

## **Avishek Datta**

**Title** : Dr.

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**FoS** : Agricultural Systems and Engineering and Agri-Business Management Program

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### **EDUCATIONAL BACKGROUND**

- Ph.D. (Agronomy), University of New England, Armidale, New South Wales, Australia (2008)
- M.Sc. (Agronomy), B.C. State Agricultural University, Mohanpur, Nadia, West Bengal, India (2002)
- B.Sc. (Agriculture) Hons., B.C. State Agricultural University, Mohanpur, Nadia, West Bengal, India (2000)

### **RESEARCH INTERESTS**

- Application of integrated crop/weed management techniques to improve water use efficiency of crop production, as well as to optimize crop yield and profit in crop production systems
- Better understanding the response of crop under different soil management practices
- Development and application of simulation models to farming systems research
- Ecological agriculture and organic farming
- Agronomic research, weed science, soil fertility management
- Crop-weed competition, crop weed management, and herbicide tolerance
- Weed ecology and management

### **TEACHING**

- ED70.07: Agricultural Environments
- ED70.08: Crop Productivity Management
- ED70.17: Crop Eco-physiology and Modeling
- ED70.22: Advanced Agricultural Experimentation

## SELECTED PUBLICATIONS

### Book Chapters

- 1) Fennimore SA, Hanson BD, Sosnoskie LM, Samtani JB, Datta A, Knezevic SZ, Siemens MC. (2014). Field Applications of Automated Weed Control: Western Hemisphere. In S. L. Young and F. J. Pierce (Eds.), *Automation: The Future of Weed Control in Cropping Systems*. 2014, XIII, pp. 151–169. Springer, ISBN 978-94-007-7511-4
- 2) Datta A, Knezevic SZ. (2013). Flaming as an alternative weed control method for conventional and organic agronomic crop production systems: A Review. In D. L. Sparks (Ed.), *Advances in Agronomy* (Volume 118, pp. 399–428). Elsevier Inc. ISBN: 9780124059429. Academic Press

### Peer-reviewed publications

- 1) Datta A, Stepanovic S, Nedeljkovic D, Bruening C, Gogos G, Knezevic SZ. (2014). Impact of single and repeated flaming on yield components and yield of maize. *Organic Agriculture* doi: 10.1007/s13165-013-0053-z
- 2) Knezevic SZ, Stepanovic S, Datta A. (2014). Growth stage impacts response of selected weed species to flaming. *Weed Technology* doi: 10.1614/WT-D-13-00054.1
- 3) Knezevic SZ, Elezovic I, Datta A, Vrbnicanin S, Glamoclija D, Simic M, Malidza G. (2013). Delay in the critical time for weed removal in imidazolinone-resistant sunflower (*Helianthus annuus*) caused by application of a pre-emergence herbicide. *International Journal of Pest Management* 59:299–235
- 4) Knezevic SZ, Rapp RE, Datta A, Irmak S. (2013). Common reed (*Phragmites australis*) control is influenced by the timing of herbicide application. *International Journal of Pest Management* 59:224–228
- 5) Knezevic SZ, Stepanovic S, Datta A, Nedeljkovic D, Tursun N. (2013). Soybean yield and yield components as influenced by the single and repeated flaming. *Crop Protection* 50:1–5
- 6) Datta A, Rapp RE, Scott JE, Charvat LD, Zawierucha J, Knezevic SZ. (2013). Spring-applied saflufenacil and imazapic provided longer lasting *Euphorbia esula* L. control than fall applications. *Crop Protection* 47:30–34
- 7) Leskovsek R, Datta A, Simoncic A, Knezevic SZ. (2012). Influence of nitrogen and plant density on the growth and seed production of common ragweed (*Ambrosia artemisiifolia* L.). *Journal of Pest Science* 85:527–539
- 8) Rapp RE, Datta A, Irmak S, Arkebauer TJ, Knezevic SZ. (2012). Integrated management of common reed (*Phragmites australis*) along the Platte River in Nebraska. *Weed Technology* 26:326–333
- 9) Leskovsek R, Datta A, Knezevic SZ, Simoncic A. (2012). Common ragweed (*Ambrosia artemisiifolia*) dry matter allocation and partitioning under different nitrogen and density levels. *Weed Biology and Management* 12:98–108
- 10) Elezovic I, Datta A, Vrbnicanin S, Glamoclija D, Simic M, Malidza G, Knezevic SZ. (2012). Yield and yield components of imidazolinone-resistant sunflower (*Helianthus annuus* L.) are influenced by pre-emergence herbicide and time of post-emergence weed removal. *Field Crops Research* 128:137–146
- 11) Ulloa SM, Datta A, Bruening C, Gogos G, Arkebauer TJ, Knezevic SZ. (2012). Weed control and crop tolerance to propane flaming as influenced by the time of day. *Crop Protection* 31:1–7
- 12) Cavlieri S, Silva FML, Velini ED, Sao Jose, AR, Ulloa SM, Datta A, Cavalieri JD, Knezevic SZ. (2012). Selectivity of nicosulfuron at three popcorn growth stages. *Planta Daninha* 30:377–386

- 13) Datta A, Sindel BM, Kristiansen P, Birchall C, Jessop RS, Felton WL. (2011). Influence of nitrogen fertilization and isoxaflutole on the nodulation of chickpea (*Cicer arietinum*). *Weed Biology and Management* 11:91–99
- 14) Ulloa SM, Datta A, Bruening C, Neilson B, Miller J, Gogos G, Knezevic SZ. (2011). Maize response to broadcast flaming at different growth stages: Effects on growth, yield and yield components. *European Journal of Agronomy* 34:10–19
- 15) Ulloa SM, Datta A, Knezevic SZ. 2011. Growth stage influenced sorghum response to broadcast flaming: Effects on yield and its components. *Agronomy Journal* 103:7–12
- 16) Ulloa SM, Datta A, Cavalieri SD, Lesnik M, Knezevic SZ. (2010). Popcorn (*Zea mays* L. var. everta) yield and yield components as influenced by the timing of broadcast flaming. *Crop Protection* 29:1496–1501
- 17) Ulloa SM, Datta A, Malidza G, Leskovsek R, Knezevic SZ. (2010). Yield and yield components of soybean [*Glycine max* (L.) Merr.] are influenced by the timing of broadcast flaming. *Field Crops Research* 119:348–354
- 18) Ulloa SM, Datta A, Knezevic SZ. (2010). Growth stage impacts tolerance of winter wheat (*Triticum aestivum* L.) to broadcast flaming. *Crop Protection* 29:1130–1135
- 19) Ulloa SM, Datta A, Knezevic SZ. (2010). Tolerance of selected weed species to broadcast flaming at different growth stages. *Crop Protection* 29:1381–1388
- 20) Ulloa SM, Datta A, Knezevic SZ. (2010). Growth stage influenced differential response of foxtail and pigweed species to broadcast flaming. *Weed Technology* 24:319–325
- 21) Knezevic SZ, Datta A, Scott J, Charvat LD. (2010). Application timing and adjuvant type affected saflufenacil efficacy on selected broadleaf weeds. *Crop Protection* 29:94–99
- 22) Ulloa SM, Datta A, Malidza G, Leskovsek R, Knezevic SZ. (2010). Timing and propane dose of broadcast flaming to control weed population influenced yield of sweet maize (*Zea mays* L. var. *rugosa*). *Field Crops Research* 118:282–288
- 23) Knezevic SZ, Datta A, Scott J, Charvat LD. (2010). Tolerance of winter wheat (*Triticum aestivum* L.) to pre-emergence and post-emergence application of saflufenacil. *Crop Protection* 29:148–152
- 24) Datta A, Sindel BM, Kristiansen P, Jessop RS, Felton WL. (2009). The effects of temperature and soil moisture on chickpea (*Cicer arietinum*) genotype sensitivity to isoxaflutole. *Journal of Agronomy and Crop Science* 195:178–185
- 25) Knezevic SZ, Datta A, Scott J, Klein RN, Golus J. (2009). Problem weed control in glyphosate-resistant soybean (*Glycine max*) with glyphosate tank-mixes and soil-applied herbicides. *Weed Technology* 23:507–512
- 26) Knezevic SZ, Datta A, Scott J, Charvat LD. (2009). Adjuvant influenced saflufenacil efficacy on fall emerging weeds. *Weed Technology* 23:340–345
- 27) Datta A, Sindel BM, Kristiansen P, Jessop RS, Felton WL. (2009). Effect of isoxaflutole on the growth, nodulation and nitrogen fixation of chickpea (*Cicer arietinum*). *Crop Protection* 28:923–927
- 28) Knezevic SZ, Datta A, Scott J, Porpiglia PJ. (2009). Dose–response curves of KIH-485 for preemergence weed control in corn. *Weed Technology* 23:34–39
- 29) Knezevic SZ, Datta A, Scott J, Charvat LD. (2009). Interaction between saflufenacil and glyphosate on selected broadleaf weeds. *Crop Management* [Online] doi: 10.1094/CM-2009-1014-01-RS
- 30) Domingues AC, Ulloa SM, Datta A, Knezevic SZ. (2008). Weed response to broadcast flaming. *Review of Undergraduate Research in Agricultural and Life Sciences* [Online] <http://digitalcommons.unl.edu/rurals/vol3/iss1/2>

- 31) Teixeira HZ, Ulloa SM, Datta A, Knezevic SZ. (2008). Corn (*Zea mays*) and soybean (*Glycine max*) tolerance to broadcast flaming. Review of Undergraduate Research in Agricultural and Life Sciences [Online] <http://digitalcommons.unl.edu/rurals/vol3/iss1/1>
- 32) Datta A, Sindel BM, Kristiansen P, Jessop RS, Felton WL. (2008). The effect of soil pH on chickpea (*Cicer arietinum*) genotype sensitivity to isoxaflutole. *Plant and Soil* 303:49–54
- 33) Datta A, Sindel BM, Jessop RS, Kristiansen P, Felton WL. (2007). Phytotoxic response and yield of chickpea (*Cicer arietinum*) genotypes to pre-emergence application of isoxaflutole. *Australian Journal of Experimental Agriculture* 47:1460–1467
- 34) Datta A, Sindel BM, Jessop RS, Birchall C, Felton WL. (2006). Differential response of chickpea (*Cicer arietinum*) genotypes with isoxaflutole. *Communications in Agricultural and Applied Biological Sciences* 71:733–742

#### *Extension publications*

1. Knezevic SZ, Datta A, Bruening C, Gogos G. (2012). Propane fuelled flame weeding in field corn, soybean, and sunflower crops. Propane Education and Research Council, Washington, DC, USA. [online] [http://www.agpropane.com/uploadedFiles/Agriculture/Program\\_Safety\\_On\\_The\\_Farm/Flame%20Weeding%20Training%20Manual\\_08-27-12\\_final%20\(2\).pdf](http://www.agpropane.com/uploadedFiles/Agriculture/Program_Safety_On_The_Farm/Flame%20Weeding%20Training%20Manual_08-27-12_final%20(2).pdf)
2. Sandell L, Datta A, Knezevic SZ, Kruger G. (2012). Glyphosate-resistant giant ragweed in Nebraska. *Proceedings 2012-Crop Production Clinics*, University of Nebraska-Lincoln Extension, Nebraska, USA, p. 153
3. Sandell L, Datta A, Knezevic SZ, Kruger G. (2011). Glyphosate resistant giant ragweed confirmed in Nebraska. *CropWatch*, University of Nebraska-Lincoln Extension, Nebraska, USA. [Online] <http://cropwatch.unl.edu/web/cropwatch/archive?articleID=4662287>
4. Datta A, Knezevic SZ. (2011). Japanese Knotweed and Giant Knotweed-Biology and Control. *CropWatch*, University of Nebraska-Lincoln Extension, Nebraska, USA. [Online] <http://cropwatch.unl.edu/web/cropwatch/archive?articleID=4528938>
5. Datta A. (2009). Right balance with chickpeas. *New South Wales Department of Primary Industries' Research, Advisory and Management Newspaper*, New South Wales, Australia. July, 2009, p.7
6. Knezevic SZ, Datta A, Rapp R. (2008). Common Reed (*Phragmites* spp.)-Biology, Identification, Distribution, and Control. University of Nebraska-Lincoln Extension, Nebraska, USA, EC 166
7. Datta A, Basu M, Mahapatra SC. (2004). Global warming- a grave concern under Indian agricultural scenario. YOJANA, Publications Division, Ministry of Information and Broadcasting, Govt. of India. February, 2004, pp. 44–46
8. Datta A, Rakshit A, Bhadoria PBS. (2003). Genetic engineered food- a serious health concern. YOJANA, Publications Division, Ministry of Information and Broadcasting, Govt. of India. July, 2003, pp. 33–34

#### ONGOING AND COMPLETED PROJECTS

- 1) Factors affecting the sensitivity of chickpea to isoxaflutole and its effect on nitrogen fixation and competitive ability. Cooperative Research Center for Australian Weed Management, Adelaide, Australia. July 2004–February 2008

## AWARDS AND HONORS

- 1) 2011 Outstanding Postdoctoral Nominee, University of Nebraska-Lincoln, Nebraska, USA
- 2) Best Poster Award, Midwest Organic and Sustainable Education Service Conference, La Crosse, Wisconsin, USA. February 2011
- 3) 2010 Outstanding Postdoctoral Nominee, University of Nebraska-Lincoln, Nebraska, USA
- 4) Postdoctoral Fellowship, University of Nebraska-Lincoln, Nebraska, USA. March 2008–July 2012
- 5) Recipient of the Cooperative Research Center for Australian Weed Management Overseas Travelling Scholarship for presenting research findings in Belgium and Germany. May 2006
- 6) Recipient of the Cooperative Research Center for Australian Weed Management Conference Top-Up Scholarship. November 2005
- 7) Recipient of the Cooperative Research Center for Australian Weed Management Top-Up Scholarship and operating funds towards research leading to a Ph.D. July 2004–February 2008
- 8) Recipient of the University of New England Research Assistantship for pursuing a Ph.D. at the University of New England, Armidale, New South Wales, Australia. July 2004–February 2008
- 9) Indian Council of Agricultural Research Fellowship. December 2002–June 2004
- 10) State Agricultural University Merit Scholarship for M.Sc., West Bengal, India. 2000–2002
- 11) State Agricultural University Merit Scholarship for B.Sc., West Bengal, India. 1995–2000
- 12) West Bengal State Merit Scholarship, India. 1995
- 13) Dooars Branch Indian Tea Association Meritorious Student Award, West Bengal, India. 1995

## PROFESSIONAL AFFILIATIONS

- 1) North Central Weed Science Society (USA)
- 2) Weed Science Society of America (USA)

## RESEARCH KEYWORDS

Climate change; Crop Modeling; Crop-weed competition; Crop weed management; Dose–response curves; Herbicide tolerance; Nitrogen fixation; Organic agriculture; Pest management; Plant nutrition