
NCLE UPDATE – JULY/AUGUST, 2008

NCLE RESEARCH

Examples of research projects in progress:

- The first crop of the NCLE long term manure and crop management trial at Glenlea, barley silage, was harvested last week and soil sampling is in progress. Dr. Rob Gulden, weed scientist from Plant Science, has been monitoring weed population dynamics during the growing season.
- Dr. Ermias Kebreab, who holds the NCLE Canada Research Chair in Modeling Sustainable Agriculture Systems, is working with provincial colleagues and other NCLE researchers to develop models that will describe nutrient utilization and manure for pigs, poultry and cattle under Manitoba conditions, as well as modeling greenhouse gas dynamics in cattle systems to be used as a decision making tool concerning feed and manure management. Ultimately, Dr. Kebreab and his colleagues intend to develop a fully integrated sustainable agricultural system model: the animal-manure-soil-plant continuum model to be used in decision making from the producer up to government policy decision makers.
- Dr. Nazim Cicek is leading the construction of a pilot scale manure digester and treatment system at Glenlea. This equipment is being installed in a solar heated greenhouse to reduce energy requirements during cold winter weather, an important constraint on the viability of this type of manure processing in Manitoba.
- A livestock study following longevity and productivity of the inaugural group of sows in both the conventional and alternative NCLE swine facilities is in its fourth year. Dr. Nora Lewis, the animal welfare and lameness researcher who heads the sow longevity study, says their preliminary findings suggest sows group housed on straw in the alternative barn are more productive and have a lower rate of involuntary culling than sows group housed on slated concrete in the conventional liquid manure barn. Their information will be used in developing an interactive economic model for producers.

New Projects:

- Dr. Mario Tenuta is exploring greenhouse gas emissions and soil health associated with various stages of perennial forage establishment at the Glenlea Research Station – during the first 3 years following perennial planting and during the conversion phase of perennial to annual cropping in the final two years of this 5 year initiative. A complementary study led by Dr. Brian Amiro will look at carbon dioxide emissions from the conversion of an established perennial field to annual cropping.
- Drs. Qiang Zhang and Mario Tenuta are starting a project that will characterize odour from raw liquid pig manure and various separation products and monitor in-field odour emissions from these products applied to perennial forage at the Glenlea Research Station. The manure separation products are liquid separate, solid sludge and composted material.
- Dr. Kim Ominski is leading a multidisciplinary team of scientists that will measure animal and forage productivity, nutrients, pathogens and greenhouse gases as well as economic performance in a large study on the multi-functional value of Manitoba grasslands and low cost cattle overwintering systems. In one part of the study, the team will use cost/benefit basis to aid in the development of forage land management strategies. The second part of the study will focus on overwintering feeding strategies such as bale grazing and use of dried distillers grains, a co-product of biofuel production, as a protein supplement for cattle in terms of animal performance, as well as nutrient, pathogen and greenhouse gas dynamics.



NCLE COMMUNICATION

We are in the process of getting information out on recent NCLE activities – emphasizing the progression from building and purchasing NCLE facilities and equipment to the active phase of implementing NCLE research projects.

Workshops:

NCLE hosted two workshops for scientists to come together and discuss NCLE research underway, ideas for future NCLE research and to stimulate development of collaborative, integrative, multidisciplinary research endeavors. Both of these workshops were well attended and generated potential collaborations on research projects.

Tours:

Now that NCLE is transitioning from the developmental phase to the research phase of operations, we are beginning to host tours of NCLE by various groups, including:

- a feed industry delegation from Taiwan on June 24
- JRI senior management team on June 24
- members of the Lake Winnipeg Stewardship Board on July 24
- members of the provincial PC Caucus on September 10
- we are planning our NCLE Open House for September 25, where we will demonstrate how NCLE researchers are utilizing NCLE facilities and equipment and multiple research locations to conduct agricultural systems – level integrated multidisciplinary research.

Displays and Handouts:

- We recently completed a series of posters highlighting NCLE research partners, NCLE research model, research facilities, equipment and capabilities, as well as NCLE research focus areas for use in communicating NCLE activities at conferences, seminars, trade shows, etc. One set of these posters is on permanent display at the Glenlea Research Station Farm Office Building.
- We recently developed a two page overview of NCLE, entitled "NCLE At a glance: facilities, equipment and research" that briefly describes the NCLE operating structure, research facilities, equipment and capabilities, research focus areas, examples of NCLE research as well as NCLE's role in student training and education, teaching and outreach. We are also developing expanded descriptions of these topic areas.

Websites:

- The NCLE website is currently undergoing a total revamping of content so that it will be a useful means of providing information to current and potential researchers from the University of Manitoba and other research Institutions, graduate students, financial supporters (private industry and government), research partners (private industry and government) as well as the various sectors of government, producers and the general public. The revised website will be launched in early 2009. Please contact Christine Rawluk (474-8127) for more detailed information.
- The NCLE beef/forage research group is expanding their current website for the La Broquerie Research Project to include information on all NCLE beef/forage research projects. The La Broquerie website currently features project design and results of the initial phase as well as a description of the current research phase. Please contact Kim Ominski for more details (474-9468) ... <http://umanitoba.ca/afs/labroquerie>