



THE GROWING POTENTIAL OF WIND TURBINES

The Growing Potential of Wind Turbines 1

Wind turbines in Midwestern farm fields may be doing more than churning out electricity. The giant turbine blades might also help corn and soybean crops stay cooler and dryer, help them fend off fungal infestations and improve their ability to extract growth-enhancing carbon dioxide [CO₂] from the air and soil.

was Julie Lundquist, assistant professor, Department of Atmospheric and Oceanic Sciences, at the University of Colorado at Boulder.

CO₂, a needed “fuel” for crops. The extra turbulence might also pump extra CO₂ from the soil. Both results could facilitate the crops ability to perform photosynthesis.

Recycling Carpet 1

Researcher Gene Takle with the U.S. Department of Energy’s Ames Laboratory, also a professor of agricultural meteorology and director of the Climate Science Program at Iowa State University recently present data at the annual meeting of the American Geophysical Union. His co-researcher on the project

Benefits of wind turbines could result from their effects on crop moisture levels. Extra turbulence may help dry the dew that settles on plants beginning in late afternoon, minimizing the amount of time fungi and toxins can grow on plant leaves. Additionally, drier crops at harvest help farmers reduce the cost of artificially drying corn or soybeans.

The team’s initial measurements consisted of visual observations of wind turbulence upwind and downwind of the turbines. The team also used wind-measuring instruments called anemometers to determine the intensity of the turbulence. The bulk of the wind-turbulence measurements and the crop-moisture, temperature and CO₂ measurements took place in the spring of 2010.

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Another potential benefit to crops is that increased airflows could enable corn and soybean plants to more readily extract atmospheric

RECYCLING CARPET



A startup company out of Delaware, Modular Carpet Recycling (MCR), says it has developed a process that can recycle nylon fibers from old carpet. The new process could save millions of barrels of oil every year.

MCR has patent it’s process called DynaSep. The

carpet initially goes to a recycler where it is shaved, and MCR takes the fibers and dissolves them in a formic acid to make a “nylon soup”. The patent process then takes place at room temperature with elevated pressure to eliminate any dirt and contamination, leaving 99 percent pure nylon, which a

further process boost it to 99.8 percent.

It’s trademark Renewlon® is the new post consumer content fibers for new carpets. MCR’s test data shows no significant differences between Renewlon® and virgin nylon material.

SPOTLIGHT

MnTAP Welcomes New Director

Laura M. Babcock has recently been named the new director of the Minnesota Technical Assistance Program (MnTAP) at the University of Minnesota. She was chosen to lead the organization after Cindy McComas, longtime director and NPPR member, announced her retirement.

Babcock joins MnTAP from the NorthStar Initiative for Sustainable Enterprise, a program of the Institute on the Environment and the University of Minnesota. In that role, she explored opportunities to improve sustainability performance through enhanced asset exchange and material cycling. Prior to joining the University, Babcock worked extensively in the chemical industry in a variety of roles including a focus on green chemistry and sustainable technology. She received a Ph.D. in Inorganic Chemistry from University of Illinois in Urbana-Champaign, Illinois, and B.S. in Chemistry from Rensselaer Polytechnic Institute in Troy, New York.

In her role at MnTAP Babcock will be responsible for developing programs to meet business' needs pursuing funding opportunities for program activities, collaborating with multiple in-state and national programs, managing staff, and providing technical assistance to businesses in Minnesota. She will continue to teach an undergraduate course in biobased product and market development in the Bioproducts and Biosystems Engineering Department within the College of Food, Agricultural and Natural Resource Sciences at the University of Minnesota.

For more information about MnTAP and the new director, visit MnTAP's Web site at www.mntap.umn.edu or call 612.624.1300.



The photo from left to right: William Toscano, PhD; MnTAP Director Laura Babcock; Cindy McComas; and David Cera (MPCA)

SAVE THE DATE

June 7 - 9 National Environmental Sustainability Summit, Detroit, MI
www.environmentalsummit.org

NPPR

Beginning February 1!
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If you have an event you would like NPPR to include,
please email it to Angela Miller at angela@p2.org.