

Biosolids: “It’s All About Nutrients and Economics”

Pennsylvania has a long tradition - more than 50 years - of land applying biosolids. You may be thinking, what are biosolids? Biosolids are the final, nutrient-rich product of the wastewater treatment process - primarily composed of nutrients, minerals, and a large amount of organic matter. Using biosolids as a fertilizer has provided the region’s field crops with a variety of economic and environmental benefits, including increases in soil organic matter, improved soil productivity, sequestration of carbon, and a reduced reliance on synthetic fertilizers. And in the midst of record-setting fertilizer prices, many farmers are looking for ways to reduce input costs but maintain productivity in their fields.

Farmers have relied on biosolids as an effective fertilizer for a variety of field crops, but perhaps some of the best results are on hay ground, where synthetic fertilizer is not always cost-effective. Peter Price, raised on a beef and veal farm in rural Bradford County, Pennsylvania, is the ultimate biosolids guy who has realized impressive hay yield improvements since using biosolids on his family farm. The Price family farm is located in a nutrient poor area of the state, and Price and his family found that they were consistently exporting nutrients while not getting anything back. The farm has since moved to using biosolids pellets sourced from the Philadelphia area.

“We went from growing hay from June through August, to basically only growing hay through June. It allowed us the option, as opposed to the necessity, to grow a second crop of hay,” says Price, “We could devote resources on the farm to something more than making as much hay as we could.”

Price says he’s improved his farm operation from that of hay purchaser to that of hay seller, through the great yields afforded by biosolids pellets. He is also a biosolids expert, serving as Technical Services Manager for Synagro in Maryland and Pennsylvania, where he and his team are responsible for land base management, permit and registration processing, regulatory compliance, and community relations.

“It was a game changer,” says Price, “By increasing the [hay] yield it compressed our schedule down – we freed up so much time and energy, we were looking for things to do. More time could be spent on maintenance or managing the cattle.” Biosolids have provided the Price family with an opportunity to recycle nutrients, carbon, and organic matter back into the soil in a cost-effective way.

And Price is just one of many biosolids champions whose family farming legacy played an integral role in their current work. Tim Chronister grew up on a dairy farm in York County, and began his work with biosolids fresh out of high school with the wastewater treatment plant for Springettsbury Township. Chronister has spent his career advocating the benefits of biosolids, including in his current position with American Green Corp. For Chronister, the bottom line of his work always remained the same.

“Some of these farmers have been with us - different biosolids organizations - for decades. It’s all about making farming more sustainable,” says Chronister, “They gained organic matter while saving on the potential need for synthetic fertilizers. It’s all about the nutrients and the economics.”

Chronister knows that safety is also an important aspect of the relationship and trust between biosolids providers and the farmers they serve. He relates that the testing and soil analysis services provided are thorough and transparent.

“It’s all based on science.” says Chronister, “ I believe what we do is absolutely safe. Of course there are contaminants to be aware of and stay abreast of on behalf of our farmers.”

Farming represents the backbone of Pennsylvania's heritage, and biosolids have and will continue to play an integral role in the future of sustainable agriculture. Land applying biosolids has a compelling and cost-effective role to play in mitigating greenhouse gas emissions from agriculture. Applying biosolids to soil increases water holding capacity, lessens wind and water erosion, and improves aeration due to the addition of organic matter. Continuing the region's tradition of relying on biosolids as a valuable nutrient source is the penultimate way of preserving valuable natural resources in a cost-effective way – creating a true circular economy.

Since 1997, the Mid-Atlantic Biosolids Association has been communicating the benefits of resource recovery within the biosolids community through information sharing and within the communities we serve through advocacy and outreach. We are today's source of biosolids information for tomorrow's solutions.