



Dairy CAP Newsletter

Coordinated Agricultural Project

July 22, 2013



Climate Change Mitigation
and Adaptation in Dairy
Production Systems of the
Great Lakes Region

This occasional newsletter will
be used until we get a website
sometime this summer.

Please send content and
comments to cbetz@wisc.edu.

What's in a Name?

The name of our grant is quite a mouthful, "Climate Change Mitigation and Adaptation in Dairy Production Systems of the Great Lakes Region." We need a shorter name to use on a day-to-day basis, so we'll use Dairy CAP (Coordinated Agricultural Project), following suit of other grant projects funded by the Agriculture and Food Research Initiative (AFRI), a subset of the USDA's National Institute of Food and Agriculture. Other projects include the Corn CAP, the Triticeae CAP (barley and wheat), the Beef CAP and the Loblolly Pine Genome CAP. All of the CAPs are multi-disciplinary, multi-year, and multi-million dollar grants for research, extension, education, and integration.

We will continue to build our identity as we move forward over the next five years. Hat's off to the Dairy CAP!

Jahn Addresses DMI Board of Directors

Dairy Management, Inc. was instrumental in our getting the Dairy CAP grant, and their Board of Directors, which meets quarterly, was anxious to be briefed about the project at its July 17th meeting in Ypsilanti, Michigan. Molly Jahn, project co-leader was the featured speaker, with additional remarks by project manager, Carolyn Betz.



Jahn presented an overview of the project and described the five components of the project: measurement of soil, cows and manure; modeling; life cycle assessment of dairy farms; outreach and extension; and education.

The DMI Board is unique in that it represents the dairy industry, ranging from the farmer to those who make dairy products to those who sell them at the retail level. It is rare to see all players together in a room for any commodity, but this group has been actively meeting for about five years. They are committed to having research scientists from the Dairy CAP inform them about greenhouse gas emissions and what can be done to mitigate those gases, and how farmers can adapt to a changing climate. Jahn and the other PIs on the project are committed to keeping DMI updated on the project as it evolves.

Photo: CEO Tom Gallagher address the DMI Board on July 17. Credit: Carolyn Betz

Soils Team Meets by Conference Call

The Soils Team, headed by Curtis Dell, met via conference call on Thursday, July 11, to discuss methodologies being used at the field sites at Wisconsin, Cornell and Penn State. The team discussed the variety of chambers available to determine if there is a standard tool and standard measurement methodology that will allow data comparisons over the next five years. It is also important to see if we can be consistent with the other CAPs that are currently underway.

For those of you on the Soils Team, if you haven't already done so, please send a description of your sampling procedures and photos (if available) to cbetz@wisc.edu. They will be shared with the others on the soils team.

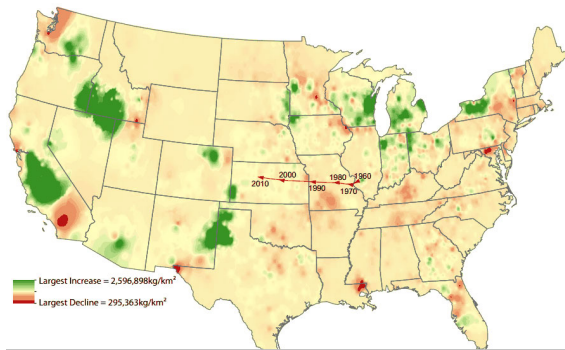
If your team would like to have a conference call of your own, please contact Carolyn at cbetz@wisc.edu and she will set it up for you.

Principal Investigators In the News

Cows Save the Planet: Reducing greenhouse gases on the farm

On Sunday, July 21st, project director, **Matt Ruark** was on the radio show, ViewPoints, a public affairs news magazine, speaking about mitigating greenhouse gases. Ruark shared the microphone with Judith Schwartz, author of the recently published book, *Cows Save the Planet*. The two discussed how soil conservation, smart tillage, cover crops and dairy cattle management can reduce the amount of carbon and methane expelled into the air, and, in the process, enrich the soil and keep dairy cattle

healthy and productive. To hear the interview, [click here](#).



U.S. dairy farms are converging into “cow islands”

The nation's dairy cows are moving closer together. Cows and milk production have shifted north and west, farther from cities, to converge in what economist **Mark Stephenson** calls “cow islands.”

Stephenson is the University of Wisconsin's Director of the Center for Dairy Profitability and is preparing a report on the shifting demographics of the dairy business. He also part of the Outreach and Extension Team of the Dairy CAP grant.

The southeast is hot and humid, Stephenson points out, and high-producing cows don't do well in that environment. Instead, cows are moving to where climate is more temperate, where producers can get better payback from advances in cow genetics and dairy management practices.

To hear the interview, [click here](#). A short article is also [available here](#).

Other News

Climate Change Will Alter the Soil That Feeds Us

The journal, *Science*, reports how climate change will alter the soil that feeds us in a study, [*Temperature Drives the Continental-Scale Distribution of Key Microbes in Topsoil Communities*](#) by Ferran Garcia-Pichel *et al*.

Global warming will likely force terrestrial plant and animal species to migrate toward cooler areas or sustain range losses; whether this is also true for microorganisms remains unknown. Through continental-scale compositional surveys of soil crust microbial communities across arid North America, we observed a latitudinal replacement in dominance between two key topsoil cyanobacteria that was driven largely by temperature. The responses to temperature of enrichment cultures and cultivated strains support this contention, with one cyanobacterium (*Microcoleus vaginatus*) being more psychrotolerant and less thermotolerant than the other (*M. steenstrupii*). In view of our data and regional climate predictions, the latter cyanobacterium may replace the former in much of the studied area within the next few decades, with unknown ecological consequences for soil fertility and erodibility.

Cows are texting farmers

Cows are text messaging farmers. Seriously, it's technology that's available today. And there's a serious use for it. Farmers can buy a variety of monitors for cows, all of which track things like internal temperature, how the cow is eating and even how often it is standing. All those things can affect the cow's health and more importantly, it's milk production.

Dr. Marcia Endres is working with the technology at the University of Minnesota. "By knowing that a cow has a higher temperature, we can help her by providing some electrolytes," Endres said.

The internal monitors allow farmers to get ahead of potential problems. Listen to the interview on WTMJ, [read more by clicking here](#) or [watch a video by clicking here](#).



Forward to Friend

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Contact information:

Carolyn Betz (cbetz@wisc.edu)
151 Soils-King Hall
1525 Observatory Drive
Madison, WI 53706
(608) 262-0383

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