- cut alfalfa. *Agronomy Journal*. 104: 649-660.

Piva, A., **Bertrand, A.**, Bélanger, G., Castonguay, Y., and Séguin, P. Growth and physiological response of timothy to elevated CO₂ and temperature under contrasted nitrogen fertilization. *Crop Science*. 53: 1-12.

B) Publications in Refereed Conference Proceedings

SEGUIN, P.

Bernardes, A., Vanasse, A., Tremblay, G., Bélanger, G., and **Seguin, P.** 2012. Rendement en sucres du millet perlé et du sorgho sucrés et ensilabilité du résidu fourrager. [in French]. 2p. In *Comptes-rendus de la Journée d'Information Scientifique Grandes Cultures*. Drummondville, QC. Feb. 23, 2012.

Tremblay, G., Dos Passos Bernardes, A., Vanasse, A., Bélanger, G., and **Seguin, P.** 2012. Nutritive value of silages made with sweet pearl millet and sweet sorghum forage residues obtained after juice extraction. 2p. In *Proceedings of the XVI International Silage Conference*. Hämeenlinna, Finland. July 2-4, 2012.

SINGH, J.

Singh, J., Singh, S., Tan H-Q., Singh, M., and Kaur, R. 2012. Barley genomics with maize Ac/Ds transposons. In *Proceedings of the 12th European Congress of Agronomy*. Helsinki, Finland, Aug. 24, 2012, pp. 248-249.

C) Others

Book Chapters

DUTILLEUL, P.

Dutilleul, P., Cumming, B. F., and Lontoc-Roy, M. 2012. Autocorrelogram and periodogram analyses of paleolimnological temporal series from lakes in central and western North America to assess shifts in drought conditions. *Tracking Environmental Change Using Lake Sediments: Data Handling and Statistical Techniques*. Springer, Dordrecht, The Netherlands. pp. 523-548.

Publications in Non-Refereed Journals

DE BLOIS, S.

Lavoie, C., Belzile, F. Brisson, J, **de Blois, S.** Dumont, P., Gauthier, G., Hatin, D., Mazerolle, M., and Morin, J. 2012. Le roseau envahisseur : la dynamique, l'impact et le contrôle d'une invasion d'envergure. *Le Naturaliste Canadien*. 136: 33-39.

SEGUIN, P.

Seguin, P. 2012. The effects of crop management on soybean lutein content. *Quebec Farmers Advocate*. 32: 9.