

APPENDIX II – Publications

Please use the following link for the list of publications for 2009–2010.
www.mcgill.ca/plant/publications

Publications between January 1, 2009 and December 31, 2010.

List of all academic staff members

Emeritus Professors: Estey, R.H.; Grant, W.F.

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 & Graduate Education); Kushalappa, A.C.; Seguin, P. (Chair); Stewart, K.A. (post-retirement May 31, 2010); Stromvik, M.; Waterway, M.J.

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

Faculty Lecturers: Begg, C.; McClintock, K. (resigned August 31, 2010); Wees, D.

BEDE, J.

-- Thivierge, K., Prado, A., Driscoll, B.T., Bonneil, E., Thibault, P. and **Bede, J.C.** 2010.

Caterpillar- and salivary-specific modifications of plant proteins. *Journal of Proteome Research* 9: 5887-5895.

-- Afshar, K., Dufresne, P.J., Pan, L., Merx-Jacques, M. and **Bede, J.C.** 2010. Diet-specific salivary gene expression in caterpillars of the beet armyworm, *Spodoptera exigua*. *Journal of Insect Physiology* 56: 1798-1806.

CHARRON, J.

-- **Charron, J.B.**, He, H., Elling, A.A., and Deng, X.W. 2009. Dynamic landscapes of four histone modifications during de-etiolation in Arabidopsis. *The Plant Cell*. 21:3732-3748. Epub 2009 Dec 11. *This paper has been featured in an “In brief” communication (Plant Cell, 21: 3717) by Nancy R. Hofmann (The Plant Cell Science Editor) as a major contribution to the field of plant biology and epigenetics.*

-- Zhou, J., Wang, X., He, K., **Charron, J.B.**, Elling A.A., and Deng, X.W. 2009. Genome-wide profiling of histone H3 lysine 9 acetylation and dimethylation in Arabidopsis reveals correlation between multiple histone marks and gene expression. *Plant Molecular Biology*, 72: 585-595.

DE BLOIS, S.

-- Schmucki, R. and **de Blois, S.** 2009. Pollination and reproduction of a self-incompatible forest herb in hedgerow corridors and forest patches. *Oecologia* 160: 721-733.

-- Vescovi, L., Berteaux, D., Bird, D. and **de Blois, S.** 2009. Freshwater biodiversity versus anthropogenic climate change. Scientific paper of The United Nations World Water Assessment Programme. Water in a changing world. Available online.

<http://unesdoc.unesco.org/images/0018/001850/185075E.pdf>

-- Berteaux, D., **de Blois, S.**, Angers, J-F., Bonin, J., Casajus, N., Darveau, M., Fournier, Humphries, M.M., McGill, B., Larivée, J., Logan, T., Nantel, P., Périé, C., Poisson, F., Rodrigue, D., Rouleau, S., Siron, R., Thuiller, W. and Vescovi, L. 2010. The CC-Bio Project: Studying the effects of climate change on Quebec biodiversity. *Diversity* 2:11:1181-1204.

-- LeBlanc, M.-C., **de Blois, S.** and Lavoie, C. 2010. The invasion of a large lake by the Eurasian genotype of common reed : The influence of roads and residential construction. *Journal of Great Lakes Research* 36: 554-560.

-- Brisson, J., **de Blois, S.** and Lavoie, C. 2010. Roadsides as invasion pathway for common reed (*Phragmites australis*). 2010. *Invasive Plant Science and Management* 3:506-514.

DONNELLY, D.

-- *Ortiz-Medina E., Sosle, V., Raghavan, V. and **Donnelly, D.J.** 2009. A method for intercultural comparison of potato tuber nutrient content using specific tissue weight proportions. *Journal of Food Science*. 74:S117-S181.

-- Camire, M., Kubow, S., and **Donnelly, D.J.** 2009. Potatoes and Human Health. *Critical Reviews in Food Science and Nutrition*. 49:823-840.

DUTILLEUL, P.

-- * **Dutilleul, P.**, Haltigin, T. W., and Pollard, W. H. 2009. Analysis of polygonal terrain landforms on Earth and Mars through spatial point patterns. *Environmetrics* 20:206-220.

-- * Han, L., **Dutilleul, P.**, Prasher, S. O., Beaulieu, C., and Smith, D. L. 2009. Assessment of density effects of the common scab-inducing pathogen on the seed and peripheral organs of potato

during growth using computed tomography scanning data. *Transactions of the American Society of Agricultural and Biological Engineers* 52:305-311.

-- * Jutras, P., Prasher, S. O., and **Dutilleul, P.** 2009. Identification of significant street tree inventory parameters using multivariate statistical methods. *Arboriculture and Urban Forestry* 35:53-62.

-- Pelletier, B., **Dutilleul, P.**, Larocque, G., and Fyles, J. W. 2009a. Coregionalization analysis with a drift for multi-scale assessment of spatial relationships between ecological variables 1. Estimation of drift and random components. *Environmental and Ecological Statistics* 16:439-466.

-- Pelletier, B., **Dutilleul, P.**, Larocque, G., and Fyles, J. W. 2009b. Coregionalization analysis with a drift for multi-scale assessment of spatial relationships between ecological variables 2. Estimation of correlations and coefficients of determination. *Environmental and Ecological Statistics* 16:467-494.

-- Potvin, C., and **Dutilleul, P.** 2009. Neighborhood effects and size-asymmetric competition in a tree plantation varying in diversity. *Ecology* 90:321-327.

-- Haltigin, T. W., Pollard, W. H., and **Dutilleul, P.** 2010. Comparison of ground- and aerial-based approaches for quantifying polygonal terrain network geometry on Earth and Mars via spatial point pattern analysis. *Planetary and Space Science* 58:1636-1649.

-- Marcoux, M., Larocque, G., Auger-Méthé, M., **Dutilleul, P.**, and Humphries, M. M. 2010. Statistical analysis of animal observations and associated marks distributed in time using Ripley's functions. *Animal Behaviour* 80:329-337.

JABAJI, S.

-- Chen, H., Seguin, P. and **Jabaji, S.** 2009. Differential expression of genes encoding the phenylpropanoid pathway upon infection of soybean seedlings by *Rhizoctonia solani*. *Canadian Journal of Plant Pathology*. 31: 356-367.

-- Abbasi, P.A., **Jabaji, S.D.** and G. Lazarovits 2009. Detection of high concentrations of organic acids in fish emulsions and their role in pathogens or disease suppression. *Phytopathology* 99: 274-281.

- Chen, H., L. Constan, P. Seguin, A. Archambault, and **Jabaji-Hare, S.H.** 2009. Gene Expression and Isoflavone Concentrations in Different Cultivars of Soybean Sprouts Treated with Chitosan. *Crop Science*. 49: 224-236.
- Aliferis, K.A. & **Jabaji, S.** 2010. H NMR and GC-MS metabolic fingerprinting of developmental stages of *Rhizoctonia solani* sclerotia. *Metabolomics*. 6: 96-108
- Aliferis, K.A. & **Jabaji, S.** 2010. Metabolite composition and bioactivity of *Rhizoctonia solani* sclerotial exudates. *Journal of Agricultural and Food Chemistry*. 2010. 58: 7604-7615

KUSHALAPPA, A.

- Abu-Nada, Y., **Kushalappa, A.C.**, Prasher, S., Al-Mughrabi, K. and Murphy, A. 2010. Metabolic profiling to phenotype potato cultivars varying in horizontal resistance to leaf infection by *Phytophthora infestans*. *The Americas Journal of Plant Science and Biotechnology* 4: 55-64.
- Bollina V., **Kumaraswamy, K.G.**, **Kushalappa, A.C.**, Choo TM., Dion Y., Rioux S., Faubert D. and Hamzehzarghani H. 2010. Mass spectrometry based metabolomics application to identify quantitative resistance related metabolites in barley against fusarium head blight. *Molecular Plant Pathology* 11:769-782.

SEGUIN, P.

- Sheaffer CC, **Seguin P.** 2009. Kura clover response to irrigation. *Forage and Grazinglands*. doi:10.1094/FG-2009-1231-01-RS.
- Chen H, **Seguin P**, Jabaji SH. 2009. Differential expression of genes encoding the phenylpropanoid pathway upon infection of soybean seedlings by *Rhizoctonia solani*. *Canadian Journal of Plant Pathology*. 31(3):356-367.
- **Seguin P**, Turcotte P, Tremblay G, Pageau D, Liu W. 2009. Tocopherols concentration and stability in early-maturing soybean genotypes. *Agronomy Journal*. 101(6):1153-1159. [Article featured on the American Society of Agronomy Research Highlight webpage on 28 Sept. 2009 and in the November issue of CSA News].
- Sivesind E, Leblanc M, Cloutier D, **Seguin P**, Stewart KA. 2009. Weed response to selective cross-flaming. *Weed Technology*. 23(3):438-443. [Article featured on the issue's cover].

- Murphy SE, Lee EA, Woodrow L, **Seguin P**, Kumar J, Rajcan I, Ablett GR. 2009. Genotype by environment interaction and stability for isoflavone content in soybean. *Crop Science*. 49(4):1313-1321.
- Thériault F, Stewart KA, **Seguin P**. 2009. Incidence of *Pieris rapae* in organic broccoli grown with living mulches under floating row cover. *International Journal of Vegetable Science*. 15(3):218-225.
- Levital T, Mustafa AF, **Seguin P**, Lefebvre G. 2009. Effects of a propionic acid-based additive on short-term ensiling characteristics of corn and resulting dairy cow performance. *Animal Feed Science and Technology*. 152(1-2):21-32.
- Murphy SE, Lee EA, Woodrow L, **Seguin P**, Kumar J, Rajcan I, Ablett GR. 2009. Association of seed and agronomic traits with isoflavone levels in soybean. *Canadian Journal of Plant Science*. 89(3):477-484.
- Thériault F, Stewart KA, **Seguin P**. 2009. Use of perennial legumes living mulches and green manures for the fertilization of organic broccoli. *International Journal of Vegetable Science*. 15(2):142-157.
- Chen H, **Seguin P**, Archambault A, Constan L, Jabaji S. 2009. Gene expression and isoflavone concentrations in soybean sprouts treated with chitosan. *Crop Science*. 49(1):224-236.
- Livingstone J, **Seguin P**, Stromvik M. 2010. An in silico study of the genes for the isoflavonoid pathway enzymes in soybean reveals novel expressed homologues. *Canadian Journal of Plant Science*. 90(4):453-469.
- Sheaffer CC, Moncada KM, **Seguin P**. 2009. Chapter 8: Improving plants. 157-182. In: *Introduction to Agronomy: Food, Crops and Environment*. Sheaffer CC, Moncada KM. Delmar Cengage Learning, Clifton Park, NY, USA. ISBN 1-4180-5037-7.
- **Seguin P**, Tremblay G, Pageau D, Liu W. 2010. Soybean tocopherol concentrations are affected by crop management. *Journal of Agricultural and Food Chemistry*. 58(9):5495-5501.
- Lee S-J, **Seguin P**, Kim J-J, Moon H-I, Ro H-M, Kim R-H, Seo S-H, Kang E-Y, Ahn J-K, Chung I-M. 2010. Isoflavones in Korean soybeans differing in seed coat and cotyledon color. *Journal of Food Composition and Analysis*. 23(2):160-165.
- Morales-Garcia D, Stewart KA, **Seguin P**, Madramootoo C. 2010. Effects of saline drip irrigation and polyethylene mulch on the yield and water use efficiency of bell peppers. *International Journal of Vegetable Science*. 16(1):3-14.

SINGH, J.

- Sattler, S.E., **Singh, J.**, Haas, E. J., Guo, L., Sarath, G., Pedersen, J. F. 2009 Two distinct *waxy* alleles impact the granule-bound starch synthase in sorghum. *Molecular Breeding* 24:349–359.
- *Randhawa, H.¹, **Singh, J.**¹, Lemaux, P.G., Gill, K.S. 2009. Mapping barley *Ds* insertions using wheat deletion lines reveals high insertion frequencies in gene-rich regions with high to moderate recombination rates. *Genome*, 52: 566–575. (¹**joint first authors**).
- *Wong, J., Lau, C., Cai, N., **Singh, J.**, Pedersen, J., Vensel, W. H., Hurkman, W., Lemaux, P., Buchanan, B. 2009. The Interaction between starch and protein affect digestibility in sorghum grain. *Journal of Cereal Science* 49: 73–82.

SMITH, D.

- Wrobel, C., Coulman, B.E. and **Smith, D.L.** 2009. Relationship between seed retention and a folded-leaf trait in reed canarygrass (*Phalaris arundinacea* L.). *Acta Agric Scandinavica Section B (Soil & Plant Science)* 59:279-285.
- Webber, H.A., Madramootoo, C.A., Bourgault, M., Horst, M.G., Stulina, G. and **Smith, D.L.** 2009. Response of two legume crops to soil salinity in gypsiferous soils. *Irrigation and Drainage* 58:586-595.
- Wu, H., Tang, S., Zhang, X., Guo, J., Song, Z., Tian, S., **Smith, D.L.** 2009. Using elevated CO₂ to increase the biomass of a *Sorghum vulgare* × *Sorghum vulgare* var. *sudanense* hybrid and *Trifolium pratense* L. and to trigger hyperaccumulation of cesium. *Journal of Hazardous Materials* 170:861–870.
- Almaraz, J.J., Zhou, X., Mabood, F., Madramootoo, C., Rochette, P., Ma, B-L, **Smith, D.L.** 2009. Greenhouse gas fluxes associated with soybean production under two tillage systems in southwestern. *Quebec Soil & Tillage Research* 104:134-139.
- Almaraz, J.J., Mabood, F., Zhou, X., Madramootoo, C., Rochette, P., Ma, B-L, **Smith, D.L.** 2009. Carbon Dioxide and Nitrous Oxide Fluxes in Corn Grown under Two Tillage Systems in Southwestern Quebec. *Soil Science Society of America Journal* 73:113-119.
- Almaraz, J.J., Mabood, F., Zhou, X., Strachan, I., Ma, B., **Smith, D.L.** 2009. Performance of Agricultural Systems under Contrasting Growing Season Conditions in South-western Quebec. *Journal of Agronomy and Crop Science* 195:319-327.

- Lee, K.D., Gray, E.J., Mabood, F., Jung, W.J., Charles, T., Clark, S.R.D., Ly, A., Souleimanov, A., Zhou, X., **Smith, D.L.** 2009. The class IId bacteriocin thuricin 17 increases plant growth. *Planta* 229:747-755.
- Miransari, M. and **Smith, D.L.** 2009. Rhizobial lipo-chitooligosaccharides and gibberellins enhance barley (*Hordeum vulgare* L.) seed germination. *Biotechnology* 8: 270 – 275.
- Miransari, M. and **Smith, D.L.** 2009. Alleviating salt stress on soybean (*Glycine max* (L.) Merr.) *Bradyrhizobium japonicum* symbiosis, using the signal molecule genistein. *European Journal of Soil Biology* 45:146 – 152.
- Han, L., Dutilleul, P., Prasher, S.O., Beaulieu, C. and **Smith, D.L.** 2009. Assessment of density effects of the common scab-inducing pathogen on the seed and peripheral organs of potato during growth using computed tomography scanning data. *Transactions of the ASABE* 52:305-311.
- Wrobel, C., Coulman, B.E. and **Smith, D.L.** 2009. The potential use of reed canarygrass (*Phalaris arundinacea* L.) as a biofuel crop. *Acta Agric Scandinavica Section B (Soil & Plant Science)* 59:1-18.
- Webber, H.A., Madramootoo, C.A., Bourgault, M., Horst, M.G., Stulina, G. and **Smith, D.L.** 2009. Response of two legume crops to soil salinity in gypsiferous soils. *Irrigation and Drainage* 58: 586-595.
- Webber, H.A., Madramootoo, C.A., Bourgault, M., Horst, M.G., Stulina, G. and **Smith, D.L.** 2010. Adapting the CROPGRO model for saline soils: the case for a common bean crop. *Irrigation Science* 28:317-329.
- Yan, Jia Y., Tang, S., Wang, R., Ju, X., Tu, S. and **Smith, D.L.** 2010. Effects of elevated CO₂ on growth, photosynthesis, elemental composition, antioxidant level, and phytochelatin concentration in *Lolium multiflorum* and *Lolium perenne* under Cd stress. *Journal of Hazardous Materials*. 180:384-94.
- *Beaudette, C., Bradley, R.L., **Smith, D.L.**, Whalen, J., McVetty, P.E.B. and Vessey, K. 2010. Tree-based intercropping maintains canola seed oil yield (*Brassica napus* L.) and reduces soil nitrous oxide emissions. *Agriculture, Ecosystems & Environment* 139:33-39.
- *Bourgault, M. and **Smith, D.L.** 2010. Comparative study of common bean (*Phaseolus vulgaris* L.) and mungbean (*Vigna radiate* (L.) Wilczek) response to seven watering regimes in a controlled environment. *Crop and Pasture Science* 61:918-928.
- Bourgault, M., Madramootoo, C.A., Webber, H.A., Stulina, G., Horst, M.G., **Smith, D.L.** 2010. Effects of deficit irrigation and salinity stress on common bean (*Phaseolus vulgaris* L.) and mungbean (*Vigna radiate* (L.) Wilczek) grown in a controlled environment. *Journal of Agronomy and Crop Science* 196:262-272.

STEWART, K

- Morales Garcia, D., **Stewart, K.A.**, Seguin, P. and C. Madramootoo. 2010. Saline drip irrigation and polyethylene mulch on yield and water use efficiency of bell peppers. *International Journal of Vegetable Science*. 16(1) 2-14.
- Sivesind, E.C., Leblanc, M.L., Cloutier, D.C., Seguin, P. and **Stewart, K.A.** 2009. Weed response to flame weeding at different developmental stages. *Weed Technology* 23(3) 438-443.
- Theriault, F., **Stewart, K.A.** and Seguin, P. 2009. Incidence of *Pieris rapae* in organic broccoli grown with living mulches under row cover. *International Journal of Vegetable Science*. 15(3) 218-226.
- Theriault, F., **Stewart, K.A.** and Seguin, P. 2009. Use of perennial legumes, living mulches and green manures for the fertilization of organic broccoli. *International Journal of Vegetable Science*. 15(2) 142-158.

STROMVIK, M.

- Fauteux, F., and **Strömvik, M.V.** 2009. Seed storage protein gene promoters contain conserved composite DNA motifs in Brassicaceae, Fabaceae and Poaceae. *BMC Plant Biology* 9:126.
- Hakimov, H.A., Verschoor, C.P., Wright, T., Walters, S., Gadish, M., Chiu, D.K.Y., Forsberg, C.W., **Strömvik, M.V.**, Golovan, S.P. 2009. Application of iTRAQ to catalogue the skeletal muscle proteome in pigs and assessment of effects of gender and diet dephytinization. *Proteomics* 9: 4000-4016.
- Viel, C., Ide, C., Cui, X., Farsi, M., Wang, A., Michelutti, R and **Strömvik M.V.** 2009. * Isolation, partial sequencing and phylogenetic analyses of Soybean mosaic virus (SMV) in Ontario and Québec. *Canadian Journal of Plant Pathology* 30: 108-113.
- Livingstone, J.M., Seguin, P., and **Strömvik, M.V.** 2010. An *in silico* study of the genes for the isoflavonoid pathway enzymes in soybean reveals novel expressed homologues. *Canadian Journal of Plant Science* 90: 453-469.

WATERWAY, M.

- ***Waterway, M.J.**, Hoshino, T., Masaki, T. 2009. Phylogeny, species richness, and ecological specialization in Cyperaceae, tribe Cariceae. *Botanical Review* 75: 138-159.

- Flinn, K.F., Gouhier, T.C., Lechowicz, M.J. and **Waterway, M.J.** 2010. The role of dispersal in shaping plant community composition of wetlands within an old-growth forest. *Journal of Ecology* 98: 1292-1299.
- Flinn, K.F., **Waterway, M.J.** and Lechowicz, M.J. 2010. Disjunction between performance and distribution in the sedge *Carex prasina*. *Oecologia* 163: 119-26.
- Consaul, L.L., Gillespie, L.J. and **Waterway, M.J.** 2010. Evolution and polyploid origins in North American Arctic *Puccinellia* (Poaceae) based on nuclear ribosomal spacer and chloroplast DNA sequences. *American Journal of Botany* 97: 324-336.

WATSON, A.

- Venne, J., Beed, F., Avocanh, A. & **Watson, A.** 2009. Integrating *Fusarium oxysporum* f. sp. *strigae* into cereal cropping systems in Africa. *Pest Management Science* 65(5): 572-580.
- Abu-Dieyeh, M.H. & **Watson, A.K.** 2009. Increasing the efficacy and extending the effective application period of a granular turf bioherbicide by covering with jute fabric. *Weed Technology* 23(4):524-530.
- Shaheen, I.Y., Abu-Dieyeh, M.H., Ash, G.J. and **Watson, A.K.** 2010. Physiological characterization of the dandelion bioherbicide, *Sclerotinia minor* IMI 3444141. *Biocontrol Science & Technology* 20(1), 57-76.
- Abu-Dieyeh, M.H., Shaheen, I.Y. & **Watson, A.K.** 2010. Effect of plant age and turfgrass competition on the efficacy of the *Sclerotinia minor* granular bioherbicide on broadleaf plantain and prostrate knotweed. *Biocontrol Science & Technology* 20(2), 213-226.
- Pan, L., Ash, G.J., Ahn, B & **Watson, A.K.** 2010. Development of strain specific molecular markers for the *Sclerotinia minor* bioherbicide strain IMI 344141, *Biocontrol Science & Technology* 20(9), 939-959.

ADJUNCT PROFESSORS

JENNI, S.

- **Jenni, S.** and Emery, G.C. 2009. Estival lettuce. *Canadian Journal of Plant Science*. 89:99-101.

- Rekika, D., Stewart, K.A., Boivin, G. and **Jenni, S.** 2009. Row covers reduce insect populations and damage, and improve early season crisphead lettuce production. *International Journal of Vegetable Science* 15(1):71-82.
- **Jenni S.** and Yan, W. 2009. Genotype by environment interactions of heat stress disorder resistance in crisphead lettuce. *Plant Breeding* 128:374-380.
- **Jenni, S.** and R. Hayes. 2010. Genetic variation, genotype X environment interaction, and selection for tipburn resistance in lettuce in multi-environments. *Euphytica* 171: 427-439.

KHANIZADEH, S.

- **Khanizadeh, S.**, Dubé, C., Groleau, Y., Levasseur, A., Carisse, O., Toussaint, V., Granger, R. and Rousselle G. 2009. 'SJM167' and 'SJM188', two new Winter Hardy Apple Rootstocks. *European Journal of Horticultural Science*. 74 (5). S. 223-226.
- **Khanizadeh, S.**, Groleau, Y., Tsao, R., Yang, R., Alli, I., Prange, R.K., and Demoy, R. 2009. "'Diva' Apple.", *HortScience*, 44(5), 1478-1480.
- Tao, S., **Khanizadeh, S.**, Zhang, H., and Zhang, S.L. 2009. "Anatomy, Ultrastructure and Lignin Distribution of Stone Cells in Two Pyrus Species.", *Plant Science*, 176(3), 413-419.
- Ehsani-Moghaddam, B., **Khanizadeh, S.**, and Sullivan, J.A. 2009. Biochemical components of advanced selections and raspberry cultivars. *Canadian Journal of Plant Science*, 88(1), 175-178.
- **Khanizadeh, S.**, Rekika, D., Ehsani-Moghaddam, B., Tsao, R., Yang, R., Charles, M.T., Sullivan, J.A., Gauthier, L., Gosselin, A., Potel, A.-M., Reynaud, G., and Thomas, É. 2009. Horticultural Characteristics and Chemical Composition of Advanced Raspberry Lines from Quebec and Ontario. *LWT - Food Science and Technology*, 42(4), 893-898.
- Lv, D., Yu, C., Yang, S.J., Qin, S.J., Ma, H.Y., Du, G.D., Liu, G.C., and **Khanizadeh, S.** 2009. Effects of Foliar-Applied L-Glutamic Acid on the Diurnal Variations of Leaf Gas Exchange and Chlorophyll Fluorescence Parameters in Hawthorn (*Crataegus pinnatifida* Bge.). *European Journal of Horticultural Science*, 74(5), 204-209.