

Department of Plant Science

Publications between January 1 and December 31, 2006

List of all academic staff members

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

Professors: Buszard, D.; Dutilleul, P.R.; Smith, D.L. (Chair); Watson, A.K.

Associate Professors: Donnelly, D.J.; Fortin, M.G.; Jabaji, S.H. (Assoc. Dean – Research); Kushalappa, A.C.; Seguin, P.; Stewart, K.A.; Waterway, M.J.

Assistant Professors: Bede, J.; de Blois, S.; Stromvik, M.

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

BEDE, J. (*Bede, J. C., Musser, R.O., Felton, G.W. and Korth, K.L.) Caterpillar herbivory and salivary enzymes decrease transcript levels of *Medicago truncatula* genes encoding early enzymes in terpenoid biosynthesis. *Plant Molecular Biology*, v. 60, 2006, pp. 519-530.

de BLOIS, S. (Roy, V. and de Blois, S.) Using functional traits to assess the role of hedgerow corridors as environmental filters for forest herbs. *Biological Conservation*, v. 130, 2006, pp. 592-603.

--(Dalle, S. and de Blois, S.) Shorter fallow cycles affect the availability of noncrop plant resources in a shifting cultivation system. *Ecology and Society*, v. 11, no. 2, 2006, p. 2. [online] URL: <http://www.ecologyandsociety.org/vol11/iss2/art2/>

--(*Dalle, S., de Blois, S., Caballero, J. and Johns, T.) Integrating analyses of local land-use regulations, cultural perceptions and land-use/land cover data for assessing the success of community-based conservation. *Forest Ecology and Management*, v. 222, 2006, pp. 370-383.

DONNELLY, D. (Supanjani, Habib, A., Mabood, F., Lee, K.D., Donnelly, D.J. and Smith, D.L.) Nod factor enhances calcium uptake by soybean. *Plant Phys. & Biochem.*, v. 44, 2006, pp. 866-872. (NSERC)

--(*Arvin, M.J., Habib, A. and Donnelly, D.J.) Effects of calcium concentration in medium on microtuberization of potato (*Solanum tuberosum* L.). *Iranian J Biotech*, v. 3, 2005, pp. 152-156. This journal was printed behind schedule. (NSERC)

DUTILLEUL, P.R. (Alpargu, G. and Dutilleul, P.) Stepwise regression in mixed quantitative linear models with autocorrelated errors. *Communications in Statistics – Simulation and Computation*, v. 35, 2006, pp. 79-104.

--(Carrière, Y., Ellsworth, P.C., Dutilleul, P., Ellers-Kirk, C., Barkley, V. and Antilla, L.) A GIS-based approach for areawide pest management: The scales of *Lygus hesperus* movements to cotton from alfalfa, weeds, and cotton. *Entomologia Experimentalis et Applicata*, v. 118, 2006, pp. 203-210.

--(Cattaneo, M.G., Yafuso, C., Schmidt, C., Olson, C., Huang, C., Rahman, M., Ellers-Kirk, C., Orr, B., Marsh, S., Antilla, L., Dutilleul, P. and Carrière, Y.) Farm-scale evaluation of the impacts of transgenic cotton on biodiversity, pesticide use, and yield. *Proceedings of the National Academy of Sciences of the USA*, v. 103, 2006, pp. 7571-7576.

--(Larocque, G., Dutilleul, P., Pelletier, B., and Fyles, J.W.) Conditional Gaussian co-simulation of regionalized components of soil variation. *Geoderma*, v. 134, 2006, pp.

1-16.

--(Lontoc-Roy, M., **Dutilleul, P.**, Prasher, S.O., Han, L., Brouillet, T., and Smith, D.L.) Advances in the acquisition and analysis of CT scan data to isolate a crop root system from the soil medium and quantify root system complexity in 3-D space. *Geoderma*, v. 137, 2006, pp. 231-241.

FORTIN, M.G. (Cotton, S., Dufresne, P.J., Thivierge, K., Ide, C. and **Fortin, M.G.**) The VPgPro protein of Turnip mosaic virus: in vitro inhibition of translation from a ribonuclease activity. *Virology*, v. 351, 2006, pp. 92-100.

GRANT, W.F. (**Grant, W.F.** and Owens, E.T.) *Zea mays* assays of chemical/radiation genotoxicity for the student of environmental mutagens. *Mutation Research*, v. 613, 2006, pp. 17-64.

JABAJI, S.H. (Morissette, D., Seguin, P. and **Jabaji-Hare, S.H.**) Expression regulation of the endochitinase gene sechi44 from the mycoparasite *Stachybotrys elegans*. *Can. J. Microbiology*, v. 52, 2006, pp. 1-7

--(Grosch, R., Peth, A., Kluver, A., Schneider, J.H.M., Franken, P., Kofoet, A. and **Jabaji-Hare, S.H.**) *Rhizoctonia solani* AG 1-IB using SCAR primers. *Journal of Applied Microbiology*, v. 102, 2006, pp. 806-819.

--(Dauch, A.M., Ahn, A.L., Seguin, P., Watson, A. and **Jabaji-Hare, S.H.**) Molecular monitoring of wild type and genetically engineered *Colletotrichum coccodes* biocontrol strains in planta. *Plant Disease*, v. 90, 2006, pp. 1504-1510.

--(Dauch, A.L., and **Jabaji-Hare, S.H.**) Metallothionein and bZIP transcription factor genes from velvetleaf and their differential expression following *Colletotrichum coccodes* infection. *Phytopathology*, v. 96, 2006, pp. 1116-1123.

--(Dauch, A.L., Watson, A.K., Seguin, P. and **Jabaji-Hare, S.H.**) Real-time PCR quantification of *Colletotrichum coccodes* DNA in bioherbicide release field soils with normalization for PCR inhibition. *Can. J. Plant Pathology*, v. 28, 2006, pp. 1-6.

--(Stewart, L.I., **Jabaji-Hare, S.H.** and Driscoll, B.T.) Effects of external phosphate concentration on glucose-6-phosphate dehydrogenase gene expression in the arbuscular mycorrhizal fungus *Glomus intraradices*. *Canadian Journal of Microbiology*, v. 52, 2006, pp. 823-830

KUSHALAPPA, A.C. (Moalemiyan, M., Vikram, A., **Kushalappa, A.C.** and Yaylayan, V.) Volatile metabolite profiling to detect and discriminate stem-end rot and anthracnose diseases of mango fruits. *Plant Pathology*, v. 55, 2006, pp. 792-802.

--(Vikram, A., Lui, L.H., Hossain, A. and **Kushalappa, A.C.**) Metabolic fingerprinting to discriminate diseases of stored carrots. *Ann. Appl. Biol.*, v.148, 2006, pp. 17-26.

SEGUIN, P. (Morissette, D.C., **Seguin, P.** and Jabaji-Hare, S.H.) Expression regulation of the endochitinase-encoding gene sechi44 from the mycoparasite *Stachybotrys elegans*. *Canadian Journal of Microbiology*, v. 52, no. 11, 2006, pp. 1103-1109.

--(Al-Tawaha, A.M., **Seguin, P.**) Effects of seeding date, row spacing and weeds on soybean isoflavone concentrations and other seed characteristics. *Canadian Journal of Plant Science.*, v. 86, no. 4, 2006, pp. 1079-1082.

--(Dauch, A.L., Ahn, B., Watson, A.K., **Seguin, P.** and Jabaji-Hare SH.) Molecular monitoring of wild-type and genetically engineered *Colletotrichum coccodes* biocontrol strains in planta. *Plant Disease*, v. 90, no. 12, 2006, pp. 1504-1510.

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- (*Dauch, A.L., Watson, A.K., **Seguin, P.**, and Jabaji-Hare, S.H.) Real-time PCR quantification of *Colletotrichum coccodes* DNA in bioherbicide release field soils with normalization for PCR inhibition. *Canadian Journal of Plant Pathology*, v. 28, no. 1, 2006, pp. 42-51.
- (***Seguin, P.** and Zheng, W.) Potassium, phosphorus, sulfur and boron fertilization effects on soybean isoflavone content and other seed characteristics. *Journal of Plant Nutrition*, v. 29, no. 4, 2006, pp. 681-698.
- (*Hassanat, F., Mustafa, A.F. and **Seguin, P.**) Chemical composition and ensiling characteristics of normal and brown midrib pearl millet harvested at two stages of development in southwestern Québec.. *Canadian Journal of Animal Science*, v. 86, no. 1, 2006, pp. 71-80.
- (***Seguin, P.** and Zheng W.) Phytoestrogens content of alfalfa cultivars grown in eastern Canada. *Journal of the Science of Food and Agriculture*, v. 86, no. 5, 2006, pp. 765-771.
- (*Tremblay, G.F., Brassard, H., Bélanger, G., **Seguin, P.**, Drapeau, R., Brégar, A., Michaud, R. and Allard, G.) Dietary cation anion difference (DCAD) of five cool-season grasses. *Agronomy Journal*, v. 98, no. 2, 2006, pp. 339-348.
- (*Sivesind, E. and **Seguin, P.**) Effects of foliar application of elicitors on red clover isoflavone content. *Journal of Agronomy and Crop Science*, v. 192, no. 1, 2006, pp. 50-54.

SMITH, D.L. (Lontoc-Roy, M., Dutilleul, P., Prasher, S.O., Han, L., Brouillet, T. and **Smith, D.L.**) Advances in the acquisition and analysis of CT scan data to isolate a crop root system from the soil medium and quantify root system complexity in 3-D space. *Geoderma*, v. 137, 2006, pp. 231-241.

- (Mabood, F., Souleimanov, A., Khan, W. and **Smith, D.L.**) Jasmonates induce Nod factor production by *Bradyrhizobium japonicum*. *Plant Physiol. Biochem.*, v. 44, 2006, pp. 759-765.
- (Supanjani, Mabood, F., Habib, A., Donnelly, D. and **Smith, D.L.**) Nod factor enhances calcium uptake by soybean. *Journal of Plant Physiology and Biochemistry*, v. 44, 2006, pp. 866-872.
- (Webber, H.A., Madramootoo, C.A., Bourgault, M., Horst, M.G., Stulina, G. and **Smith, D.L.**) Water use efficiency of common bean and green gram grown using alternate furrow and deficit irrigation. *Agric Water Manag.*, v. 86, 2006, pp. 259-268.
- (Mabood, F., Gray, E.J., Lee, K.D., Supanjani, and **Smith, D.L.**) Exploiting inter-organismal chemical communication for improved inoculants. *Can. J. Plant Sci.*, v. 86, 2006, pp. 951-966.
- (Subedi, K.D., Ma, B.L. and **Smith, D.L.**) Response of leafy and non-leafy maize hybrids to population densities and fertilizer nitrogen levels. *Crop Science*, v. 46, 2006, pp. 1860-1869.
- (Miransari, M., Balakrishnan, P., **Smith, D.L.**, Mackenzie, A.F., Bahrami, H.A., Malakouti, M.J. and Rejali, F.) Overcoming the Stressful Effect of Low pH on Soybean Root Hair Curling using Lipochitooligosaccharides. *Communications in Soil Science and Plant Analysis*, v. 37, 2006, pp. 1103-1110.
- (Supanjani, Lee, K.D., Almaraz, J.J., Zhou, X. and **Smith, D.L.**) Effect of organic N source on growth, LCO production and early soybean nodulation associated by *Bradyrhizobium japonicum*. *Can. J. Microbiol.*, v. 52, 2006, pp. 227-236.
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- (Gray, E.J., Lee, K.D., Souleimanov, A.M., Di Falco, M.R., Zhou, X., Ly, A., Charles, T.C., Driscoll, B.T. and **Smith, D.L.**) A novel bacteriocin, Thuricin 17, produced by PGPR strain *Bacillus thuringiensis* NEB17: isolation and classification. *J. Appl. Micro.*, v. 100, 2006, pp. 545-554.

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--(Mabood, F., Zhou, X., Lee, K.D. and **Smith, D.L.**) Methyl jasmonate, alone or in combination with genistein, and *Bradyrhizobium japonicum* increases soybean (*Glycine max* L.) plant dry matter production and grain yield under short season conditions. *Field Crops Research*, v. 95, 2006, pp. 412-419.

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STEWART, K.A. (Jenni, S., Gamache, I., Cote, J.C. and **Stewart, K.A.**) Plastic mulches and low tunnels to reduce bolting and increase marketable yield of early celery. *Journal of Vegetable Sciences*, v. 12, no. 2, 2006, pp. 57-73.

--(Leblanc, M., Cloutier, D.C. and **Stewart, K.A.**) Rotary Hoe Cultivation in Sweet Corn. *HortTechnology*, v. 16, no. 4, 2006, pp. 583-589.

--(Jenni, S., Rekika, D., Boivin, G. and **Stewart, K.A.**) Use of row covers to reduce insect damage in crisphead lettuce Proceedings of the 33th National Agricultural Plastics Congress, November 2006, San Antonio Texas)

STROMVIK, M. (**Strömvik, M.**, Latour, F., Archambault, A. and Vodkin, L.) Identification and phylogenetic analysis of sequences of Bean pod mottle virus, Soybean mosaic virus and Cowpea chlorotic mottle virus in expressed sequence tag data from soybean. *Canadian Journal of Plant Pathology*, v. 28, 2006, pp. 289-301.

WATERWAY, M.J. (*Smith, T.W., Donaldson, J.T., Wieboldt, T.F., Kauffman, G.L. and **Waterway, M.J.**) The geographical and ecological distribution of the Roan Mountain sedge, *Carex roanensis* (Cyperaceae). *Castanea*, v. 71, 2006, pp. 45-53.

--(Bell, G., Lechowicz, M.J. and **Waterway, M.J.**) The comparative evidence relating to functional and neutral interpretations of biological communities. *Ecology*, v.87, no. 6, 2006, pp. 1378-1386.

WATSON, A.K. (Abu-Dieyeh, M.H. and **Watson, A.K.**). Impact of mowing and weed control on broadleaf weed population dynamics in turf. *Journal of Plant Interactions*, v. 1, no. 4, 2005**, pp. 239-252. (**Paper was too appear in the 2nd volume, issue 1 of the journal (2006) but placed in volume 1 by the publisher due to complete the first issue).

--(Abu-Dieyeh, M.H. and **Watson, A.K.**) Effect of turfgrass mowing height on biocontrol of dandelion with *Sclerotinia minor*. *Biocontrol Science & Technology*, v. 16, no. 5, 2006, pp. 509-524.

--(*Dauch, A.L., **Watson, A.K.**, Séguin, P. and Jabaji-Hare, S.H.) Real-time PCR quantification of *Colletotrichum coccodes* DNA in bioherbicide release field soils with normalization for PCR inhibition. *Canadian Journal of Plant Pathology*, v. 28, no. 1, 2006, pp. 42-51.

--(Dernovici, S.A., Teshler, M.P. and **Watson, A.K.**) Is sunflower (*Helianthus annuus*) at risk to damage from *Ophraella communis*, a natural enemy of common ragweed (*Ambrosia artemisiifolia*)? *Biocontrol Science & Technology*, v. 16, no. 7, 2006, pp. 669-686.

--(Barney, J.N., DiTommaso, A., Baloch, H.A. and **Watson, A.K.**) Fungal infection and soybean competition induce plastic responses in velvetleaf (*Abutilon theophrasti*) growth and reproductive output. *Weed Science*, v. 54, no. 5, 2006, pp. 883-890.

--(Dauch, A.L., Ahn, B., **Watson, A.K.**, Séguin, P. and Jabaji-Hare, S.H.) Molecular monitoring of wild-type and genetically engineered *Colletotrichum coccodes* biocontrol strains *in planta*. *Plant Disease*, v. 90, no. 12, 2006, pp. 1504-1510.

