

## Douglas Doohan

**Title:** Professor.

**Department:** Horticulture and Crop Science.

**Fields of Specialization:** Weed science; agricultural risk analysis.

As an Ohio State University Specialist I provide weed management research and extension to meet the production needs of the more than 1500 Ohioans who grow fruit and vegetable crops. Growers throughout the central and eastern United States and from Canada seek my assistance in managing their weed problems. My applied research program is funded almost entirely by grower organizations and herbicide manufacturers. Industry support for fruit and vegetable weed management research is approximately \$70 K/ year. Annual reports of our weed management experiments are available at (<http://www.oardc.ohio-state.edu/weedworkshop/>).

In addition to my role as State Specialist, I lead the Ohio State University Agricultural Risk Analysis Program (<http://riskanalysis.osu.edu/>), a multi-disciplinary group whose mission is to apply principles of risk analysis to the broad challenges facing the food and agricultural industries. Program funding from competitive sources during the past four years has been approximately \$ 7 million.

### Academic Degrees:

<b>Ph.D.</b>	1990	North Carolina State University
<b>M.S.</b>	1984	North Carolina State University
<b>B.S. (Hon.)</b>	1977	University of Guelph

### Professional Experience:

2009 – Present	Professor Department of Horticulture and Crop Science The Ohio State University, Wooster, Ohio
2002 – 2009	Associate Professor Department of Horticulture and Crop Science The Ohio State University, Wooster, Ohio
1998 to 2002	Assistant Professor Department of Horticulture and Crop Science The Ohio State University, Wooster, Ohio

- 1990 to 1998      Adjunct Professor / Integrated Pest Management Team Leader  
 Plant Science Department/ Plant Industry Branch  
 Nova Scotia Agricultural College/ Department of Agriculture, Truro,  
 Canada
- 1986 to 1989      Chief Inspector - Weed Control Act  
 Nova Scotia Department of Agriculture, Truro, Canada
- 1978 to 1986      Weed Specialist  
 New Brunswick Department of Agriculture, Fredericton, Canada

### **Consultations**

1. HSK Attorneys at Law, Fort Wayne, IN. On going. Expert opinion regarding herbicide drift to tomato field.
2. Front Step Farms. Toronto, Canada. On going. Field investigation and report regarding herbicide drift.
3. Westfield Insurance. On going. Field investigation and report regarding herbicide trespass.
4. Fireside Winery, Marengo, IA. Concluded litigation regarding regarding herbicide trespass.
5. Monsanto Company. May 2008-May 2012. Academic Advisory Council.
6. Agriculture & Agri-Food Canada. 2007. Literature Review: Identifying and Assessing Strategies for High-Value On-Farm Assurance Systems.
7. Zimmer Kunz PLLC. 2005. Concluded litigation in Pennsylvania regarding pesticide trespass.
8. Norsk Hydro Americas, Inc. 1999-2004. Concluded litigation in Maine regarding alleged herbicide damage to blueberry fields.
9. Service Chemicals PLC. 1999–2001. Concluded litigation in Prince Edward Island, Canada regarding alleged agri-chemical damage to golf course greens.
10. Edmonds Landscape & Construction Services Ltd., Environmental Services Division. 1996. Project review.
11. Peter C. Ghiz Law Corp. 1990-1996. Concluded litigation in Prince Edward Island, Canada regarding pesticide misuse.
12. Maritime Electric Co. 1988-2003. Vegetation management advice.
13. BASF Canada Inc. 1985-1986. Contract Research.
14. Chipman Chemicals Inc. 1984. Contract Research.

### **International Experience:**

North Korea: Taught a 4 credit on Weed Science at Pyongyang University of Science & Technology.

Chile: April 2015 I taught a 2-day workshop on grant proposal preparation at Pontificia Universidad Catolica de Chile (La Catolica) in Santiago. Prior to that I completed a 3 month sabbatical leave at La Catolica. The leave was an extension of an ongoing relationship with Chile extending for more than 10 years. I lead an Ohio State University *Study Abroad* Program that will complete its fourth trip to Chile this December (13). A former doctoral student is now Dean, School of Agriculture & Forestry at La Catolica and I currently have an intern from the institution working in my laboratory.

China: During 2008 I led a team of six Ohio State University faculty and students to People's Republic of China. The purpose of the trip was to establish collaborative relations with agricultural faculties in China focusing on agricultural risk communication. I am currently leading development of a MOA between Ohio State University and the China Agricultural University. The purpose of the MOA is to further academic interactions between the institutions.

Honduras: I regularly provide internships to students from Zamorano University.

Tanzania: During 2007 I travelled to Sokoine University in Morogoro, in my role as co-PI on the USAID project *Regional IPM Program for East Africa: Kenya, Tanzania and Uganda*. I provided consultations on two MS research projects and presented a seminar on the impact of weeds on human affairs. I have hosted one visiting scientist from Sokoine University.

Brazil: In 2006 I travelled through Sao Paulo State documenting and collecting germplasm of *Nicandra physalodes* in soybean fields. The species is an invasive weed in the Midwest.

#### **RECENT REFEREED PUBLICATIONS (Last 5 years)**

1. Randa Jabbour, Eric R. Gallandt, Sarah Zwickle, Robyn S. Wilson, and Doug Doohan. 2014. Organic farmer knowledge and perceptions are associated with on-farm weed seedbank densities in northern New England. *Weed Science*. 62:338-349.
2. Sarah Zwickle, Robyn Wilson, Doug Doohan. 2014. Identifying the challenges of promoting ecological weed management (EWM) in organic agroecosystems through the lens of behavioral decision making. *Agriculture and Human Values*. 31:355-370
3. Jiang, L., A.J. Wijeratne, S. Wijeratne, M. Fraga, T. Meulia, **D. Doohan**, Z. Li, and F. Qu. 2013. Profiling mRNAs of two *Cuscuta* species reveals possible candidate transcripts shared by parasitic plants. *PLOS ONE*. 8:11.
4. Jiang, L., X. Xu, Z. Li and **D. Doohan**. 2013. Grafting imparts glyphosate resistance in soybean. *Weed Technology*. 27(2): 412-416.
5. Jiang, L., F. Qu, Z. Li, and **D. Doohan**. 2013. Inter-species protein trafficking endows dodder (*Cuscuta pentagona*) with a host-specific herbicide-tolerant trait. *New Phytologist*. 198(4):1017-1022.
6. **Doohan, D.**, and J. Felix. 2012. Crop response and control of common purslane (*Portulaca oleraceae*) and prostrate pigweed (*Amaranthus blitoides*) in green onion with oxyfluorfen. *Weed Technology*. 26(4): 714-717.

7. Kruger G. R., W. G. Johnson, **D. J. Doohan**, and S. C. Weller. 2012. Dose response of glyphosate and dicamba on tomato injury. *Weed Technol.* 26: 256-260.
8. Parker, J., R. Wilson, L. Rivers, J. LeJeune and **D. Doohan**. 2011. Including growers in the 'food safety' conversation: Enhancing the design and implementation of food safety programming based on farm and marketing needs of fresh fruit and vegetable producers. *Agriculture & Human Values*. *In press*.
9. Parker, J., R. Wilson, L. Rivers, J. LeJeune, **D. Doohan**, 2011. An expert's guide to understanding grower decisions related to fresh fruit and vegetable contamination prevention and control. *Food Control*. *In Press*.
10. Kline, T.R., H. Kneen, A. Kleinschmidt, E. Barrett, M. Gastier, M Koenig, **D. Doohan**. 2011. Adapting extension food safety programming for vegetable growers to accommodate differences in ethnicity, farming scale, and other individual factors. *J. of Extension*. *In Press*.
11. Jiang, L., I. Dami, H.M. Mathers, W. A. Dick, and **D. Doohan**. 2011. The effect of straw mulch on simulated simazine leaching and runoff. *Weed Science*. 59:580-586
12. **Doohan, D.**, R. Wilson, E. Canales, and J. Parker. 2010. Investigating the human dimension of weed management: new tools of the trade. *Weed Science*. 58:490-496.
13. Amisi, K. and **D. Doohan**. 2010. Redroot pigweed (*Amaranthus retroflexus*) seedling emergence and growth in soils amended with composted dairy cattle manure and fresh dairy cattle manure. *Weed Technology*. 24:71-75.
14. Figueroa, R., J. Cardina, D. Herms, and **D. Doohan**. 2010. Maternal environment effects on common groundsel (*Senecio vulgaris* L.) seed dormancy. *Weed Science*. 58:160-166.
15. Wilson, R., J. Parker, D. Kovacs, **D. Doohan**, and J. LeJeune. 2009. Contamination prevention and response related to fresh and fresh-cut produce: an expert perspective on the farmer decision making process. *Food Protection Trends*. 29:488-492.
16. Cattaneo, A.A., R. Wilson, **D. Doohan**, and J.T. LeJeune. 2009. Bovine veterinarians' knowledge, beliefs, and practices regarding antibiotic resistance on Ohio dairy farms. *J. Dairy Science*. 92:3494-3502.
17. Wilson, R., J. LeJeune, M. Tucker, N. Hooker and **D. Doohan**. 2009. Targeting the farmer decision making process: A pathway to increased adoption of integrated weed management. *Crop Protection* 28:756-764.
18. Felix, J., J. Ivany, G.O. Kegode, and **D. Doohan**. 2009. Timing potato cultivation using the WeedCast Model. *Weed Science*. 57:87-93.

### **C. Research Support.**

#### **CURRENT:**

1. *Doohan, Douglas*: "Practiced by Farmers but Untested by Scientists: Uniting Both in Participatory Research and Education to Explain the Effects of Soil Balancing". (USDA, OAREI). (September 2014– August 2018).
2. *Doohan, Douglas*: "Increasing grower awareness and acceptance of Good Agricultural Practices through subsidized program development fees and improved, integrated message content." Ohio Department of Agriculture. 10/31/2011-09/30/2013.

3. *Doohan, Douglas*: “Herbicide volatility, spray drift, and the vineyard: Recognition, significance and avoidance.” (Ohio State/ OARDC). (07/01/2011-06/30/2013).
4. *Doohan, Douglas*: “Managing risk of environmental disease in fruit and vegetable crop caused by 2,4-D and dicamba drift or volatilization from herbicide tolerant row crops.” (USDA SCRI). (09/01/2011-08/31/2012).
5. *Doohan, Douglas*: “An Integrated Approach to Prevent and Minimize Enteric Foodborne Viruses in Fresh Vegetables and Fruit.” (USDA, NIFISI). (September 2010 – August 2014).
6. *Doohan, Douglas*: “Mental Models and Participatory Research to Redesign Extension Programming for Organic Weed Management.” (USDA, OAREI). (September 2009 – August 2013).
7. *Doohan, Douglas*: “Integrated Approach to Understanding Food Safety, Practices and Attitudes Among Local Food System Actors.” (NCR SARE). (September 2011 – August 2013)
8. *Doohan, Douglas*: “Integrating Social and Biological Sciences to enhance adoption of vegetable safety behaviors from farm to table.” (USDA, NIFSI). (September 2007 – August 2011)
9. *Doohan, Douglas*: “Understanding the nature of parasitism in dodder from a reproduction aspect – flowering initiation.” (Ohio State/OARDC). (March 2010 – February 2012)