



Cornell University

## CURRICULUM VITAE

Jean Bonhotal

<http://cwmi.css.cornell.edu/Bonhotal.htm>

Cornell Waste Management Institute Soil and Crop Sciences Section,  
School of Integrative Plant Science, 817 Bradfield Hall, Ithaca, NY 14853, 607-255-1187  
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### Education:

1991 M.S. SUNY Binghamton, Education and Communication  
1984 B.A./B.S. Utah State University, Fisheries and Wildlife Biology  
1979 AAS SUNY Morrisville, Natural Resources

### Positions:

2012-present Cornell Waste Management Institute, Cornell University, Ithaca, NY, Director & Sr Extension Associate  
2007-2012: Cornell Waste Management Institute, Cornell University, Ithaca, NY, Associate Director & Sr Extension Associate  
1989-2007: Cornell Waste Management Institute, Cornell University, Ithaca, NY, Extension Associate  
1986-1989: Cornell Cooperative Extension, Broome County, Binghamton, NY, Cooperative Extension

### Areas of Expertise:

Composting; manure; mortality disposal; compost quality; compost use in relationship to soil quality

### Professional Overview and Objectives:

Improve soil health through increased use of organic residuals. Provide economic and environmentally sound options for livestock farmers to manage manure and mortalities. Promote sound, practical plans for mass casualty disposal throughout the US. Work with the compost/horticulture/agriculture industry to develop specifications for compost use and promote an increase use of organic residuals.

### Honors and Awards:

Professional Fulbright to work in Outer Mongolia. 2019. Sustainable waste management in Mongolia, Dornod. 8/13-8/31  
Rufus Chaney Award – US Composting Council, 2014  
NACAA Poster Award – Sustainable Livestock Mortality Management, 2013  
MacDonald Award – Department of Crop and Soil Sciences. 2011  
NYSAR-Recycler of the Year – Private Sector. 2009  
Communications Award Regional Finalist, NACAA, “Compost Fact Sheet Series.” 2009  
Outstanding Accomplishments in Extension/Outreach Award – CALS Research and Extension 2007  
David Allee Campus-County Connection Award – The “Natural Rendering” project. 2004  
Blue Ribbon: from the American Society of Agricultural Engineers. “Natural Rendering: Composting Livestock Mortality and Butcher Waste,” (NRAES-163). 2003.  
Outstanding New Extension Publication Recognition Award, “Natural Rendering: Composting Livestock Mortality and Butcher Waste” fact sheet, presented by Cornell Cooperative Extension. 2003.  
National Association of County Agricultural Agents Communication Award & NYS winner, “Disposal of Livestock Mortality & Butcher Waste.” 2003.



NYS Association of County Agricultural Agents, Comm NE Finalist, “You Can Compost What?” 2003.  
National Association of County Agricultural Agents Communication Award & NYS winner, “Farm-  
Based Composting: Manure & More.” 2001.  
Solid Waste Assoc. of North America – award for developing a youth solid waste education program.  
1991.  
U.S. Environmental Protection Agency – Environmental Quality Award. 1991.

**Grants/contracts:** \*current funding

- Agricultural Innovation Manure Projects – Technology Transfer
- Agronomic and Soil Condition Value of Organic Residuals
- Assessing the Fate of Drugs in Livestock Mortality and Manures
- Assessment of Soil and Compost Microbial in a Large Animal Mortality Composting System
- \*Biodegradation of denim Project, Cotton Inc
- Characterizing & Determining Beneficial Use of Paper Prod Residuals that Become Waste
- Compost: Make it & Use it to Build Soils, Reduce Drought Conditions, Reduce Contamination & Store Carbon
- \*Composting SME: NYS Egg Disposal Disease Response Project -NADPRP
- Connecting Farm Compost with Ag Industry Users: Demo Compost Assets with Growers
- Cornell for P2I project at Bard, Food Scrap Composting
- Cornell for P2I project at Clifton Springs WWTP, Food Scrap Composting
- Develop Manufactured Topsoil Mixes to Support the Growth of Pollinator-Friendly Vegetation on Roadsides
- Emergency and Routine Mortality Management
- Emergency Planning for Avian Influenza in New York State
- Evaluation of New Compost Dairy Barn Facility
- Implementing Natural Rendering on Farms and in Butcher Operations
- Implementing the Use of Compost in Agriculture, Turf, Landscaping and For Erosion Control
- Improving Disposal of On-Farm Mortality and Butcher Waste Residual
- Improving Soil Test Performance, Interpretation and Education for Toxic Metals
- Improving Turf & Soil Health, Reducing Energy Use & Accessing Tick Populations by Mulching Leaves in Place
- \*Livestock Mortality Management in New York State
- Livestock Mortality Management in New York State
- Managing Waste as a Resource
- Northern Forest Compost Collaborative
- \*NYS DEC Compost Mortality
- Pathogen Analysis of NYS DOT Road-Killed Deer Carcass Compost Facilities
- Recycling Agricultural Plastics Project (RAPP)
- Sustainable Disposal: Livestock Mortality Management, Developing Capacity
- Sustainable Livestock Mortality Management
- Sustainable Materials Management Outreach and Education in New York and Puerto Rico
- \*Ultimate Disposal of Cannabis Organic Waste through Composting
- Use of Dried Manure Solids as Bedding for Dairy Cows
- Use of Vermicompost, Substitute for Synthetic Inputs to Hort and Nursery Production
- \*Vermi-composting Sargassum with Pontidrilus Darwin Plus grant Tortola, BVI

## Publications:

- Schwarz, M. Alwala, W., Perju, A., Bonhotal, J., Frey, M., Pires, S., Ankeny, M., Daystar, J. 2024. The Effect of Denim Fabric as a Feedstock in Large Scale Composting of Manure/Bedding and Food Scraps. *Compost Science and Utilization*. In press.
- Alwala, W., Perfu, A., Schwarz, M., Bonhotal, J., Pires, S., Ankeny, M., Daystar, J., Frey, M. 2024. The Compostability of Denim Fabrics Dyed with Various Indigos. *Bioresources*. In press.
- Bonhotal, J., Schwarz, M. 2024. Improving Turf and Soil Health, Reducting Energy Use and Assessing Tick Populations by Mulching Leaves in Place. *Compost Science and Utilization*. In press.
- Shafiq, M., Thies, J, E., Bonhotal, J. 2023. *Composts as Soil Amendments to Promote Soil Health*. Chapter 27 in: Biological Approaches to Regenerative Soil Systems 2<sup>nd</sup> Edition. Norman Uphoff and Janice Thies Editors. ISBN 9780367554712. CRC Press.
- Rynk, Robert; Black, Ginny; Biala, Johannes; Bonhotal, Jean; Cooperband, Leslie; Gilbert, Jane; Schwarz, Mary. (2022). *The Composting Handbook*.
- Bonhotal, J.; Sustainable Waste Management in Mongolia, Dornod, Fulbright Report, 2019, 1-6
- Bonhotal, J. Schwarz, M. Johnson, T.; USDA APHIS, NYS DAM, 2019. Responding to a Poultry Disease Outbreak 8-minute password protected video.
- Bonhotal, J. Schwarz, M. Wright, P.; 2019 Revisions to ASABE Mortality Composting Standards are in progress to make “how to mortality compost” more accessible & implement process correctly.
- Heyman, H.; Bassuk, N.; Bonhotal, J.; Walter, T. Compost Quality Recommendations for Remediating Urban Soils. *Int. J. Environ. Res. Public Health* 2019, 16, 3191.
- Bonhotal J., Schwarz, M.; BVI's, 2019,1-5
- Bonhotal J., Bonacquist-Currin, M.; Agricultural Plastics Recycling in New York State: Case Study, 2019 USDA ARS, 1-14
- Bonhotal J., Schwarz, M.; Summary and Recommendations on Use of Coir as a Composting Medium for APEX, 2018, 1-13
- Bonhotal, J. Composting Swine from a *Brucella suis* Outbreak in the Northeast. 50-minute APHIS.
- Schwarz, M. Bonhotal, J.; School Composting - Let's Get Growing, 16p fact sheet, 2017.
- Bonhotal, J. Schwarz, M.; Characteristics of a Sampling of New York State Composts Summary and database of compost characteristics from a sampling of NYS composts, 2017.
- Miller, Lori, et al Mortality Composting Protocol for Livestock Infected Herds – FY2017 Livestock Response. USDA APHIS, 1-28
- Bonhotal, J., Compost and Waste Management Education in Haiti, 2017, FAVACA,1-19
- Miller, Lori, et al Mortality Composting Protocol for Avian Influenza Infected Flocks – FY2016 HPAI Response. USDA APHIS, 1-31.
- Bonhotal, J.; Composting – How It Works for Kenya, English and Swahili 2p poster, 2016
- Bonhotal, J.; Composting-How It Works / Easy On-site Composting! 2p poster, 2016
- Bonhotal, J.; Mortality Management Options During an Avian Influenza Outbreak. This 70-min. webcast provides a current update of the outbreak and highlights mortality management options. October 2015.
- Schwarz, M. and Bonhotal, J.; 2016. The Fate of Ivermectin in Manure Composting. Cornell Waste Management Institute, 1-9.
- Bonhotal, J. 2015. Composting Horse Mortality and Mortality Disposal Alternatives. Waste to Worth: Spreading Science and Solutions. Seattle, WA. March 31-April 3, 2015. <http://www.extension.org/pages/72738/composting-horse-mortality-and-mortality-disposal-alternatives>. Accessed on 2/13/17.
- Bonhotal, J. 2015. Horse Manure Composting: Facilities and Methods. Waste to Worth: Spreading Science and Solutions. Seattle, WA. March 31-April 3, 2015. <http://www.extension.org/pages/72737/horse-manure-composting:-facilities-and-methods> Accessed on 2/13/17.



- Bonhotal, J. and Schwarz, M. 2015. Where There is Livestock, There is Occasionally Deadstock. *Progressive Dairyman*, 3:58-59. *Progressive Dairyman-Canada* online.
- Payne, J., Farris, R., Parker, G., Bonhotal, J., Schwarz, M. 2015. Quantification of Sodium Pentobarbital Residues from Equine Mortality Compost Piles. *Journal of Animal Science*
- Bonhotal, J., Schwarz, M Rynk, R. 2014. Composting Animal Mortalities. *Cornell Waste Mgt Inst*, 1-23
- Schwarz, M. and Bonhotal, J. 2014. Quality Assurance in Mortality Composting, *Mortality Composting Safety*. Proceedings of the Mortality Composting Conference, pg 21-31, April 25. Ag Research & Extension Program Langston University, Langston, OK. Bonhotal, J. 2013.
- Bonhotal, J. 2013. Is This Your Idea of Taking Out the Trash? *Cornell Waste Mgt Inst*.
- Fernandez, R., Arache, A., Alsina, J., Bonhotal, J. 2013. Advancing Organic Materials Management in Puerto Rico. *BioCycle*, 54(8):40-41 Payne, J., Bonhotal, J., Rahman, S. 2013. Managing Animal Mortalities Curriculum Materials. <http://www.extension.org/68315>
- Schwarz, M, Bonhotal, J., Bischoff, K., Ebel, J. 2013. Fate of Barbiturates and Non-steroidal Anti-inflammatory Drugs During Carcass Composting. *Trends in Animal and Vet Sciences J*, 4(1):1-12
- Bonhotal, J, Schwarz, M and Stehman, SM. How *Mycobacterium avium paratuberculosis* is affected by the composting process. *Trends in Animal & Veterinary Sciences Journal*. 2011. 2(1):5-10.
- Bonhotal, J., Schwarz, M., Williams, C. Swinker, A. 2012. Horse Mortality: Carcass Disposal Alternatives. *Cornell Waste Management Institute*. 8 pg fact sheet and 5-min video.
- Glanville, T., Klingborg, D., Bonhotal, J., 2011 Knowledgeable, Ready, Able: A Comprehensive Extension Agro-security Information Program for the Livestock & Poultry Industries <http://eden.lsu.edu/Conferences/EDENAM/2011/Pages/default.aspx>
- Bonhotal, J., Schwarz, M., Feinland, G. 2011. In-vessel Composting Options for Medium-scale Food Waste Generators. *BioCycle*, 52(3):49-53
- Schwarz, M., Bonhotal, J., Staehr, A.E. 2011. How Frequently Should Stalls Be Refreshed with New Bedding? *Progressive Dairyman*, 1:57-58
- Bonhotal, J. and Jack, A. 2010. Vermicompost-A Living Soil Amendment. *Cornell Waste Management Inst*. 9-min video and website. <http://cwmi.css.cornell.edu/vermicompost.htm>
- Schwarz, M., Bonhotal, J., Rozeboom, D. 2010. The Space It Takes-Footprint Calculator for Composting Butcher Waste. *Cornell Waste Management Inst*, 1-8.
- Schwarz, M., Bonhotal, J., Staehr, A.E. 2010. Use of Dried Manure Solids as Bedding for Dairy Cows. *Cornell Waste Mgt Inst*, p.10 Schwarz, M., Bonhotal, J., Harrison, E., Brinton, W., Storms, P. 2010. Effectiveness of Composting Road-Killed Deer in NYS. *Compost Science & Utilization*, 18(4):232-241
- Bonhotal, J. and Schwarz, M. 2009. Save Money on Bedding. *Eastern DairyBusiness*, p21
- Bonhotal, J., Staehr, E., Schwarz, M. 2009. Are Your Deadstock Piles and Disposal Costs Causing Your Farm Nightmares? *Country Folks*, B:21-23
- Petzen, J., Wolfanger, C., Bonhotal, J., Schwarz, M., Terry, T., Youngers, N. 2009. Case Study - Eagleview Compost Dairy Barn. *NY Farm Viability Institute*, p. 12
- Schwarz, M., and Bonhotal, J. 2009. Are Solids a Solid Bedding? *Hoard's Dairyman*, 154(14):518
- Schwarz, M., and Bonhotal, J. 2009. *Cornell Farm Services* Compost Facility. *Cornell Waste Management Inst*, p. 7
- [Dairy Manure Solids Cut Bedding Costs](#). *Northeast DairyBusiness* 10(4):24-25, 2008.
- [Health Impacts and Economics of Using Dried Manure Solids in the Northeast](#) - Proceedings from the Ninth Annual Fall Dairy Conference, 2008.
- Bonhotal, J., Schwarz, M., Brown, N. 2008. Natural Rendering: Composting Poultry Mortality. Ithaca, *Cornell Waste Mgt Institute*. 12 pg fact sheet, poster and DVD, <http://cwmi.css.cornell.edu/ai.htm>
- Petrovic, A.M., Gruttadaurio, J., Barlow, J., Harrison, E Z., Bonhotal, J.F., Swartz, M., & Soldat, D.J. 2008. Influence of Site Conditions on Soil Responses to Manure-Based Compost Applications on Athletic Fields, *ActaHorticulturae*, 783:415-424.
- Petrovic, A.M., Gruttadaurio, J., Barlow, J., Harrison, E.Z., Bonhotal, J. F., Schwarz, M., & Soldat, D.J. 2008. Turfgrass Response to Manure-Based Compost Applications on Athletic Fields Bases on Site



Factors, *Acta Horticulturae*, 783:425-436

- Bonhotal, J., Harrison, E., Schwarz, M. 2007. Natural Rendering: Composting Road Kill. Cornell Waste Mgt Inst, 12 pg fact sheet, poster and DVD. <http://cwmi.css.cornell.edu/tirc.htm>
- Schwarz, M., Bassuk, N., Bonhotal, J., Harrison, E. 2007. Highly Compacted Soils Improved by Compost Use. *BioCycle*, 48(7):55-56
- Schwarz, M., Bonhotal, J., Harrison, E., Gruttadaurio, J. 2007. Compost Use on Established Turf. *BioCycle*, 48(9):27-29
- Bonhotal, J, Harrison, E. Schwarz, M. 2007. Composting Liquids. Cornell Waste Mgt Inst, 4 pg.
- Aldrich, B. and Bonhotal, J. 2006. Aerobic Composting Affects Manure's Nutrient Content. *Northeast DairyBusiness*, 8(3):18
- Schwarz, Mary & Harrison, Ellen & Bonhotal, Jean. (2006). Prevalence and Persistence of Pathogens in New York State Road-Kill Disposed of Through Composting: A Literature Review.
- Bonhotal, J., Harrison, E., Schwarz, M. 2006. Evaluating Pathogen Destruction in Road Kill Composting. *BioCycle*, 47:49-51
- Harrison, E., Bonhotal, J., Ouckama, E. 2004. Improving & Maintaining Compost Quality. CWMI, 6 pg
- Harrison, E., Bonhotal, J., Ouckama, E. 2004. Testing Composts. Cornell Waste Management Institute, 6
- Bonhotal, J. and Laibach, T. 2004. Composting Road-Killed Deer in New York. *BioCycle*, 45(5):25-26
- Wright, P.E., Inglis, S.F., Stehman, S.M., Bonhotal, J. 2003. "Reduction of Selected Pathogens in Anaerobic Digestion." *Proceedings of the 9th Int. Symp, Animal, Agricultural and Food Processing Wastes IX*. Pg 74-82, Oct.12-15. Raleigh, NC
- Bonhotal, J., Telega, S.L., Petzen, J.S. 2002. Natural Rendering:Composting Livestock Mortality and Butcher Waste. Cornell Waste Management Inst. 12 pg fact sheet, 3 posters and DVD.

#### **Invited Education Events-2022/2023-178 hours of teaching reaching 4912 attendees**

- NYC Compost Quality Workshop, for community composters, 9/30 & 10/4/22(Snug Harbor),70, 6h
- Energy Fair St. T, UVI Waste & Disaster Management-Implementing Composting on Islands10/6-7,125,4h.
- Testing raw and vermi-processed sargassum for heavy metals 10/9 8h 8.
- Monroe County Master Composters10/18 &11/1, 7 h 50
- Develop Manufactured Topsoil Mixes to Support the Growth of Pollinator-Friendly Vegetation in Roadside Settings, 11/4, 1h, 60.
- Implementing mortality composting in 3 livestock supply/butcher business 11/11,14 &18, 3 h. 10.
- Queens College webinar -Composting in NYS/NYC11/22 1.5 h 30.
- NW SARE Ninerwine Seminars, taped 2 units on Accelerating Soil Regeneration: The Role of Compost & Biochar & Making & using compost & OM in Grape Prod, 2023 most watched units of series 200+ views, 2h.
- NYS DOT, Native pollinator Soil Specifications, 1/6 1h, 20.
- Beltwide Cotton Conference, Degradation of cotton Denim1/11-12 1.5h,100.
- US Composting Council, Composting Response to Disease Outbreaks, Education and Certification Committees 1/23-25, 6 h, 260.
- HPAI Disposal Hot Wash, 2h, 30.
- Disposal Horse Mortality & Manure Oswego 4-H, vets and leaders, 2/4, 2 h, 55.
- Suffolk Co. Composting Seminar Series, Compost Quality and Use, 2/28, 52, 2h.
- Women in Range Confluence Conference, Composting Mortality, 3/2 2h, 60.
- USVI Waste Audit & Compost Production webinar, 3/15, 2h 25.
- NYS Organics Summit, Compost Response to HPAI Outbreak, Poster on NYC Safe Soil Supply, Panel on Compost Production and Marketing, 4/3-5. 2.5h 200.
- Response to HPAI outbreak @Reynolds Game farm, 3/22-3/28, 15h, 15
- NYC Watershed Mortality and Manure Compost workshop 3/23 Tours & Demos, 6/29, 75 8h.



- Compost for Good, Essex co, Livestock Mortality and Manure value added products 3/24(40), 7/24(6) filming butcher and mortality facilities. 10h.
- TC Master Composter, Science of Composting & Making Composting Work for You - Large-scale, 30, 2h
- Composting Cotton Textiles 3/31, Cotton Inc. 1h, 12.
- Taped 6 Student Group interviews on biosolids, human composting, Cornell composting, community composting, Carbon, municipal composting in Nepal, 30, 12h
- Oswego & Onondaga Master Composter webinar, 4/12 1.5 h,60.
- Federation Conference, Compost Use and Marketing panel, 5/7,1.5, 80.
- RISE -Compost Quality and Mortality Compost, 4/25 & 6/15.1.5h, 50.
- USDA APHIS Sourcing Carbon Materials in disease outbreaks. 1.5h, 70.
- Tortola, BVI, implementing Composting in Schools & developing a mulch/compost facility, 6/1-4, 62. 6h.
- Terramation /NOR Tours and demos in WA, Technical asst. to facilities, 6/5 & 6, 6 h, 72.
- Town of Clayton implement community wide composting, 11/5, Ft Drum 11/30, 12.3h.
- US Composting Council webinar Series, An Intro to Composting Human Remains 1/17/24(160), 4/18, 1.5h.
- US Composting Council conference Circular Economy of Organics, Cotton, mortality, flax mash... education and Compost Op Certification Comm 2/5-9, tours and demo days, 30h, 2500.
- TeraCon NOR, Composting Humans 2/21-23, 525, 12 h intense
- EPA/FEMA preparation for disasters in Caribbean-hurricanes & fires, 8/28 12, 1h
- Soil/Compost tours for Cannabis waste destruction, quality assurance, NYC, 7/19-20. 40 6h
- Compost Quality and Use. Iowa Master Composting 2/27, 1h, 70.

## International Education

### 7th International Symposium on Animal Mortality Management 2023

#### 6.5 Virtual (due to COVID) International Symposium on Animal Mortality Management

Raliegh, NC 2021 and 2022

**Sustainable Waste Management in Mongolia, Dornod.** A [Fulbright Program Specialists Report](#). Bonhotal was invited to Mongolia to work with officials there in order to mine resources from Dornod Aimags waste stream and add value to those products. August 2019.

**Composting Workshops in the British Virgin Islands.** Implementing small and large-scale composting, Worked with Government on overall waste management, developing a mulch/compost facility 2019. Worked with Tortola, BVI, implementing composting in schools & developing a mulch/compost facility, Vermi-composting Sargassum with Pontidrilus Darwin Plus grant Tortola, BVI. Testing raw and vermi-processed sargassum for heavy metals 2023

**6th International Symposium on Animal Mortality Management.** Amarillo, TX [Proceedings](#) 2018.

**Southern India,** Bonhotal J., Schwarz, M.; Summary and Recommendations on Use of Coir as a Composting Medium for APEX, 2018, 1-13

**Haiti, 12/2017-** Conducted workshops throughout Haiti to build compost businesses, worked with farmers to make and use compost, and overall waste management with government officials. Invited by FAVACA and hosted by SALAKA in City Solie.

**[5th International Symposium: Managing Animal Mortalities, Products, By-Products and Associated Health Risk.](#)** Lancaster PA, September 25-October 1, 2015. Proceedings.

[Proceedings and Compendium](#)



## [Effectiveness of Composting as a Means of Emergency Disposal: A Literature Review.](#)

**NIFA Feed the future program**, Growing Better Beans 2015-2017- worked with 60 farms with research trials investigating the use of compost, fertilizers, microbial additives, biochar, etc., on dry beans and then conducted field days on farms reaching over 800 people. Bonhotal, J.; Composting – How It Works for Kenya, English and Swahili 2p poster, 2016.

**Implementing Composting in the Caribbean**- 2011/12 EPA Funded Effort: Partners included Cornell Waste Management Institute and Environmental Finance Center in Syracuse College- Through multiple trainings and continuing education college students were trained to teach composting through the school system, with hands-on activities and implementation in their local schools.

**Puerto Rico and Caribbean** - Fernandez, R., Arache, A., Alsina, J., Bonhotal, J. 2013. Advancing Organic Materials Management in Puerto Rico. BioCycle, 54(8):40-41.

**St Lucia** -worked with farmers in 10 hands-on workshops around the island to produce and use compost to build soil tilth Invited by FAVACA to improve sustainability. 12/2012

## [4th International Symposium: Managing Animal Mortalities, Products, By-Products and Associated Health Risk: Connecting Research, Regulations & Response](#) May 2012

- [Symposium Proceedings](#), includes papers, posters and compendium (37 MB PDF file)
- [Symposium Presentations](#) (50 MB PDF file)
- [Learning Outcomes Report](#) - assessment of the Symposium
- Laws and Regulations Concerning Butcher Waste and Mortality Disposal in the US [poster](#),
- **Mortality disposal Composting Outreach in Brasil**/Education Exchange [poster](#) , invited by EMBRAPA to conduct workshops throughout the country on composting deadstock and Butcher Waste

**3rd International Symposium: Managing Animal Mortalities, Products, By-Products and Associated Health Risks.** [Proceedings and Compendium](#). 2009

