

# BIOGRAPHY

27/06/2012



Prof. Nicholas Birch

British

## GMO Panel

Education: BSc (Hons) Applied Biology, 1st class, 1978, University of Wales, Cardiff.  
PhD (Entomology), 1983, Southampton University.

## Scientific and risk assessment experience:

- I have 35 years' research experience and lead entomological research in the development of sustainable crop protection using Integrated Pest Management and pest-resistant crop plants.
- My research involves interdisciplinary approaches including the chemical ecology of insect-plant interactions, plant breeding for pest resistance, biocontrol, agroecology of food webs and biosafety of GM crops within IPM (Integrated Pest Management) systems, specialising on target pests and their key natural enemies.
- My main cropping systems currently include protected soft fruit, field vegetables, protected vegetables.
- I have GMO risk assessment experience from Scottish Government, EU (ECOGEN) and Swiss funded (GMO ERA) projects on several pest-resistant GM crops in the U.K., Europe, Kenya, Brazil and Vietnam, covering laboratory to field scale assessments.

## Main scientific publications:

My main areas of publication include chemical ecology, Integrated Pest Management (IPM), agroecology and GM risk assessment.

## My 10 most important publications in these areas include:

Bjorkmam, M., Klingen, I., Birch, A.N.E., Bones, A.M., Bruce, J.A., Johansen, T.J., Meadow, R., Molman, J., Seljasen R., Smart, L.E., Stewart, D., 2011. Phytochemicals of Brassicaceae in plant protection and human health – Influences of climate, environment and agronomic practice. *Phytochemistry* 72:538-556.

Birch, A.N.E., Begg, G.S., Squire, G.R. (2011). How agro-ecological research helps to address food security under new IPM and pesticide reduction policies for global production systems. *Journal of Experimental Botany* 62: 3251-3261.

Birch, A.N.E., Griffiths, B.S., Caul, S., Thompson, J., Heckmann, L.H., Krogh, P.H. & Cortet, J. 2007. The role of laboratory, glasshouse and field scale experiments in understanding the interactions between genetically modified crops and soil ecosystems: A review of the ECOGEN project. *Pedobiologia* 51, 251-260.

Cortet, J., Griffiths, B.S., Bohanec, M., Demsar, D., Andersen, M.N., Caul, S., Birch, A.N.E., Pernin, C., Tabone, E., de Vauflery, A., Ke, X. & Krogh, P.H. 2007. Evaluation of effects of transgenic Bt maize on microarthropods in a European multi-site experiment. *Pedobiologia* 51, 207-218.

Griffiths, B.S., Caul, S., Thompson, J., Birch, A.N.E., Scrimgeour, C.M., Cortet, J., Foggo, A., Hackett, C.A. & Krogh, P.H. 2006. Soil microbial and faunal community responses to Bt maize and insecticide in two soils. *Journal of Environmental Quality* 35, 734-741.

Andow, D.A., Fontes, E.M.G., Hilbeck, A., Johnston, J., Capalbo, D.M.F., Nelson, K.C., Underwood, E., Fitt, G.P., Sujii, E.R., Arpaia, S., Birch, A.N.E., Pallini, A. and Wheatley, R.E. 2006. Supporting risk assessment of Bt cotton in Brazil: synthesis and recommendations. In: Hilbeck, A., Andow, D. and Fontes, E.M.G. (eds.). *Environmental Risk Assessment of Genetically Modified Organisms Volume 2: Methodologies for assessing Bt cotton in Brazil*. CABI Publishing, Wallingford, UK, 346-361.

Griffiths, B.S., Caul, S., Thompson, J., Birch, A.N.E., Scrimgeour, C.M., Andersen, M.N., Cortet, J., Messean, A., Sausse, C., Lacroix, B. & Krogh, P.H. 2005. A comparison of soil microbial community structure, protozoa and nematodes in field plots of conventional and genetically modified maize expressing the *Bacillus thuringiensis* CryIAb toxin. *Plant and Soil* 275, 135-146.

Birch, A.N.E. & Wheatley, R.E. 2005. GM pest-resistant crops: Assessing environmental impacts on non-target organisms. *Issues in Environmental Science* 21, 31-57.

Birch, A.N.E., Geoghegan, I.E., Griffiths, D.W. & McNicol, J.W. 2002. The effect of genetic transformations for pest resistance on foliar solanidine-based glycoalkaloids of potato (*Solanum tuberosum*). *Annals of Applied Biology* 140, 143-149.

Birch, A.N.E., Geoghegan, I.E., Majerus, M.E.N., McNicol, J.W., Hackett, C.A., Gatehouse, A.M.R. & Gatehouse, J.A. 1999. Tri-trophic interactions involving pest aphids, predatory 2-spot ladybirds and transgenic potatoes expressing snowdrop lectin for aphid resistance. *Molecular Breeding* 5, 75-83.