

Publications on GM issues and biosafety assessment

Tynan, J.L., Williams, M.K. and Conner, A.J. 1990. Low frequency of pollen dispersal from a field trial of transgenic potatoes. *Journal of Genetics and Breeding*, 44: 303-305.

Aibara, K., Conner, A.J., Hussein, L.A., Jaffe, W.R., Jonas, D.A., Miller, S.A., Notani N.K., Somogyi, A. and Volgarev, M.N. 1991. *Strategies for assessing the safety of foods produced by biotechnology*. Report of a Joint FAO/WHO Consultation. World Health Organisation, Geneva. 59 pp.

Conner, A.J., Field, R.J. and Foreman M.H. 1991. *Impacts of developing herbicide-resistant plants*. Centre for Resource Management, Lincoln University, Canterbury. 38 pp.

Conner, A.J. 1993. Food safety issues relating to genetic engineering of crop plants. *Agricultural Science*, 6: 36-41.

Monro, J.A., James, K.A.C. and Conner, A.J. 1993. Comparative nutritional evaluation of a transgenic herbicide-resistant potato and the parent cultivar. *FoodInfo Report*, 6: 46 pp.

Field, R.J., Conner, A.J. and Foreman, M.H. 1993. The impact of developing herbicide-resistant crop plants. In: *Proceedings I: 10th Australian Weeds Conference and 14th Asian Pacific Weed Science Society Conference*, Pp. 315-318. Weed Society of Queensland, Brisbane.

Conner, A.J. 1993. Monitoring "escapes" from field trials of transgenic potatoes: A basis for assessing environmental risks. In: *Seminar on Scientific Approaches for the Assessment of Research Trials with Genetically Modified Plants, Jouy-en-Josas, France, April 1992*, Pp. 33-39. Organisation for Economic Co-operation and Development, Paris.

Conner, A.J. 1994. Method 51. In: *Compendium of Methods for Monitoring Organisms in the Environment, OECD Environmental Monographs*, 91: 138-140.

Conner, A.J. 1994. Analysis of containment and food safety issues associated with the release of transgenic potatoes. In: W. R. Belknap, M. E. Vayda and Park, W. D. (Eds), *The Cellular and Molecular Biology of Potatoes, 2nd edition*, Pp 245-264. CAB International, Wallingford.

Conner, A.J. 1995. Biosafety assessment of transgenic potatoes: environmental monitoring and food safety evaluation. In: D. D. Jones (Ed.), *Proceedings of the 3rd International Symposium on the Biosafety Results of Field Tests of Genetically Modified Plants and Microorganisms*, Pp 245-262. University of California, Oakland.

Conner, A.J. 1995. Biosafety evaluation of transgenic asparagus. In: D.D. Jones (Ed.), *Proceedings of the 3rd International Symposium on the Biosafety Results of Field Tests of Genetically Modified Plants and Microorganisms*, Pp 363-369. University of California, Oakland.

Conner, A.J. and Field, R.J. 1995. Herbicide-resistant crops: A new approach to an old problem or a radical new tool? In: G.D. McLean and G. Evans (Eds),

Herbicide-resistant crops and pastures in Australian farming systems, Pp 53-71. Bureau of Resource Sciences, Canberra.

Conner, A.J. 1995. Case study: food safety evaluation of transgenic potato. In: *Applications of the principles of substantial equivalence to the safety evaluation of foods or food components from plants derived by modern biotechnology*, WHO/FNU/FOS/95.1, Pp 23-35. World Health Organisation, Geneva.

Conner, A.J. and Abernethy, D.J. 1996. Genetic engineering of asparagus: Assessment of methods, field testing and food safety considerations. *Acta Horticulturae*, 415: 51-58.

Conner, A.J. and Dale, P.J. 1996. Reconsideration of pollen dispersal data from field trials of transgenic potatoes. *Theoretical and Applied Genetics*, 92: 505-508.

Conner, T. 1997. What are the environmental effects of genetically modified plants? In: *Plant biotechnology talking technology conference: final report and proceedings from the conference, Wellington, 22-24 August 1996*, Pp. 55-58. Ministry of Agriculture and Fisheries, Wellington.

Conner, A.J. 1997. Genetically engineered crops: environmental and food safety issues. *The Royal Society of New Zealand Miscellaneous series*, No. 39: 34 pp.

Conner, A.J., Jacobs, J.M.E. and Genet, R.A. 1997. Transgenic potatoes versus "traditional" potatoes: what's the difference? In: G.D. McLean, P.M. Waterhouse, G. Evans and M.J. Gibbs (Eds), *Commercialisation of transgenic crops: risk, benefit and trade considerations*, Pp 23-36. Cooperative Research Centre for Plant Science and Bureau of Resource Sciences, Canberra.

Conner, T., Jacobs, J. and Genet, R. 1997. Safe? Unsafe? *Commercial Grower*, 52 (4): 20-22.

Conner, A.J. 1997. Gene introgression via genetic engineering and traditional breeding: are the benefits and risks any different for crop plants? *The Royal Society of New Zealand, Miscellaneous Series*, No. 46: 19-25.

Conner, A.J., Jacobs, J.M.E., Christey, M.C. and Savage, G.P. 1997. Food from genetically modified crops: what is all the fuss about? *Proceedings of the Nutrition Society of New Zealand*, 22: 49-61.

Bourdôt, G., Conner, T., Jenkins, T. 1999. *Ecological risks and managerial consequences of Roundup Ready oilseed rape in New Zealand*. New Zealand Institute for Crop & Food Research, Christchurch, New Zealand. 67pp.

Conner, A.J. and Jacobs, J.M.E. 1999. Genetic engineering of crops as a potential source of genetic hazard in the human diet. *Mutation Research*, 443: 223-234.

Conner, A.J. 2000. Crops: food, environment and ethics. In: R. Prebble (Ed.), *Designer Genes*. Pp 141-151, Dark Horse Publishing Ltd, Wellington.

Conner, A.J. and Jacobs, J.M.E. 2000. Food risks from transgenic crops in perspective. *Nutrition*, 16: 709-711.

Jacobs, J. and Conner, T. 2000. Genetic engineering of crops: a basis for improved assurances of food safety. *New Zealand Dietetic Association Conference 2000, Proceedings Number 5*: 42-44. Reprinted in *The New Zealand Garden Journal*, 4 (2): 7-10; and reprinted as: Safer food for the new millennium in *Food Technology in New Zealand*, 35 (1): 7-9.

Jenkins, T.E., Conner, A.J. and Frampton, C.M. 2001. Investigating gene introgression from rape to wild turnip. *New Zealand Plant Protection*, 54: 101-104.

Davidson, M., Reader, J. and Conner, T. 2001. Field performance of selected GM potato lines. *Grower*, 56 (11): 30-32.

Christey, M.C. and Woodfield, D. 2001. Coexistence of genetically modified and non-genetically modified crops. Crop & Food Confidential Report No. 427. <http://www.mfe.govt.nz/publications/organisms/coexistence-feb01.pdf>

Davidson, M.M., Jacobs, J.M.E., Reader, J.K., Butler, R.C., Frater, C.M., Markwick, N.P., Wratten, S.D. and Conner, A.J. 2002. Development and evaluation of potatoes transgenic for a *cry1Ac9* gene conferring resistance to potato tuber moth. *Journal of the American Society of Horticultural Science*, 127: 590-596.

Cameron, P. J., Walker, G. P., Wallace, A. R., Wigley, P. J. 2002. Movement of potato moth estimated by mark-recapture experiments. *New Zealand Plant Protection*, 55: 177-181.

Jacobs, J., Conner, T. and Genet, R. 2002. Gene technologies for potato breeding. *Grower*, 57 (5): 34-35.

Conner, T. 2002. NZ can never be 100% GE-free. *The Christchurch Press*, 10 August 2002, p. A9. Reprinted as: Why NZ can never be GE-free, in *Rural News*, 5 August 2002; and Why NZ can not be 100% GE-Free, in *Canterbury's Digest*, Spring 2002, p. 24.

Davidson, M.M., Takla, M.F.G., Reader, J.K., Butler, R.C., Wratten, S.D. and Conner, A.J. 2002. Evaluation of field grown potato lines transgenic for a *cry1Ac9* gene conferring resistance to potato tuber moth. *New Zealand Plant Protection*, 55: 405-410.

Bezar, H.J. and Conner, A.J. 2002. GM foods: evolution or revolution? *New Zealand Dietetic Association Conference Proceedings 2002*: 90-94.

Conner, T. 2003. Toad tale an "urban myth". *The Christchurch Press*, 4 January 2003, p. A9. Reprinted as: A GE urban myth that has grown to become a "fact", *The New Zealand Herald*, 7 January 2003; Challenging the myth in anti-GM stance, *Otago Daily Times*, 9 January 2003; Toad gene myth rejected, in *Food Technology in New Zealand*, 39(1) 3-4; Toad myth finally debunked, in *Horticulture News*, 25(3) p. 8; Potato and toad claw soup, in *Grower* 58 (7) 39-40.

Nap, J.P., Metz, P.L.J., Escaler, M. and Conner, A.J. 2003. The release of genetically modified crops into the environment: I. Overview of current status and regulations. *The Plant Journal*, 33: 1-18.

Conner, A.J., Glare, T.R., and Nap, J.P. 2003. The release of genetically modified crops into the environment: II. Overview of ecological risk assessment. *The Plant Journal*, 33: 19-46.

Davidson, M.M. and Conner, A.J. 2003. *Solanum* weeds as hosts for *Phthorimaea operculella*: implications for resistance management of genetically modified potatoes (*Solanum tuberosum*). *New Zealand Journal of Crop and Horticultural Science*, 31: 91-97.

Conner, T. 2003. We have to test GM in the kiwi context. *The New Zealand Herald*, 28 August 2003, p. A15.

Conner A.J. and Bezar H.J. 2003. Ecological risks of GM crops in perspective. *Primary Industry Management*, 6(3): 36-39.

O'Callaghan, M., Gerard, E.M., Waipara, N.W., Young, S.D., Glare, T.R., Barrell, P.J. and Conner, A.J. 2004. Microbial communities of *Solanum tuberosum* and magainin-producing transgenic lines. *Plant and Soil*, 266: 47-56.

Conner, T., Reader J., Jacobs, J., Davidson, M. and O'Callaghan, M. 2004. Ecological impacts of GM potatoes. *Grower*, 59 (2): 20-23.

Waipara, N., Gerard, E., Conner, A. and O'Callaghan, M. 2004. Monitoring yeast and fungal populations associated with transgenic potato (*Solanum tuberosum*) plants in New Zealand. In: K.O. Keller and B. Hall (Eds), *Proceedings of the Third Australasian Soilborne Disease Symposium*, 8-11 February, 2004, South Australian Research and Development Institute, Primary Industries and Resources, Adelaide, Australia, Pp. 17-19.

Conner A.J. 2004 Global environmental and food safety issues of GM potatoes. In: X.X. Duan, *Proceedings of the Fifth World potato Congress Kunming, China*, Yunnan Fine Arts Publishing House, Kunming, China, p.11.

Davidson, M.M., Butler, R.C., Wratten, S.D. and Conner, A.J. 2004. Resistance of potatoes transgenic for a *cry1Ac9* gene, to *Phthorimaea operculella* (Lepidoptera: Gelechiidae) over field seasons and between plant organs. *Annals of Applied Biology*, 145: 271-277.

Jenkins, T.E., Frampton, C.M. and Conner A.J. 2005. Population variability in wild turnip (*Brassica rapa* var. *oleifera* DC) for interspecific hybridisation with herbicide-resistant rape (*Brassica napus* L.) pollen. *New Zealand Journal of Crop and Horticultural Science*, 33: 9-16.

Conner, T. and O'Callaghan M. 2005. Impacts of GM potatoes on our soil ecology. *Grower*, 60 (10) 52-54.

Meiyalaghan, S., Takla, M.F.G., Barrell, P.J., Keijzer, R.M., Jacobs, J.M.E. and Conner, A.J. 2005. Resistance to tuber moth following the transfer to potato of a *cry9Aa2* gene under the control of constitutive and light inducible promoters. *Acta Horticulturae*, 670: 71-77.

Cameron, P.J., Wallace, A.R., Madhusudhan, V.V., Wigley, P.J., Qureshi, M.S. and Walker, G.P. 2005. Mating frequency in dispersing potato tuber moth, *Phthorimaea operculella*, and its influence on the design of refugia to manage

resistance in BT transgenic crops. *Entomologia Experimentalis et Applicata* 115: 323-332.

Davidson, M.M., Butler, R.C., Wratten, S.D. and Conner, A.J. 2005. Age-specific bioassays and fecundity of *Phthorimaea operculella* (Lepidoptera: Gelechiidae) reared on *cry1Ac9*-transgenic potato plants. *Annals of Applied Biology*, 146: 493-499.

Davidson, M.M., Butler, R.C., Wratten, S.D. and Conner, A.J. 2006. Field evaluation of potato plants transgenic for a *cry1Ac9* gene conferring resistance to potato tuber moth, *Phthorimaea operculella* (Zeller) (Lepidoptera: Gelechiidae). *Crop Protection*, 25: 216-224.

Davidson, M.M., Butler, R.C., Wratten, S.D. and Conner, A.J. 2006. Impacts of insect-resistant transgenic potatoes on the survival and fecundity of a parasitoid and an insect predator. *Biological Control*, 37: 224-230.

Conner, A.J. and Jacobs, J.M.E. 2006. GM plants without foreign DNA: implications from new approaches in vector development. In: A. Roberts (Ed.) *Proceedings of the 9th International Symposium on the Biosafety of Genetically Modified Organisms*. Jeju Island, Korea. Pp. 195-201.

Conner, A.J. 2006. Biosafety evaluation of transgenic potatoes: gene flow from transgenic potatoes. In: S.H. Huang, S. Chen and C.Y. Lin (Eds) *Ecological and environmental biosafety of transgenic plants*. Agricultural Research Institute, Council of Agriculture, Taichung. *Taiwan Agricultural Research Institute Special Publication No. 126*: 125-137.

Jenkins, T.E. 2006. Introgression of genes from rape to wild turnip. PhD thesis, Lincoln University.

Conner, A.J. 2007. Field testing of transgenic potatoes. In: D. Vreugdenhil (Ed) *Potato biology and biotechnology: advances and perspectives*. Elsevier, Amsterdam, Pp. 685-701.

Walker, G.P., Cameron, P.J., MacDonald, F.M., Madhusudhan, V.V. and Wallace, A.R. 2007. Impacts of *Bacillus thuringiensis* toxins on parasitoids (Hymenoptera: Braconidae) of *Spodoptera litura* and *Helicoverpa armigera* (Lepidoptera: Noctuidae). *Biological Control*, 40: 142-151.

O'Callaghan, M., Gerard, E.M., Bell, N.L., Waipara, N., Aalders L.T., Baird D.B., Conner, A.J. 2007. Microbial and nematode communities associated with potatoes genetically modified to express the antimicrobial peptide magainin and unmodified potato cultivars. Submitted to *Soil Biology and Biochemistry*.

Newstrom, L.E., FitzJohn, R.G., Heenan, P.B., Armstrong, T. 2003. Botanical Files for the Brassicaceae in New Zealand. Landcare Research Contract Report: LC0203/156, 19 pp.

FitzJohn, R.G.; Armstrong, T.; Newstrom, L.E. 2004. Report on botanical files for the Solanaceae in New Zealand. Landcare Research Contract Report: LC0304/137, pp.20.

FitzJohn, R.G.; Newstrom, L.E. 2005. Botanical files for Asparagus (*Asparagus officinalis*) in New Zealand. Landcare Research Contract Report: LC0405/147, 9 pp.

FitzJohn, R.G.; Newstrom, L.E. 2005. Report on botanical files for onion (*Allium cepa*) in New Zealand. Landcare Research Contract Report: LC0405/151, 14 pp.

Richard G. FitzJohn and Linda E. Newstrom 2006. Botanical Files for Cereal Crops in New Zealand. Landcare Research Contract Report: LC0506/147, 13 pp.

FitzJohn, R.G.; Newstrom-Lloyd, L.E. 2007. Botanical files for Apiaceae crops in New Zealand. Landcare Research Contract Report: LC0607/166, 12 pp.

Murray, S.R., Butler, R.C., Hardacre, A. K. and Timmermna-Vaughan, G.M. 2007. Use of quantitative real-time PCR to estimate maize endogenous DNA degradation after cooking and extrusion or in food products. *Journal of Agriculture and Food Chemistry*, 55: 2231-2239.

Conference presentations on GM issues and biosafety assessment

Jenkins, T.E., Conner, A.J. and Frampton C.M. 2001. Comparing hybridisation between rape and different wild turnip populations. Proceedings of the New Zealand Institute of Agricultural Science and the New Zealand Society for Horticultural Science Annual Convention 2001: The Thin Green Line? Enhancing our Primary Resource Advantages. p. 20.

Jenkins, T.E., Conner, A.J. and Frampton C.M. 2001. Interspecific hybridisation between rape and wild turnip – who acts as the go-between. Abstracts of the New Zealand Ecological Society 50th Jubilee conference, University of Canterbury, 27-30 August 2001, p. 37

O'Callaghan, M., Gerard, E.M., Waipara, N.W. Glare T.R., Reader, J.K and Conner, A.J. 2002. Microbial communities of *Solanum tuberosum* and magaining-producing transgenic lines. Abstracts of the Symposium on the Impact of GMOs: Soil Microbiology and Nutrient Dynamics, Vienna, 3-6 November 2003. p. 32

Conner, A.J. 2003. Gene introgression from genetically modified plants to wild relatives: towards a future of assessing impacts and new paradigms for crop management. Abstracts of Introgression from Genetically Modified Plants to Wild Relatives and its Consequences, 21-24 January, Amsterdam, The Netherlands, European Science Foundation. p. 89.

Jenkins, T.E., Frampton, C.M., Conner, A.J. 2003. Entomophily versus anemophily as vectors for pollen-mediated gene flow from rape to wild turnip. Abstracts of Introgression from Genetically Modified Plants to Wild Relatives and its Consequences, 21-24 January, Amsterdam, The Netherlands, European Science Foundation. p. 105.

Jenkins, T.E., Frampton, C.M. and Conner, A.J. 2003. Investigating pollen-mediated introgression from rape to wild turnip. Abstracts of the 15th Biennial meeting of the New Zealand Branch of the International Association for Plant Tissue Culture and Biotechnology, 16-19 February 2003, Leigh, Northland, NZ. HortResearch Technical Report 2003-1, p. 30.

Reader, J.K., Jacobs, J.M.E., Hanson, M.A. and Conner, A.J. 2003. Estimating the invasiveness of volunteer transgenic potatoes following field trials. Abstracts of the 15th Biennial meeting of the New Zealand Branch of the International Association for Plant Tissue Culture and Biotechnology, 16-19 February 2003, Leigh, Northland, NZ. HortResearch Technical Report 2003-1, p. 42.

Conner, A.J., Reader, J.K., Davidson, M.M., Meiyalaghan, S. and Butler, R.C. 2003. Field performance of GM potatoes with insect resistance. Abstracts of the NZIAS 2003 convention, 24-26 June 2003, Albany, p.18.

O'Callaghan, M., Gerard, E.M., Glare, T.R., Conner, A.J., Reader, J.K. and Waipara, N.W. 2003. Monitoring the impact of disease resistant transgenic plants on soil micro-organisms. International Congress of Plant Pathology, Christchurch Convention Centre, February 2003.

Conner, T. 2003. Environmental impacts: General overview of gene flow. Abstracts of the FRST Foundations for Success Meeting, 5-6 September [www.frst.govt.nz/Research/Foundationforsuccess/Foundationforsuccess.cfm]

Conner, T. 2003. Environmental issues: Summary of prior research. Abstracts of the FRST Foundations for Success Meeting, 5-6 September [www.frst.govt.nz/Research/Foundationforsuccess/Foundationforsuccess.cfm]

Christey, M.C. 2003. Co-existence of GM and non-GM crops. Abstracts of the FRST Foundations for Success Meeting, 5-6 September [www.frst.govt.nz/Research/Foundationforsuccess/Foundationforsuccess.cfm]

Conner, A. J. 2004. Identifying high performing transgenic lines of potato; from the laboratory to the greenhouse and field. Abstracts of the First International Symposium on Root and Tuber Crops, Palmerston North, NZ, pp. 20-21.

O'Callaghan, M., Sarathchandra, U., Bell, A., Ghani, G., Keown, H., Davis, L. and Conner A. 2004. Effect of genetically modified potato, producing the anti-bacterial peptide magainin, on non-target organisms in the soil. Proceedings of the 8th International Symposium on the Biosafety of Genetically Modified Organisms, September 26 - 30, 2004, Montpellier, France, p. 269.

Erasmuson, A.K., Reader, J.K., Jacobs, J.M.E. and Conner, A.J. 2005. Monitoring pollen-mediated gene flow from field trials of transgenic potatoes. Abstracts of the 16th Biennial meeting of The New Zealand Branch of the International Association for Plant Tissue Culture and Biotechnology, p. 47.

Reader, J.K., Meiyalaghan, V., Jacobs, J.M.E., Baldwin, S.J. and Conner, A.J. 2005. Monitoring the invasiveness of volunteer transgenic potatoes following field trials. Abstracts of the 16th Biennial meeting of The New Zealand Branch of the International Association for Plant Tissue Culture and Biotechnology, p. 48.

Conner, A.J. 2005. A perspective on gene flow from transgenic plants: towards a future of assessing impacts and new paradigms for development and management of transgenic crops. Abstracts of the Gene Flow in Plants and Micro-organisms Initiative Workshop, London, UK, p. 13.

Young, S.D., O'Callaghan, M., Gerard, E., Conner, A.J., Waipara, N. 2005. Inhibition of phyllosphere and rhizosphere yeasts by an antimicrobial peptide,

magainin II, expressed in genetically modified potatoes. Abstracts of the Combined Conference of the NZ Microbiological Society and NZ Biochemistry and Molecular Biology, Dunedin, November 2005, p. 183.

Christey, M., Braun, R., Conner, T. and Jacobs, J. 2006. GM brassica field testing and intragenics research in NZ. 15th Crucifer Genetics Workshop: Brassica 2006, 30 September- 4 October 2006, Wageningen, the Netherlands. Abstract L7-02, p74.

Gerard, E., O'Callaghan, M., Baird, D.B., Conner, A.J. 2006. Bacterial communities associated with potatoes genetically modified to express the antimicrobial peptide magainin. Abstracts of the 51st New Zealand Microbiological Society Conference, p. 111.

Other presentations on GM issues and biosafety assessment

Conner, T. GM technology in farm management systems, Farm Management Group, Lincoln University (John Greer, Applied Management and Computing Division, 03 3252811 ext 8308), 11 September 2002.

Conner, T. Transgenic potatoes with tuber moth resistance: from binary vector to the field. Seminar to The Institute of Molecular BioSciences at Massey University, Max Scott (M.J.Scott@massey.ac.nz), 7 October 2002.

Conner, T. Plant biotechnology: What's next in production and marketing? NZ Institute of Primary Industry Management, Canterbury/Westland Branch. Commodore Airport Hotel. John Ryan, 027 4351525; 3296869 ryanji@extra.co.nz 22 October 2002.

Conner, T. Contributed to AFIC and MAF meeting on Co-existence of GM and non-GM Products [co-ordinated by Murray Doak (MAF) and Lindsey Dick (AFIC)], Sparks Erskine, 116 Riccarton Rd, 22 November 2002.

Conner, T. GM issues and the effects on potato growers. Potato Sector of VegFed, Chancellor Resort, Methven, 12 February 2003.

Conner, T. GM crops in New Zealand's primary industries. Presentation to Wine and Viticulture Group, Lincoln University, 10 April 2003.

Conner, T. The future for GE crop development in New Zealand, Environmental Reporters Seminar, Te Papa (Bill Southworth, NZ Journalists Training Organisation; nzjto@actrix.gen.nz; telephone 04 4992154; facsimile 04 4991151), 22 August 2003.

Conner T. GM developments: understanding novel risks. Presented to Landcare Research Workshop "Biosecurity and Biosafety in New Zealand: streamlining risk assessment for weed invasions", Lincoln, 29 October 2004.