

# UPRC Review Committee Final Report

September 28, 2012 (Revised on October 18, 2012)

## Background:

The Upper Peninsula Research Center (UPRC) in Chatham is a unique research facility in terms of its location in the State, as well as its purpose. However, there has been no tenure-system MSU faculty based in the UP since 1996. Many changes, including an increased emphasis on external funding and integrative research, have occurred in academia over the past several years. UPRC has not adapted to these changes and, as a result, has fallen behind in terms of its productivity.

The center is well-managed, and the facilities are in excellent condition. Current activities are mainly related to producing feeder cattle that are shipped elsewhere for finishing. The milking/dairy component was discontinued in 2010. While the agronomic research is solid, it appears to be managed independently from the crop and livestock production enterprise. There are opportunities for integration, including the sharing of equipment and personnel, with other facilities.

This center is not optimally designed for disciplinary research, especially in terms of animal agriculture. However, it could be well-suited to integrated studies. There are several new faculty and academic staff with an interest in utilizing the facility for integrated, interdisciplinary research. These include Drs. Cassida, Ehrhardt, Pirog, Raven, Rowntree and Utsumi. A soil biologist would be a solid addition to the team in the future.

Currently, there is important agronomic commodity-based research conducted at UPRC. This research is relevant to agriculture in the UP and must be conducted in this particular region. This will continue to be important moving forward. This research is best conducted by UPRC staff, and studies must be established in multiple locations, including Chatham, to represent the very diverse soils and ecosystems in the UP. There are extensive amounts of low quality soil in the UP and a surprisingly widespread reluctance from producers to invest in fertilizer and lime. Currently, there is a considerable amount of minimally-managed land at UPRC, which presents opportunities to study and demonstrate the value of soil improvement. In addition, the integration of livestock in these areas has the potential to significantly improve soil quality over time.

Stakeholders are demanding education and outreach along with research. UPRC has the basic facilities to meet these demands, but implementation will require partnerships with MDA, UP universities, community colleges and/or other organizations.

The UPRC Review Committee believes there are many needs and opportunities in the community that the center could address. However, the buildings and land base are greatly underutilized in relation to the missions of AgBioResearch, CANR, MSUE and MSU. The committee believes there are several reasons for this:

1. The long distance from the MSU main campus is a major obstacle for campus-based faculty and staff.
2. A new, modern, shared vision for the center is needed.
3. There isn't a clear leader accountable for the future direction and impact of the center. This was communicated by each group that met with the committee.

#### Research and Educational Themes:

1. Improved soil quality. Emphasize linking healthy soil to healthy crops to healthy livestock to healthy people.
2. Integration. This site, along with MSU AgBioResearch Lake City Research Center (LCRC) in Lake City, is well-positioned for integrated management research on forage-based animal production, and we have faculty with the capacity and interest to lead an innovative program.
3. Regional food systems. Stakeholders indicated intense interest in community sustainability issues, including local food production and marketing. (This is a logical fit with themes 1 and 2.)

#### General Recommendations:

UPRC Review Committee recommends:

- 1) UPRC remain an active field research facility, despite current limitations and underutilization of the center. MSU needs to have a presence in the UP to address the very unique agricultural issues in the region. In addition, the buildings and land base are very valuable, but not easily marketable. If climate change progresses as predicted, agriculture in the UP may become a much more important contributor to the Michigan economy. However, the station needs a new vision and strong leadership to increase its impact. Continued field crop research relevant to UP agriculture (e.g. corn, forages and potatoes) should be part of this vision.
- 2) Integrate UPRC and LCRC, both financially and programmatically. Redesign the two centers for transdisciplinary research and holistic management. This will allow for more

efficient utilization of resources, including equipment, livestock and personnel. Formation of a new advisory committee will be necessary to represent the broad diversity of stakeholders at the two locations.

- 3) Establish an administrative leadership structure in which an individual is identified as the leader with authority and accountability to implement the new vision.

### Specific Recommendations:

In order to accomplish the stated goals and control operating costs, there will need to be significant structural changes including:

- Reduce the cow/calf herd to an appropriate size to meet future research and outreach needs (soil and integrative crop research). With fewer cattle, the center should be able to recoup costs associated with feed and machinery. Consider establishing comparable genetics at UPRC and LCRC. This would allow for a more seamless integration of the two centers and help facilitate multi-site studies.
- Expand managed grazing, including the addition of small ruminants. This would also include seasonal management of stocker- and grass-finished cattle, which would not be wintered at Chatham. Link the livestock at Chatham to improved soil quality. We perceive a need for both research and extension in this critical area. There appears to be significant opportunity in the UP for advancements in the UP in soil quality.
- Link the livestock at Chatham to local food. This would potentially involve partnerships with the Center for Regional Food Systems, the Marquette Food Co-op, local universities and community colleges, and MDARD.
- Conduct an equipment assessment to determine what level of machinery could be shared or sold to increase funding for improvements.
- Conduct a labor needs assessment to determine the level of hourly and on-call labor needed to support the facility. The committee believes the center is currently overstaffed in regards to mission-specific labor needs.
- Future success will depend on support from the existing staff working under a new vision, along with the ability to utilize existing labor and operating funds in the redesign process. It will take time for a new vision to be realized.
- Reinvest any proceeds from the sale of livestock or machinery into the center. These funds may be required to implement new initiatives.
- Explore opportunities to partner with other university agricultural research stations in the northern Great Lakes region. The committee believes there are overlapping activities with such facilities as the Grand Rapids Experiment Station in Minnesota and the Spooner Experiment Station in Wisconsin. Both the University of Minnesota and the University of Wisconsin indicated an interest in collaboration with MSU.

### Potential New Initiatives Requiring Partnerships:

- Link the UPRC in with the Center for Regional Food Systems. Michigan is fourth in the U.S. in terms of farmers markets. The Marquette Food Co-op has 52 employees and annual sales of \$5 million. A partnership with the Center for Regional Food Systems should be very competitive for funding. One possible direction would be the initiation of an agriculture business incubation system (an incubator farm). This could involve helping to establish the capacity for expanded growing season production (hoop houses), production of specialty crops and potentially expand integrated crop-livestock enterprises. The College of Human Medicine has an interest in this concept and may be willing to assign a staff person on a part-time basis to serve as the onsite facilitator. (Interest is in creating a community database of local food producers and consumers linked to health.) MDARD is another potential partner for this initiative.
- Incorporate place-based education with a focus on K-12. This would include some of the concepts in the learning center proposal developed by the Growing UP Agricultural Association. This would require partnerships with UP universities, community colleges, K-12 school systems, as well as additional MSU units (e.g. College of Education).
- Expand bioenergy crop research. While stakeholders have had little interest in bioenergy crops due to the lack of current markets, the importance of these crops may increase as petroleum costs rise and technology improves.
- Enhance the link with MSU Extension to support the new UPRC mission. In particular, there is a need for MSUE educator support for integrated crop/livestock/food systems in the central UP that could interact with UPRC.
- Improve plant genetics. Identify and preserve new and old plant genetics that are suitable for the UP environment and production goals. While this can include U.S. plant breeders, international partners that are growing similar crops in similar environments should also be pursued.

Chatham Review Committee

James Kells (Chair), Plant, Soil and Microbial Sciences

John Biernbaum, Horticulture

Bill Bobier, MDARD

Kim Cassida, Plant, Soil and Microbial Sciences

Richard Ehrhardt, Large Animal Clinical Sciences

Tom Kalchik, MSU Product Center

Rich Pirog, Center for Regional Food Systems

Matt Raven, CARRS

Jason Rowntree, Animal Science

Kurt Thelen, Plant, Soil and Microbial Sciences