

## **Biographical Sketch: Dan M. Sullivan**

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OSU appointment: 30% Extension, 10% Teaching, 45% Research

### **Education**

Ph.D., Soil Science, 1990, Kansas State University

M.S., Soil Science, 1981, Oregon State University

B.S., Horticulture, 1977, Oregon State University

### **Research and Professional Experience**

1995 to Present. Assistant/Associate Professor. Utilization of organic byproducts. Oregon State University. Corvallis, OR. Develop, implement and lead applied research and educational programs on sustainable agricultural utilization of byproducts generated by municipal, agricultural, and industrial sources.

1990-1995. Assistant Scientist. Utilization of organic byproducts. Washington State University. Puyallup, WA. Develop, implement and lead grant-funded research and extension programs in biosolids management, composting and manure management.

1984- 1986. Extension Agent, Vegetable Crops, Colorado State University. Greeley, CO. Conduct educational and applied research programs for potato and onion producers.

### **Collaborators and affiliations: NIFA multi-state research/extension**

- 1997 to present. SERA-17. Minimizing phosphorus loss from agriculture.
- 1997 to present. WERA-103. Nutrient management and water quality. Served as officer for 3-yr, lead author for 5 regional Extension nutrient management guides.
- 1995 to 2008. W-1170. Chemistry, bioavailability, and toxicity of constituents in residuals and residual-treated soils.

### **Teaching**

#### Graduate

2009 to present. Soil Fertility Management (SOIL515; 3 credits).

2007. Nutrient Mgmt. in Organic Cropping Systems (CSS 599: 3 credits).

1997-2002. Lead advisor for Environmental Soil Science non-thesis M.S. degree program.

Responsibilities included: student recruitment, mentoring, liaison with external sponsors/advisory group, teaching a one-credit class (Fall, Winter, and Spring terms) for each student cohort. Thirty graduate students completed M.S. degree requirements in ESS program over a 6-yr period. Served as major professor for six students in ESS program.

#### Undergraduate

2006-09. Nutrient Cycling in Agroecosystems (CSS316; 4 credits)

## **Awards**

2013. Oregon Organic Coalition. Award for excellence, Dan Sullivan. Category: scientist. Presented Sept 2013, Portland, OR.

2012. ASHS Extension publication award: most outstanding paper on horticultural Extension for 2012. HortScience 47 (7):866-873. OREI project 2008-11. Project lead: Strik.

2008. James and Mildred Oldfield/E.R. Jackman Team Award. OSPUD: Organic Potato Project. OSU College of Agricultural Sciences. D. Sullivan, A. Stone, and P. Jepson (co-PIs). Project website: <http://ospud.org/>

## **Publications (2009 to present):**

### **Refereed**

Larco, H., D.M. Sullivan, B. Strik, and D. Bryla. 2014. Mulch effects on highbush blueberry under organic management. Acta Hort. 1018: 375-382

Owen Jr., J.S., H.M. Stoven, D.M. Sullivan and R.C. Costello. 2014. Effect of compost amendment feedstock and source on containerized azalea production in bark-based substrate. Acta Hort 1018:533-540.

Kusonwiriawong, C., D.M. Sullivan, D.D. Hemphill, C.G. Cogger, A.I. Bary and L. Myhre. 2014. Predicting plant-available nitrogen from organic amendment in the second year after application. Acta Hort. 1018: 325-333.

Moberg, D.P., R. L. Johnson, and D.M. Sullivan. 2013. Comparison of disturbed and undisturbed soil core methods to estimate nitrogen mineralization rates in manured agricultural soils. Commun. Soil Sci. Plant Anal.44:1722-1732.

Costello, R.C. and D.M. Sullivan. 2013. Determining the pH buffering capacity of compost via titration with dilute sulfuric acid. Waste and Biomass Valorization DOI: 10.1007/s12649-013-9279-y

Larco, H.O., B.C. Strik, D.R. Bryla, and D.M. Sullivan. 2013. Mulch and fertilizer management practices for organic production of highbush blueberry. I. Plant growth and allocation of biomass during establishment. HortScience 48:1250-1261

Larco, H.O., B.C. Strik, D.R. Bryla, and D.M. Sullivan. 2013. Mulch and fertilizer management practices for organic production of highbush blueberry. II. Impact on plant and soil nutrients during establishment. HortScience 48:1484-1495.

Julian, J.W., B.C. Strik, H.O. Larco, D.R. Bryla, and D.M. Sullivan. 2012. Costs of establishing organic northern highbush blueberry: Impacts of planting method, fertilization, and mulch type. HortScience 47:1-8

Holcomb III., J. C., D.A. Horneck, D. M. Sullivan, and G.H. Clough. 2011. Effect of Irrigation Rate on Ammonia Volatilization. Soil Science Soc. Am J. 75: 2341-2347.

Sullivan, D.M., C.G. Cogger, A.I. Bary, and T.E. Shearin. 2009. Predicting Biosolids Application Rates for Dryland Wheat Across a Range of Northwest Climate Zones. Communications in Soil Science and Plant Analysis 40:1770-1789.

## Webinars

- May 2014. Sullivan, D.M. Nitrogen Mineralization: Short and Long Term Considerations. In Science Symposium: Nitrogen and phosphorus cycling in dairy farm ecosystems: how science informs nutrient mgmt. plans. WA Association of Conservation Districts. Olympia, WA. [https://www.extension.org/pages/70535/managing-dairy-nutrients-for-stewardship:-washington-state-science-symposium-may-2-2014#.U\\_V5IfISYpo](https://www.extension.org/pages/70535/managing-dairy-nutrients-for-stewardship:-washington-state-science-symposium-may-2-2014#.U_V5IfISYpo)
- April 2010. Sullivan, D.M and N. Andrews. Estimating Plant-Available Nitrogen Contribution from Cover Crops Webinar. eOrganic broadcast. [http://www.extension.org/pages/26919/estimating-plant-available-nitrogen-contribution-from-cover-crops-webinar#.U\\_V9OfISYpo](http://www.extension.org/pages/26919/estimating-plant-available-nitrogen-contribution-from-cover-crops-webinar#.U_V9OfISYpo)
- Jan 2010. Sullivan, D., L. Valenzuela, and R. Costello. 2010. Undercover Nutrient Investigation: The Effects of Mulch on Nutrients for Blueberry Webinar. eOrganic broadcast. <http://www.youtube.com/watch?v=A915qhyg-04>
- March 2007. Sullivan, D.M. Nitrogen availability from organic amendments. Univ. Nebraska-Lincoln Poultry Livestock Environmental Stewardship Program. [https://www.extension.org/pages/68675/nitrogen-availability-from-organic-sources-webcast-archive#.U\\_V7W\\_ISYpo](https://www.extension.org/pages/68675/nitrogen-availability-from-organic-sources-webcast-archive#.U_V7W_ISYpo)

## Extension Publications

- Sullivan, D.M., D.A. Horneck, and D.J. Wysocki. 2013. Eastern Oregon Liming Guide. EM 9060. OSU Extension. 12 p. <http://hdl.handle.net/1957/38532>
- Brewer, L., N. Andrews, D. Sullivan, and W. Gehr. Agricultural Composting and Water Quality. 2013. OSU Extension. EM 9053. 29 p. <http://hdl.handle.net/1957/39040>.
- Anderson, N.P., J.M. Hart, D.M. Sullivan, N.W. Christensen, D.A. Horneck, and G.J. Pirelli. 2013. Applying Lime to Raise Soil pH for Crop Production (Western Oregon). OSU Extension. EM 9057 OSU Extension. Corvallis, OR. 21 p. . <http://hdl.handle.net/1957/38531>
- Hart, J.M. , D.M. Sullivan, N.P. Anderson, A.G. Hulting, D.A. Horneck, and N.W. Christensen. 2013. Soil Acidity in Oregon: Understanding and Using Concepts for Crop Production EM 9061. OSU Extension. Corvallis, OR. 22 p. <http://hdl.handle.net/1957/41199>.
- Sullivan, D.M. and N.D. Andrews. 2012. Estimating plant-available nitrogen release from cover crops. Pacific Northwest Extension Publication 636. Oregon State University Extension. Corvallis, OR. 23 p.
- Horneck, D.A., D.M. Sullivan, J.S. Owen, and J.M. Hart. 2011. Soil Test Interpretation Guide. EC 1478 (revised). Oregon State University Extension. Corvallis, OR. <http://hdl.handle.net/1957/22023>
- Anderson, N.P., J.M. Hart, D.A. Horneck, D.M. Sullivan, N.W. Christensen, and G. J. Pirelli. 2010. Evaluating Soil Nutrients and pH by Depth in Situations of Limited or No Tillage

- in Western Oregon. Extension Nutrient Management Guide EM 9014. Oregon State University Corvallis, OR. <http://hdl.handle.net/1957/19024>
- Hart, J.M., D.M. Sullivan, M.E. Mellbye, A.G. Hulting, N.W. Christensen, and G.A. Gingrich. 2010. Peppermint (Western Oregon). Nutrient Management Guide EM 9018-E. Oregon State University Extension, Corvallis, OR. <http://hdl.handle.net/1957/19693>
- Hart, J.M., D.M. Sullivan, J.R. Myers, and R.E. Peachey. 2010. Sweet corn: western Oregon. Nutrient Management Guide EM 9010-E. Oregon State University Extension, Corvallis, OR. <http://hdl.handle.net/1957/19064>
- Owen, J., D. Sullivan, D. Horneck, and J. Hart. 2010. Bareroot Shade, Flowering, and Fruit Trees (Willamette Valley). Nutrient Management Guide EM 9013-E. Oregon State University Extension, Corvallis, OR. <http://hdl.handle.net/1957/19067>
- Strik, B.C., D.R. Bryla, and D.M. Sullivan. 2010. Organic Blueberry Production Research Project. <http://www.extension.org/article/31680>
- Andrews, N. and D.M. Sullivan. 2010. Organic Fertilizer and Cover Crop Calculator. <http://smallfarms.oregonstate.edu/calculator>
- Bell, N., D. Sullivan, and T. Cook. 2009. Mulching woody ornamentals with organic materials. OSU Extension EM 1629-E.

### **Book Chapters**

- Sullivan, D.M., D.R. Bryla, and R.C. Costello. 2014. Chemical characteristics of custom compost for highbush blueberry. p. 293-311 (Chapter 14). In: Z. He and H. Zhang (eds.). Applied manure and nutrient chemistry for sustainable agriculture and environment. Springer-Verlag, New York.
- Sullivan, D.M. 2013. Fertilizing grass with municipal biosolids. Chap. 36. p.152-157. In: S. Bittman and D. Hunt (eds.) Cool Forages - Advanced management of temperate forages. Pacific Field Corn Association. Agassiz, B.C. Canada. <http://www.farmwest.com>

### **Proceedings and Abstracts**

- Sullivan, D.M., B. Strik and D. Bryla. In Press. Evaluation of alternative mulches for blueberry over five production seasons. In Press, Acta Horticulturae. In: R. Ortega (ed) Proc. 2nd Intl Symposium on Organic Matter Management and Compost in Horticulture. Santiago, Chile. Oct 2013.
- Sullivan, D.M., N. Bell, J. Kowalski, J. McQueen and J. Owen Jr. Biosolids compost improves landscape plant establishment in compacted soil. BioCycle Conference. Portland, OR. April 2012. [http://www.biocyclewestcoast.com/2012/Presentations/Tuesday/Sullivan\\_D\\_s.pdf](http://www.biocyclewestcoast.com/2012/Presentations/Tuesday/Sullivan_D_s.pdf)
- Costello, Ryan C., Dan M. Sullivan, and Shannon B. Andrews. 2012. Predicting the pH buffering capacity of compost via titration with dilute sulfuric acid. In: S05.01-P -51 (Soil organic matter amendments: impacts, benefits, and risks). EuroSoil2012, 2-6 July 2012, Bari, IT. Oral.

- Strik, B.C., D.R. Bryla, E. Vollmer, and D.M. Sullivan 2012. In: Organic Blueberry Production Systems: Management of Plant Nutrition, Irrigation Requirements, and Weeds. American Soc. Hort Sci  
<http://ashs.confex.com/ashs/2012/webprogram/Paper10459.html>
- Sullivan, D.M, R.C. Costello, D.R. Bryla, B.C. Strik, and J. Owen Jr. 2012. Suitability of composts for an acid-loving plant, highbush blueberry. Paper 105. In: ORBIT2012: Global assessment for organic resources and waste management. 8th Intl. Conf., European Compost Network. 12-15 June, 2012. Rennes, France.
- Sullivan, D.M. 2012. Nitrogen fertilizer equivalency of heat-dried municipal biosolids for soft white winter wheat. In: 25th Biofest Conference, Cle Elum, WA. 28 Aug 2012.  
[https://www.eiseverywhere.com/file\\_uploads/8ee6860aada13b167276eedd2799709e\\_SullivanBiofestposters2012.pdf](https://www.eiseverywhere.com/file_uploads/8ee6860aada13b167276eedd2799709e_SullivanBiofestposters2012.pdf)
- Sullivan, D.M. 2012. Nitrogen fertilizer replacement value of heat-dried biosolids. Paper 106. In: ORBIT2012: Global assessment for organic resources and waste management. 8th Intl. Conf., European Compost Network. 12-15 June, 2012. Rennes, France. CD-ROM.
- Sullivan, Dan M. and Ryan C. Costello. Custom compost for acid-loving plants: chemistry matters. Soil Science Soc. America Annual Meeting. Cincinnati, OH. Session 117-7. October 22, 2012
- Valenzuela-Estrada, L., D.R. Bryla, D.M. Sullivan, and B.C. Strik. 2011. Influence of weed mat and surface sawdust mulch on soil nutrient availability and soil chemical properties under organic blueberry production. HortScience 46(9):S285-S286. (Abstr.)
- Larco, H., D.M. Sullivan, B. Strik, and D. Bryla. 2011. Mulch effects on highbush blueberry under organic management. p. 53 In: Abstracts, ISHS Intl. Symposium Organic Matter & Compost Use in Horticulture. 4-7 Apr. 2011. Adelaide, AU.
- Costello, R.C., D.M. Sullivan, D.R. Bryla, B.C. Strik and J. Owen. 2011. Highbush blueberry response to compost and sulfur. p. 67-72. In: Proc. Western Nutrient Mgmt. Conf. 3-4 Mar 2011. Reno, NV.
- Costello, R. C., S. B. Andrews and D.M. Sullivan. 2011. Laboratory titration to predict elemental sulfur required for compost acidification. SSSA Annual Meeting. San Antonio, TX. 16-20 Oct. 2011.  
<http://a-c-s.confex.com/crops/2011am/webprogram/Paper66759.html>
- Costello R.C. and D. M. Sullivan. 2011. Effects of Acidified and Non-Acidified Composts On Highbush Blueberry Growth and Nutrient Uptake. SSSA Annual Meeting. San Antonio, TX. 16-20 Oct. 2011.  
<http://a-c-s.confex.com/crops/2011am/webprogram/Paper66746.html>
- Sullivan, D.M., R. Datta, N. Andrews and K. E. Pool. 2011. Predicting plant-available nitrogen release from cover crop residues. P. 55-60 In: Proc. Western Nutrient Management Conference, 3-4 March 2011. Reno, NV

- Costello, R. and D. Sullivan. 2010. Development of Custom Compost for Highbush Blueberry. Soil Science Soc. Am. Annual meeting, Long Beach, CA. <http://a-c-s.confex.com/crops/2010am/webprogram/Paper60079.html>
- Sullivan, D. M, N. Bell, J.Owen, J. Kowalski and J. McQueen. 2010. Compost Improves Establishment of Standard and Drought Tolerant Landscape Plants in Compacted Soil. 28<sup>th</sup> International Horticultural Congress, 22 to 27 Aug 2010, Lisboa, Spain. <http://www.ihc2010.org/e posters/detail.asp?posterId=1835&category=&searchTerm=&page=1>
- Sullivan, D. M., N. Andrews, J.M. Luna and J.P.G. McQueen. 2010. Estimating N contribution from organic fertilizers and cover crop residues using online calculators. p. 83-86. In: 2010 19th World Congress of Soil Science, Soil Solutions for a Changing World, 1 – 6 August 2010, Brisbane, Australia. <http://www.iuss.org/19th%20WCSS/Symposium/pdf/D3.2.pdf>
- Sullivan, D. M, N. Bell, J. Owen, J. Kowalski and J. McQueen. 2010. Municipal composts improve landscape plant establishment in compacted soil. 2010 19th World Congress of Soil Science, Soil Solutions for a Changing World, 1 – 6 August 2010, Brisbane, Australia. <http://www.iuss.org/19th%20WCSS/symposium/pdf/2500.pdf>
- Valenzuela-Estrada, L., O.L. Vargas, D.R. Bryla, D.M. Sullivan, and B.C. Strik. 2010. Blueberry root dynamics and nutrient management under organic and conventional production. HortScience 45:S34 (Abstr.).
- Holcomb III., J., D. Horneck, and D. Sullivan. 2010. Effect of Irrigation Rate On Urea Incorporation. Soil Science Soc. Am. Annual meeting, Long Beach, CA. <http://a-c-s.confex.com/crops/2010am/webprogram/Paper58114.html>
- Holcomb III., J., D. Horneck, and D. Sullivan. 2010. Effect of Urease Inhibitors On Ammonia Volatilization. Abstract #58375. Soil Science Soc. Am. Annual meeting, Long Beach, CA.
- Andrews, N. and D. Sullivan. 2010. Estimating Cover Crop Nitrogen Contributions and Management Costs with a New Online Calculator. Abstract ID# 59792. Soil Science Soc. Am. Annual meeting, Long Beach, CA.
- Sullivan Dan M. and N. Andrews. 2010. Monitoring Crop Nitrogen Status in Organic Vegetable Cropping Systems. Abstract ID# 60056. Soil Science Soc. Am. Annual meeting, Long Beach, CA.
- Larco, H., B.C. Strik, D. Bryla, and D. Sullivan. 2009. Establishing Organic Highbush Blueberry Production Systems. The Effect of Raised Beds, Weed Management, Fertility, and Cultivar. HortScience (Abstr.), 44:1120-21.

### **Trade Journals/Popular Press.**

- Andrews, N. and D. Sullivan. 2012. Estimating plant-available nitrogen from cover crops. p. 1-6. In: Tilth Producers Quarterly. 22 (4). Tilth Producers of Washington. Seattle, WA.
- Andrews, N. and D. Sullivan 2012. Nitrogen Management in Organic Vegetables: Work in Progress. Oregon Small Farm News. 7(4), pp 12-14.

- Andrews, N. and D. Sullivan (2012). Estimating plant-available nitrogen from cover crops. *Tilth Producers Quarterly*, 22(4), pp 1,4-6.
- Andrews, N.D. and D.M. Sullivan 2012. A New Pacific Northwest Extension Publication: Estimating Plant-Available Nitrogen from Cover Crops. *Nutrient Digest A Publication of the WERA-103 Committee*. 4(3), pp 4-5.
- Costello, R.C. and D.M. Sullivan. 2012. Tagro Potting soil as a soil amendment for an acid-loving plant. In: *Biosolids Bulletin*. NW Biosolids Management Association.
- Sullivan, Dan, Jim Owen, Neil Bell and Judy Kowalski. 2011. No water, no problem: In low-water landscapes, Mediterranean plants may be the answer, especially with compost added *Digger* (May 2011): 49-53.
- Sullivan, D.M, and R. Costello. 2010. Breaking it down: Growers can get the most value from their compost by having it analyzed first. *Digger* (Oct 2010):41-46.

### **Experiment Station or Project Reports**

- Sullivan, Dan M., Aaron Heinrich, and Ed Peachey. Predicting Phosphorus and Nitrogen Needs in Sweet Corn. 2012. Report to Oregon Processed Veg. Commission.
- Strik, B.C., D.R. Bryla, and D.M. Sullivan. 2010. Organic Blueberry Production Research Project. Online at: <http://www.extension.org/article/31680>