



Metropolitan Water Reclamation District of Greater Chicago

Press Release

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MWRD study published in *Journal of Environmental Quality*

Soil scientists from the Metropolitan Water Reclamation District of Greater Chicago (MWRD) have completed a research project focusing on biosolids, the nutrient-rich, highly organic material developed through the extensive wastewater treatment process, and the results have been recently published in the *Journal of Environmental Quality*.

During the monitoring period, corn, wheat, soybean, sorghum and hay were grown on the fields in rotation for an average of 20 years. From 1972 to 2006, groundwater samples were obtained from wells installed in each of the fields, and two wells located outside the study area were monitored and served as a reference sample. All analyses were performed in the MWRD's certified laboratory.

"We found that repeated biosolids application did not have a cumulative effect on concentrations of trace metals in groundwater," said MWRD Director of Monitoring and Research Thomas Granato. "In fact, there was a reduction of metal concentrations in groundwater over time which can be attributed to improved biosolids quality."

Dr. Granato, MWRD soil scientists Olawale O. Oladeji, Guanglong Tian, Albert E. Cox and Zainul Abedin, along with colleagues Richard I. Pietz and Carl R. Carlson, conducted the study to assess the impacts of long-term, repeated application of biosolids on groundwater. The study focused on data collected over a 35 year monitoring period from a former strip mine located in Fulton County, IL.

Strip-mining for coal occurred from the 1920s to the 1960s. Biosolids were



The MWRD provided a biosolids spreading demonstration at Mid-Iron Golf Club in June.

applied to a portion of the strip-mined land from 1972 through 2004, in the summer or fall between June and September of each year. The other portion received mineral fertilizers which were applied during the spring or fall of each year.

"The MWRD has highly respected soil scientists, and their work is vital to having a thorough understanding of the effects of biosolids on water quality," said Commissioner Mariyana Spyropoulos, Chairman of the Monitoring and Research Committee. "We are proud of the MWRD's biosolids program."

Area golf courses, park districts and communities in the Chicago area use MWRD biosolids to improve the quality of their turf. Farmers in nearby counties that apply biosolids on their fields appreciate the benefits of higher yields they receive.

"MWRD's biosolids are produced and used according to federal standards, so it comes as no surprise that results of this study find no impact on water quality from the long-term application of biosolids," said Commissioner Spyropoulos. "MWRD biosolids are a superior, less expensive alternative to chemical fertilizer which can be used in landscaping, for turf at parks and athletic fields and for agricultural crops. Because they are a better source of nutrients than chemical fertilizer, biosolids actually improve soil quality. We look forward to the day when state of Illinois rules allows us to make our quality biosolids more available to the general public."

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