

## **CV – Leslie A. Weston**

**Australian citizen?** Yes

### **Current Position and Role:**

Research Professor of Plant Biology, Plant Toxicity and Metabolomics, Charles Sturt University, Graham Centre, Wagga Wagga NSW 2678

### **Education**

- Bachelor of Science, Plant Science and Plant Breeding, Cornell University, 1980
- Master of Science, Horticulture, Michigan State University, 1982
- Doctor of Philosophy, Horticulture and Analytical Chemistry, Michigan State University, 1986

### **Research and Management Leadership, Supervision and Mentorship:**

- Research Professor and Weed/Plant Toxicity Research Leader 2008-; Charles Sturt University, Graham Centre, Analytical Chemistry, Metabolomics, Plant Biology.
- Program Leader, Weed Biology Research Group, Graham Centre, CSU. 2008-current. (20+ staff).
- Associate Professor 1998- 2007; Cornell University, Ithaca NY, USA, Department of Horticulture
- Coordinator of Cornell College of Agriculture-ENESAD (Dijon, France) international exchange program for undergraduate students. 1999-2006.
- Graduate of ESCOP ACOP Leadership Development Program for Academic Administrators. Washington DC and Indianapolis IN. Selected by Cornell University. 2000-2001
- Associate Dean and Program Coordinator for International Studies in the College of Agriculture, University of Kentucky. 1997-1998.
- Associate Professor: 1991- 1998; University of Kentucky, Lexington KY, USA, Department of Horticulture
- Assistant Professor: 1986; University of Kentucky, Lexington KY, USA, Department of Horticulture
- Advisor or co-advisor to 15 postgraduate students in USA and 9 postgraduate students in Australia. Advisor to over 20 undergraduate and honours research students in USA and Australia.

### **Measures of esteem and contributions to the field**

#### **Awards:**

- NSW Life Sciences Biofirst Research Fellowship Award, 2008-2012, Office for Science and Medical Research, OPA 3553, Understanding the interplant relationships for management of weeds – the search for natural herbicides. Research fellowship resulted in relocation of Dr. Weston to Australia.
- Highest earned research income, Graham Centre for Agricultural Innovation, 2013-2014, Charles Sturt University.
- Team Leadership Research Award, Plant and Animal Toxicity Research Group, Jane C. Quinn and Leslie A. Weston, 2013-2014, Graham Centre for Agricultural Innovation, Charles Sturt University.
- Molisch Award, International Allelopathy Society, 4<sup>th</sup> World Congress, Australia. 2005. Research award presented triennially for lifetime research achievements in the field of allelopathy.
- University of Kentucky, Faculty Incentive Award, Young Investigator Award for Outstanding Research, 1990-1993.
- Sigma Xi, honorary member. Elected 1987.

- North American Rhizobium Society Postgraduate Research Fellowship Award presented for outstanding postgraduate research. 1985.

#### **Journal Editorial Boards:**

- Associate Editor for Plant and Soil (2014-current)
- Editorial Board Agronomy, on line journal MDPI (2015- current)
- Associate Editor for Weed Technology (1993-2001)
- Associate Editor for Allelopathy Journal (1997-2001)
- Associate Editor for Weed Biology and Management (2012)
- Associate Editor for J Chemical Ecology Special Issue on Allelopathy (2013)
- Regular reviewer for J. Allelochemical Interactions, Phytochemistry, J. Ag and Food Chemistry, J. Chem. Ecology, Plant Physiology, Weed Science, Weed Technology, Plant and Soil, Agronomy J., J. Biol. Invasions, Journal of Applied Ecology, Hort Tech. and Hort Sci. Occasional reviewer for Science, Nature Sci., PLoS One.

#### **Scientific Advisory Boards:**

- RIRDC Strategic Planning for Research in Weed Science (2010)
- National Integrated Weed Management Initiative (NIWMI) – GRDC supported advisory panel (2011-current). Now Grains Weeds Advisory Council (GWAC)
- MLA and GRDC Strategic Planning and Development, Integrated Weed Management (2011)

#### **Conference Organising and Program Committees:**

- Organising Committee for Weed Science Society of American Meeting, Louisville KY 1997
- Organising Committee Chair for 5<sup>th</sup> World Congress on Allelopathy, Saratoga Springs NY 2008
- International Society of Chemical Ecology Congress - Rhizosphere Symposium 2013
- Organising Committee for 7<sup>th</sup> World Congress on Allelopathy, Vigo Spain 2014
- Organising Committee Chair for RACI Symposium on Natural Products, Wagga Wagga 2014

#### **Keynote/ Plenary Speaker Invitations:**

- Professor Weston has received over 100 invitations to speak at conferences of importance to the fields of chemical ecology, weed science and rhizosphere biology. Here are several recent invitations:
- Keynote Address 2009 Weed invasion and management, NSW Weed Science Society, Australia
- Keynote Address 2010 IUPAC Plant rhizosphere interactions, Australia
- Keynote Address 2011 International Allelopathy Society, China
- Invited Symposium Speaker, 2011 International Botanical Congress, Australia
- Keynote Address 2012 RACI Natural Products Chemistry Symposium, Australia
- Invited Symposium Speaker, 2013 International Society for Chemical Ecology, Australia
- Keynote Address 2014 7<sup>th</sup> World Congress on Allelopathy, Spain

#### **Publications**

- Professor Weston has published over 170 refereed journal articles, book chapters and conference proceedings papers, with an *h*-index of 36 and more than 4700 total citations since 1986 and 2200 in past 5 years.

#### **Granting Activity**

Professor Weston has generated over \$11M in support funding for research in analytical chemistry, weed science and plant genetics, with over \$8.5M garnered in support in Australia from ARC, GRDC, MLA, RIRDC, and private industry.

## Recent Competitive funding

2008-2012. **L. A. Weston**. Development of novel bioherbicides for weed suppression. NSW Office of Science and Medical Research. \$400K. Biofirst Life Sciences Research Fellowship. Awarded to L. A. Weston for relocation and establishment at Charles Sturt University from Cornell University USA. Study of herbicidal activity of secondary plant metabolites. Isolation and identification of bioactives. CI.

2010-11, P.A. Weston, **L.A. Weston**, P. Sullivan. Impact of climate change upon Paterson's curse secondary metabolites and its associated biocontrol agents in Southern Australia. RIRDC. \$123K, secondary metabolite extraction, identification and quantification using mass spectrometry. Co CI.

2009-2012, **L. A. Weston** and H. Wu CSU; C. Preston UA, Improving IWM strategies for new and emerging Weeds; GRDC. UA 00134. \$1,500K, weed biology and chemistry of weed suppressive break crops, extraction, identification and quantification using mass spectrometry. Co CI.

2013-16, **L. A. Weston**, G. M. Gurr and R. Callaway, Invasive plant success and multi-trophic level chemical ecology using Paterson's curse as a model. ARC. DP130104346. \$340K. co CI. Weed biology, ecology and genetics, extraction and metabolic profiling using mass spectrometry.

2013-2015. J. Quinn, **L. A. Weston** and A. Kessell. Photosensitization in sheep grazing *Biserrula pelecinus*. MLA. B.AHE.0236. \$320K. Extraction, identification and metabolic profiling of secondary products using mass spectrometry. Co CI.

2013-2018. **L. A. Weston**, H. Wu, CSU and C. Preston UA. Combating herbicide resistance in the southern region. UCS 00200. GRDC. \$2,650K. Crop and weed ecology, plant and soil metabolic profiling using mass spectrometry. CI.

2014-2017, **L. A. Weston**. Mechanisms of weed suppression by early vigour and other novel wheat genotypes. GRDC UCS 00023. \$87K. Secondary product extraction from plants and soils, metabolomics using mass spectrometry. CI.

2014-2019, **L. A. Weston**, J. Piltz, D. Falepau. Addressing Herbicide Resistance - Options and Non-Chemical Approaches for Mixed Farmers. B.WEE.0146. MLA. \$938K. Crop ecology, weed science and chemical analyses of plant/soil using mass spectrometry. CI.

2014-2019. L.A. Weston and J. Broster. IWM strategies for new and emerging weeds in the southern region. UA 00149. \$221K. Weed ecology, survey and assessment of herbicide resistance. PI.

2015-2019. J. Broster, L. A Weston and others. Herbicide resistant weed surveys across Australia. GRDC Project to be initiated in 2015. \$1M to numerous institutions.

## Top 10 Career Publications

1). Bertin, C., L. A. Weston, J. Meinwald and F. Schroeder. 2007. Grass roots chemistry: a novel herbicidal compound isolated from fine fescue root exudates. *Proc. of the National Academy of Science* 104 (43):16964-16969. (PNAS cover article that reports on a novel bioherbicide produced by roots of fine fescue and resulted in selection of weed suppressive fine fescue cultivars and the patented use of m-tyrosine as a bioherbicide).

2). Yang, X., B. Scheffler and L. A. Weston. 2004. SOR1, a gene associated with bioherbicide production in sorghum root hairs. *J. Exp. Bot.* 55:2251-2259. (The first root hair specific desaturase gene identified; it is a key step in sorgoleone biosynthetic pathway).

3). Weston, L. A. 1996. Utilization of allelopathy for weed management in agroecosystems. *Agron. J.* 88:860-866. (An introduction to the concept of utilization of suppressive cover crops in agronomic systems).

- 4). Bertin, C., X. H. Yang, and L. A. Weston. 2003. The role of root exudates and allelochemicals in the rhizosphere. *Plant and Soil* 256(1):67-83. (A ground-breaking paper that first described the role of plant root exudates and their impacts on allelopathy and soil rhizosphere processes).
- 5). Czarnota, M. A., R.N. Paul, S.O. Duke and L. A. Weston. 2003. Anatomy of sorgoleone-secreting root hairs of sorghum spp. *Int. J. Plant Sci.* 164: 861-866. (The mechanism of root hair exudation in sorghum seedlings was described for the first time using cellular localization studies).
- 6). Weston, L.A. and S. O. Duke. 2003. Weed and crop allelopathy. *Critical Rev. Plant Sci.* 22:367-389. (The first critical review on allelopathy to be published for the broader science community).
- 7). Czarnota, M.A., R.N. Paul, F.E. Dayan, C.I. Nimbai and L.A. Weston. 2001. Mode of action, localization of production, chemical nature and activity of sorgoleone: a potent PSII inhibitor produced in *Sorghum spp.* root exudates. *Weed Technology* 15: 813-825. (3D structural activity models were developed to explain the specific mode of action of sorgoleone at the PQ binding site).
- 8). J.N. Barney, A. DiTommaso and L.A. Weston. 2005. Differences in invasibility of two contrasting habitats and invasiveness of two mugwort (*Artemisia vulgaris*) populations. *J. Appl. Ecol.* 42:567-576. (This study showed the extraordinary invasion by an introduced perennial *Artemisia* spp. in field conditions; environment x genetic interactions were involved in production of volatile allelochemicals).
- 9). Weston, L. A., R. Harmon and S. Mueller. 1989. Allelopathic potential of sorghum-sudangrass hybrid (sudex). *J. Chem. Ecol.* 15:1855-1865. (This publication reported the chemical characterization of sorghum aglycones and evaluated their inhibitory activity for the first time using unique soil assays).
- 10). Weston, L. A., P. Ryan and M. Watt. 2012. Mechanisms for cellular transport and release of allelochemicals from plant roots into the rhizosphere. *J. Exp. Bot.* doi:10.1093/jxb.ers054. (We examined the molecular and physiological mechanisms utilized by living plant roots to concentrate and release secondary metabolites into the rhizosphere, pointing out the need for additional studies on gene regulation of transport in plants).

### **Recent Publications (last 5 years)**

#### **Book Chapters**

- 1) Douglass, C. H., **L. A. Weston** and A. DiTommaso. 2009. Black and pale swallow-wort (*Vincetoxicum nigrum* and *V. rossicum*): The Biology and Ecology of Two Perennial, Exotic and Invasive Vines. Ed. Inderjit. *In: Management of Invasive Weeds.* pp. 261-277.
- 2) **Weston, L. A.** and U. Mathesius. 2013. Root exudation – the role of secondary metabolites, their localisation in roots and transport into the rhizosphere. In eds. A. Morte and A. Varma. *Soil Engineering.* Springer Verlag Inc. pp. 221-247.

#### **Journal Articles**

- 3) Blair, A.C., **L.A. Weston**, S.J. Nissen, G.R. Brunk, & R.A. Hufbauer. 2009. The importance of analytical techniques with the reported allelochemical catechin as an example. *Biological Invasions.* 11:325-332.

- 4) Bertin, C., A. F. Senesac, F. S. Rossi, A. DiTommaso, and **L. A. Weston**. 2009. Evaluation of selected fine leaf fescue (*Festuca*) cultivars for turf quality and weed suppression. *Hort Tech.* 19 (3): 660-668.
- 5) Watt, M. and **L. A. Weston**. 2009. Specialized root adaptations display cell-specific developmental and physiological diversity. *Plant and Soil.* 322: 39-47.
- 6) Bertin, C., R. Harmon, M. Akogi and **L. A. Weston**. 2009. Assessment of the phytotoxic potential of m-tyrosine in laboratory soil bioassays. *J. Chem. Ecol.* DOI 10.1007/s10886-009-9707-4.
- 7) Douglass, C., **L. A. Weston**, and D. Wolfe. 2010. Phytotoxicity and potential allelopathy in pale (*Cynanchum rossicum*) and black swallow-wort (*Cynanchum nigrum*). *Invasive Plant Science and Management* . (doi: 10.1614/IPSM-D-10-00021.1)
- 8) Tesio, F., **L. A. Weston** and A. Ferrero. 2010. Potential allelopathic effects of Jerusalem artichoke (*Helianthus tuberosus*) leaf tissues. *Weed Tech.* 24: 378-385.
- 9) Brechner, M., L. D. Albright, and **L. A. Weston**. 2011. Effects of UV-B on secondary metabolites of St. John's wort (*Hypericum perforatum* L.) growth in controlled environments. *Photochemistry and Photobiology* 87: 680-684.
- 10) Tesio, F., **L. A. Weston** and A. Ferrero. 2011. Phytotoxins identified from Jerusalem artichoke (*Helianthus tuberosus* L.) residues and their potential inhibitory activity in the field and laboratory. *Scientia Horticulturae* 129: 361-368.
- 11) Seok, E. H., A. DiTommaso and **L. A. Weston**. 2011. Effects of soil salinity on the growth of *Ambrosia artemisiifolia* biotypes collected from roadsides and agricultural fields. *J. Plant Nutrition*: 35: DOI. 1080/01904167.2011.
- 12) D'Arcy Moskwa, E., **L. A. Weston**, G. N. Noble and S. L. Raidal. 2011. Determination of sucrose in equine serum using liquid chromatography/mass spectrometry (LC/MS). *Journal of Chromatography B.* 879: 3668-3671.
- 13) **Weston, L. A.**, P. Ryan and M. Watt. 2012. Mechanisms for cellular transport and release of allelochemicals from plant roots into the rhizosphere. *J. Exp Botany.* Doi:10.1093/jxb.ers054.
- 14) D'Arcy-Moskwa, E., G. Noble, **L. A. Weston** and S. Raidal. 2012. Effects of meloxicam and phenylbutazone on equine gastric mucosal permeability. *Journal of Veterinary Internal Medicine* 26:1494-1499.
- 15) Eom, S., A. DiTommaso, and **L. A. Weston**. 2012. Effects of soil salinity on the growth of *Ambrosia artemisiifolia* biotypes collected from roadside and agricultural fields. *Journal of Plant Nutrition.* 35: DOI:10.1080/01904167.2011.
- 16) **Weston, L. A.**, I. Alsaadawi and S. Baerson. 2013. Sorghum: From ecosystem to molecule. *Journal of Chemical Ecology.* DOI 10.1007/s10886-013-0248-1.
- 17) **Weston, L. A.** and U. Mathesius. 2013. Flavonoids, their structure, biosynthesis and role in the rhizosphere, including allelopathy. *Journal of Chemical Ecology.* DOI 10.1007/s10886-013-0248-5.
- 18) Eberbach, P. L., J. D. Hoffman, S. J. Moroni, L. J. Wade and **L. A. Weston**. 2013. Rhizolysimetry: Facilities for the simultaneous study of root behaviour and resource use by agricultural crop and pasture systems. *Plant Methods* 9(1):1-19.
- 19) Weston, P.A., **Weston L.A.** and S. Hildebrand. 2013. Metabolic profiling in *Echium plantagenium*: presence of bioactive pyrrolizidine alkaloids and naphthoquinones from accessions across southeastern Australia. *Phytochemistry Reviews* 12(4):831-837.
- 20) Eom, S.H., DiTommaso, A. and **Weston, L.A.** 2013. Effects of soil salinity in the growth of *Ambrosia artemisiifolia* biotypes collected from roadside and agricultural field. *Journal of Plant Nutrition* 36(14): 2191-2204.
- 21) Quinn, J.C., Kessell, A. and **Weston, L.A.** 2014. Secondary plant products causing photosensitization in grazing herbivores: Their structure, activity and regulation. *International Journal of Molecular Sciences* 15(1): 1441-1465.
- 22) Alden, R., B. Hackney, **L. A. Weston** and J. C. Quinn. 2014. Phalaris toxicoses in Australian livestock production systems: prevalence, aetiology and toxicology. *J Toxins.* 1(1): 7.
- 23) **Weston, L.A.**, D. Skoneczny, P.A. Weston and J.D. Weidenhamer (2015). Metabolic profiling: an overview – new approaches for the detection and functional analysis of

biologically active secondary plant products. *Journal of Allelochemical Interactions* 2(1): 15-27.

24) Shaik, R. S., D. Gopurenko, N. A. R. Urwin, G. E. Burrows, B. J. Lepschi and **L. A. Weston**. 2015. Population genetics of invasive *Citrullus lanatus*, *Citrullus colocynthis* and *Cucumis myriocarpus* (Cucurbitaceae) in Australia: inferences based on chloroplast and nuclear gene sequencing. *Biological Invasions* 1-16. On line.

25) Haque, K.M.S., J. A. Howitt, **L.A. Weston**, M. Dyal-Smith, and P.E. Eberbach. 2015. Pore Mn<sup>2+</sup> dynamics of the rhizosphere of flooded and non-flooded rice during a long wet and drying phase in two rice growing soils. *Chemosphere* 134: 16-24.

26) Moore, J.R., J.E. Pratley, **L.A. Weston** and W.J. Mace. 2015. Segregating endophyte infected seed from uninfected seed in annual ryegrass (*Lolium rigidum*) infected with *Epichloë occulta*s. *Seed Science and Technology*. Published April 2015 online.

### Conference Proceedings

27) **Weston, L. A.** 2009. Key factors involved in the establishment of invasive, non-native weed species in the United States and Australia – where will the research go from here? NSW Weeds Conference Proceedings. pp. 1-3.

28) **Weston, L. A.** 2009. Ecological and evolutionary adaptations of Paterson's curse and implications upon invasivity across Southern Australia. 10th Queensland Weeds Symposium. Conference Proceedings. pp. 44-47.

29) Shaik, R., **L. A. Weston**, G. Burrows and D. Gopurenko. 2011. A comparative phenological and genetic diversity analysis of two invasive weeds, camel melon (*Citrullis lanatus*) and prickly paddy melon (*Cucumis myriocarpus* L.) in inland Australia. Proc. Asian Pacific Weed Science Society 23: 115-123.

30) **Weston, L. A.**, P. A. Weston and M. McCully. 2011. Production of bioactive naphthoquinones by the roots of Paterson's curse (*Echium plantagineum*) – implications for invasion success? Proc. Asian Pacific Weed Science Society 23: 576-584.

31) **Weston, L.A.** 2011. Bioactive root exudates: a novel source of allelochemicals and bioherbicides Pest Management, Crop Protection and Vector Control. Invited Speaker Natural Products Symposium. IUPAC Meeting. Journal of pesticide science 36 (1), 150.

32) **Weston, L.A.** 2012. Bioactive root exudates and their role in the root rhizosphere. Invited Presentation. Proc. 18<sup>th</sup> International Botanical Congress, Melbourne Australia.

33) Shaik, R.S., D. Gopurenko, G.E. Burrows, N.A.R. Urwin, B.J. Lepschi, S.M. Hildebrand and **L.A. Weston**. 2012. Identification of the invasive weeds, camel melon, prickly paddy melon and colocynth in Australia – a morphological and molecular approach Proc. 18<sup>th</sup> Australasian Weed Sci. Soc. pp. 73-77.

34) Dehaan, R. L., **L.A. Weston**, and R. Rumbachs. 2012. The design and the development of a hyperspectral unmanned aircraft mapping system for the detection of invasive plants. Proc. 18<sup>th</sup> Australasian Weed Science Soc. pp. 103-107.

35) Weston, P. A., **L.A. Weston** and S. Hildebrand. 2012. Environmental impact on biocontrol agents and secondary chemistry of Paterson's curse (*Echium plantagineum*). Proc. 18<sup>th</sup> Australasian Weed Science Society. pp. 203-207.

36) Weston, P. A., J. Quinn and **L.A. Weston**. 2013. An improved method for recovering and quantifying neurotoxic alkaloids from endophyte-infected ryegrass. International Grasslands Conference. Pp 1-4.

37) **Weston, L.A.** and U. Mathesius. 2013. Convenors, Symposium on Rhizosphere Interactions. 29<sup>th</sup> Meeting of the International Society for Chemical Ecology. Introduction to Symposium, Invited Presentation. Proc. Intl. Soc. Chem. Ecology.

38) **Weston, L. A.**, R. Stanton, H. Wu, J. Mwendwa, P. A. Weston, J. Weidenhamer, and W. B. Brown. 2014. Comparison of grain crops and their associated residues for weed suppression in the Southern Australian mixed farming zone. Proceedings of the 19<sup>th</sup> Australasian Weeds Conference.

39) Alpen, K., D. Gopurenko, H. Wu, B. Lepschi and **L.A. Weston**. 2014. The development of a DNA barcode system for species identification of *Conyza* spp. (fleabane). Proceedings of the 19<sup>th</sup> Australasian Weeds Conference. pp. 401-404.

- 40) Zhu, X., L. Meyer, D. Gopurenko, P.A. Weston, G.M. Gurr, R.M. Callaway, B.J. Lepschi and **L.A. Weston**. 2014. Selection of DNA barcoding regions for identification and genetic analysis of two *Echium* invaders in Australia: *E. plantagineum* L. and *E. vulgare* L. 19th Australasian Weeds Conference. 1-4 September 2014. Hobart, Tasmania. pp. 396-400.
- 41) Moore, J.R., J.E. Pratley, W.J. Mace and **L.A. Weston**. 2014. Loline alkaloids produced by *Epichloë occulta* in Australian *Lolium rigidum*. 19th Australasian Weeds Conference. 1-4 September 2014. Hobart, Tasmania. pp. 87-90.
- 42) Zhu, X., B. Ryan, D.V. Sokolov, G.M. Gurr and **L.A. Weston**. 2014. Oral 19. Identification and localization of isohexenylnaphthazarins in primary and secondary roots of Paterson's curse (*Echium plantagineum*). Book of Proceedings 7th World Congress on Allelopathy Complex Interactions in a Changing Climate. Vigo, Spain July, 28 – August, 1, 2014. p 74.
- 43) Weidenhamer, J.D., X. Zhu, D. Skoneczny, J. Mwendwa, P.A. Weston and **L.A. Weston**. 2014. Oral 24. Root exudation of lipophilic naphthoquinones by Paterson's curse: a clue to their ecological role? Book of Proceedings 7th World Congress on Allelopathy Complex Interactions in a Changing Climate. Vigo, Spain July, 28 – August, 1, 2014. p 84.
- 44) Skoneczny, A.G., Duran, A.C., Gil, P.A. Weston, A. Torres, F.A. Macías, M.R. Roger, G.M. Gurr and **L.A. Weston**. 2014. Oral 32. Metabolomic profiling of secondary products in *Echium plantagineum* and *Echium vulgare*, two exotic invaders in Australia. Book of Proceedings 7th World Congress on Allelopathy Complex Interactions in a Changing Climate. Vigo, Spain July, 28 – August, 1, 2014. p 94.
- 45) Jamil, S.Z., P.A. Weston, D. Skoneczny, **L.A. Weston** and G.M. Gurr (2014) Oral 36. Induction of chemical defences in the invasive weed Paterson's curse (*Echium plantagineum*) by a generalist herbivore insect and a specialist biological control agent. Book of Proceedings 7th World Congress on Allelopathy Complex Interactions in a Changing Climate. Vigo, Spain July, 28 – August, 1, 2014. p 98.
- 46) Haque, K. S., P. Eberbach, **L. Weston**, J. Howitt and M. Dyal-Smith. 2014. Dynamics of Soil Pore-Water Fe<sup>2+</sup> and Mn<sup>2+</sup> Concentrations in Rice-Faba Bean Crop Rotations. 20<sup>th</sup> World Congress of Soil Science, Korea. p. 602.

## Statement of Expertise

Professor Weston is a plant biologist with expertise in weed ecology, allelopathy, chemical ecology of root exudates. During the past 25 years, Dr. Weston has published or co-authored over 170 articles, proceedings and book chapters in highly respected refereed journals of scientific merit, including a recent cover article in *Proceedings of the National Academy of Science* (top 3 in impact factor in biological science) as well as a recent cover article in *Science News* that highlighted her work on bioactive root exudates. Her research has been recognized nationally and internationally for its significant impact in the fields of weed science, allelopathy, natural products chemistry and invasive weed ecology. Her graduate students have won numerous research paper and poster awards and she was presented the Frederick Molisch award at the *International Allelopathy Society 4<sup>th</sup> World Congress* in 2005 for her outstanding research achievements in allelopathy, the highest award in the discipline of allelopathy. Professor Weston has successfully garnered over 11 million dollars in extramural support, as a CI or PI in the USA and Australia, and supervised all initiated projects to completion. Her administrative experiences include serving as associate dean for international studies at the University of Kentucky, and coordinator of specific international exchange programs at Cornell University. She also successfully sponsored by Cornell University and completed a 2 year administrative leadership training program with the national ESCOP Program for rising academics. Due to her strong leadership skills, she was elected and successfully served on the Board of Directors for Weed Science Society of America, Director of Education for WSSA and Vice President of Education for the American Society for Horticulture Science, each for four year terms. She has also completed a term as President of the International Allelopathy Society from 2012-2015. As a strategic research professor at Charles Sturt University and a Biofirst NSW research scholar with a long-term research appointment she serves in a critical capacity as principal investigator of large multidisciplinary projects. She has established an active laboratory at CSU in analytical chemistry and metabolomics focused on the study of bioactive root exudates and plant defense as well as invasive weed ecology, and serves on the research management committee of the E.H. Graham Centre at CSU, where she currently leads the weed biology research group with Dr. Hanwen Wu at NSW DPI. The recent procurement of funding for a new life sciences hub at CSU's Wagga campus has ensured that Dr. Weston's program and all proposed research in rhizosphere interactions at CSU are housed in state-of-the-art research facilities. Her strong expertise in plant rhizosphere interactions, analytical and soil chemistry and soil microbiology coupled with her leadership skills ensure that she can continue to direct a team of researchers performing cutting edge research in plant/plant, plant/herbivore and plant/microbial interactions.