



## STEFAN WEAVER

Material Matters, Inc.

### OVERVIEW

Mr. Weaver is a senior project scientist that is a soils expert responsible for conducting technical soil site investigations for beneficial reuse of biosolids and residuals on agricultural lands. Trained to write or revise farm conservation plans to meet erosion and sedimentation requirements. Actively communicates with farmers, regulators, and clients in order to maintain regulatory compliance, and acts on behalf of clients in resolving regulatory issues. Prepares and maintains records for regulatory reports and applications for environmental permits allowing land application of biosolids and residual materials. Serves as project manager for current clients actively management beneficial reuse programs

### PROJECT EXPERIENCE

#### Development of Soil Conservation Plans

**Owner:** Various, Lancaster County Conservation District – Kevin Seibert /717.299.5361 ext . 125

**Description:** As a value added service for our clients, farm conservation plans have been developed for over 15 farms. Utilizing RUSLE/RUSLE2 to calculate soil loss, conservation plans are based on actual practices utilized at the farm. Best Management Practices (BMPs) are recommended and implemented to reduce erosion at the farms. Work along with Farmers, County Conservation District and NRCS staff to develop successfully implemented plans. Follow up with farmers when implementation of practices needs to corrected or updated.

#### Agricultural Farm Site Work – 30-Day Notice Submittals

**Owner:** Various, Philadelphia Water Dept. – Mary Ellen Senss/215.685-4067

**Description:** Conducted site qualifications and prepared PADEP Notices to convert existing farms in the Philadelphia Water Department (PWD) biosolids beneficial use program from PADEP Chapter 275 to Chapter 271, so that farms could be operated under a General Permit. Work included site investigations, soil sampling, evaluation of conservation plans, review of the farm nutrient balance, preparation of digital maps in GIS format, establishment of soil baseline, and calculating cumulative pollutant loading rates (CPLR) from previous biosolids applications for 36 farms.

#### Farm Nutrient Balance Evaluations

**Owner:** Various, Philadelphia Water Dept. – Mary Ellen Senss/215.685-4067

**Description:** During the site qualification process for beneficial reuse, has evaluated over 35 farms to verify the nutrient needs for beneficial reuse of biosolids on farm sites. Collects farm information used to determine the crop nutrient need requirements, and compares the results with nutrients generated on the farm via animal manures or other sources. The animal number, type, weight and nutrient content are compared against the crop types and yield goals to confirm that the farm nutrient balance is evaluated to determine that there is a net nutrient need on the farm.

#### Nitrogen and Phosphorus Based Research

**Owner:** USDA-ARS Pasture Systems Watershed Management Research Unit – Peter Kleinman/814.865.2184

**Description:** Participated soil nitrogen and phosphorus-based experimentation and related activities at the PSWMRU. Conducted literature reviews to identify relevant information and alternative research approaches and coordinated field scale research studies. Worked with lead scientists to summarize data for research projects and participated in discussion and dissemination of results (see publications).

**Position:**  
Senior Project Scientist

**Parent Firm:**  
Material Matters, Inc.

**Years of Experience:**  
With Firm: 10  
Total: 13

**Education:**  
MS, Soil Science, The Pennsylvania State University, 1997  
BS, Soil Science, The Pennsylvania State University, 1994

**Professional Registrations:**  
Certified Professional Soil Scientist, ARCPACS Cert. No. 24913, 1998  
Water Environment Federation (WEF), Residuals Committee  
Pennsylvania Water Environment Association (PWEA), Biosolids Committee Chairperson  
Chesapeake Water Environment Association (C WEA)  
Soil Science Society of America (SSSA)

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## PUBLICATIONS AND LECTURES

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- Stephens, A.B., S.R. Weaver, R.C. Brandt, R. Van Evra. 2010. Part One – A Case Study of Projecting the Costs and Land Requirements for a Sustainable Biosolids Land-Application Program for Columbus, Ohio. WEF Residuals and Biosolids Conference, Savannah International Trade and Convention Center, Savannah, Georgia, May 23-26, 2010.
- Stephens, Aaron B., Trudy E. Johnston, William E. Toffey, Stefan R. Weaver. 2009. Utilizing Mainstream GIS Mapping Technology for Biosolids Data Management. WEF Residuals and Biosolids Conference, Oregon Conference Center, Portland, Oregon, May 3-6, 2009.
- Stout, W.L. S.R. Weaver, and G.F. Elwinger. 2001. Effects of early season nitrogen on grass-clover swards in the Northeastern USA. *Commun. Soil Sci. Plant Anal.* 32(15/16): 2425-2437.
- Stout, W.L. and S.R. Weaver. 2001. Effect of early season nitrogen on nitrogen fixation and fertilizer-use efficiency in grass-clover pastures. *Agron. J.* 93(5):1000-1005.
- Stout, W.L., S.L. Fales, L.D. Muller, R.R. Schnabel, G.F. Elwinger, and S.R. Weaver. 2000. Assessing the effect of management intensive grazing on water quality in the northeast U.S. *J. Soil Water Conserv.* 55(2):238-243.
- Stout, W.L., S.R. Weaver, W.J. Gburek, G.J. Folmar, and R.R. Schnabel. 2000. Water quality implications of dairy slurry applied to cut pastures in the northeast U.S. *Soil Use and Management.*16(3):189-193.
- Stout, W.L., S.L. Fales, L.D. Muller, R.R. Schnabel, and S.R. Weaver. 2000. Water quality implications of nitrate leaching from intensively grazed pasture swards in the northeast US. *Agric. Ecosystems & Environ.* 77(3):203-210.
- Stout, W.L., W.J. Gburek, R.R. Schnabel, G.J. Folmar, and S.R. Weaver. 1998. Soil-climate effects on nitrate leaching from cattle excreta. *J. Environ. Qual.* 27(5):992-998.