



University of Minnesota Morris

Morris, Minnesota
Farming/Gardening

SCHOOL

The University of Minnesota Morris (UMM) is a public, 4-year, liberal Arts University, the smallest of four institutions within the University of Minnesota System, located in West Central Minnesota. UMM is home to about 1,800 undergraduate students and is one of 25 Council of Public Liberal Arts Colleges. Morris is one of the first public colleges to produce on-site renewable power, such as corn stover. At the south of campus, a biomass gasification plant, fueled by crop residues from nearby farms, generates steam that provides heating and cooling for facilities on campus. In addition, two 1.65 megawatt wind turbines generate electricity for the campus and the surrounding area.

The Morris campus is a founding partner in the Pride of the Prairie Local Foods Initiative, one of the longest running local food initiatives in Minnesota. The Morris campus was the site of Congressman Collin Peterson's Home Grown Economy conference and presented at the 2010 assembly. Twice a year, the campus hosts a Pride of the Prairie Food Expo and Farmers Market along with a community meal featuring locally grown foods. Local foods are served every day in the campus's dining services and the campus food service provider Sodexo is required by contract to purchase from local farmers whenever possible.



Sodexo also contributes to the West Central Research and Outreach Center's annual Horticulture Night, demonstrating the preparation of locally produced foods.

The first buildings at the University of Minnesota, Morris housed an American Indian boarding school, run by the Sisters of Mercy order of the Catholic Church and later by the US Government. The school closed in 1909, and management of the campus was shifted to the State of Minnesota with the condition that American Indian students "shall at all times be admitted to such school free of charge for tuition," a policy maintained to this day.

ABSTRACT

The University of Minnesota Morris partnered with local businesses like the Regional Fitness Center (RFC), non-profit organizations like the Morris Healthy Eating Initiative (MHE), student groups like the Organic Gardening Club (OGC) and the Circle of Native Indians Association (CNIA), representatives of Native American nations and community members to establish a garden adjacent to the campus to honor the knowledge and cultural practices of traditional Native American farming. Community

members from Morris worked together to advance a goal advocated by Native American students to have access to fresh organically-grown traditional fruits and vegetables on campus.

GOALS AND OUTCOMES

The goal of the Morris Healthy Eating Initiative (MHE) is to increase the availability of fresh fruit and vegetables for students on campus. Circle of Nations Indian Association strives to build a community for American Indian students and bring awareness of Indian culture to campus. Donna Chollett, associate professor of anthropology and Latin American area studies coordinator, recognized former student Daniel Hart, for initiating a student garden in 2008 as a service-learning project in her Culture, Food, and Agriculture course. These groups collaborated to find a way to cultivate Native American traditions through sustainable agriculture by growing fresh fruits and vegetables. Named for the three staple crops of traditional Native American culture, corn, beans, and squash, the vision of this project Three Sisters garden was to make traditional Native American foods available on campus and within the community through a garden that utilized native planting practices.

In the next 2 to 3 years, the team that stewards the garden will research and implement practices that do not require tillage. Also, MHE has applied for a grant to start a summer class at the University to teach Native American culture and farming techniques. This class will help to engage more students in learning about Anishinaabe (Ojibwe) and Dakota (Sioux) culture and the intersection between agriculture, culture and language and encourage students to sustainably maintain the native garden.

Accomplishments and Outcomes

The garden was tilled and planted in July and those fruits and vegetables will be harvested and served at a community meal in the fall 2011. In one sense, the garden will never be completed. Alissa Jacobsen, a member of the UMM Organic Gardening Club (OGC) explained it this way, “the garden will never stop evolving. It will be different every year, with the rotation of plants and different people working on it from year to year. I think that one of the main goals of the garden is to keep the plans for it flexible so that it can cater to the needs of the community and to whatever new information people discover about Native gardening...” The goal of this garden was to enable Native American students on campus greater access to traditional foods and to improve the access of fresh fruits and vegetables to the Native American communities in west central Minnesota. In that regard, the creation of this garden was successful because it raised awareness about the dearth of fresh fruits and vegetables available in the area to a wider audience and despite the agricultural setting of west central it highlighted the difficulty that many face when obtaining access to fresh fruits and vegetables.

The garden worked within the pre-existing campus policies and no new policies needed to be adopted. The garden positively impacted local wildlife and the natural environment because the low-tillage minimized erosion into local streams, no fertilizers or pesticides were used, so the garden did not contribute to run-off into the nearby Pomme de Terre River, and it acts as a carbon sink to scrub CO₂ from the atmosphere. Also, gardeners planted milkweed plants around the garden to attract more monarch butterflies to the garden and prevent caterpillars from eating the vegetables. While the garden contributed to the biodiversity of the region, the garden is also designed to maximize plant grown by meticulously arranging a polyculture system of crops that will mimic the resiliency and productivity of the natural environment. Additionally, the native garden contains plants native to Minnesota, some of which are endangered, so that planting these crops is a commitment to perpetuating the biodiversity of

the natural environment. Also, the organic material in the soil of the garden has some capacity to store carbon, so maintaining a garden that doesn't need to be tilled keeps the soil intact and enhances it as a carbon sink. Keeping the soil intact and in place will also minimize the amount of organic material that gets deposited into rivers and streams.

At times, it could be challenging to negotiate with other stakeholder groups in order to get concessions from community members that would be essential for the long-term viability of the Native garden. In order to maintain its status as an organic garden, the nearby community garden belonging to the Regional Fitness Center had to modify its practices of using pesticides, herbicides and inorganic fertilizers. Also, white flint corn, an endangered native cultivar, was sown in the native garden, so the RFC garden was asked not to grow corn in their garden to preserve the endangered corn and prevent any cross breeding of the native corn with the corn used in the community garden. Also, local wildlife had to be considered when planting and maintaining the garden because woodchucks and deer will graze on the crops. As of the deadline for submission for this case study, there is no viable way to manage the intrusion of wildlife into the garden and there is no solution yet that will deter wildlife from eating the crops. With any future projects involving the traditional garden, someone must address these wildlife issues and devise a practical, ethical, and environmentally-conscious solution to this challenge.

This garden indirectly addresses climate change because while the plants growing in the garden sequester a small amount of carbon, it really doesn't have an impact when viewed in comparison to the amount of carbon being avoided by eating locally. By growing local food that will be consumed nearby, it lowers the vehicle miles attached to the food that community members will eat. In addition to significantly reducing the number of food-miles, the food will also be transported to a community meal on a bicycle, which has a significantly smaller carbon footprint than an automobile. The garden employs organic farming techniques, which are low-carbon alternatives to using petroleum-based fertilizers.

For those contemplating a similar project, it should be noted that a traditional garden must be intimately adapted to the surrounding environment, so as the surroundings change, the garden must change to meet the new conditions. This garden is a community effort just and needs to be supported locally by the community in order to thrive; therefore the garden is more than a hobby or a volunteer project, it's a community institution that when properly cared for and maintained will give back to and nourish the community that raised it. So in one sense this community garden is an extension of the community and in another sense, it is an investment. Not only is this an investment into the community, but because the garden is grown in environmentally-conscious ways, it is an investment in the natural world as well. In order to maximize and sustain growth into the future, the community must make a commitment to maintain the garden and ensure that the work put into it and the benefit taken out of it is equitable. Most importantly, the food grown in this garden has an ethical component to it that must be realized by the community in order for the garden to thrive. Some of the crops grown in the garden are endangered plants and special care must be made to protect its genetic legacy. The community should also be made aware that the practices used to maintain the garden must reflect the highest concern for the environment; both the health of the natural world and the health of the people who care for it should be improved through the garden. Anyone contemplating their own organic garden should This garden was made to promote healthy lifestyles choices by providing the community with access to fresh fruits and vegetables and was designed as away to support Native American culture.

ENGAGEMENT AND SUPPORT

UMM anthropology professor Donna Chollett's Culture, Food, and Agriculture class worked with the local non-profit organization Morris Healthy Eating Initiative and the Circle of Nations Indian Association. Professor Donna Chollett and her Culture, Food and Agriculture class also conducted a service-learning project on researching and designing the Native American garden.

Vice Chancellor of Student Affairs Sandy Olson-Loy facilitated discussions between the students and faculty during the planning stages of the Native garden.

Tracey Peterson of UMM's Multi-Ethnic Student Program diagrammed the garden's plan in a contemporary Cayuga Iroquois system of arranging the "three sisters" in a particular relationship with each other.

Mary Jo Forbord, Coordinator of the Morris Healthy Eating Initiative (MHE) published the results of a survey done through the MHE on the availability and demand for local fruits and vegetables in 2010. The report showed that the majority of the campus' Native American students, about 12% of the student population strongly were in favor of increased access to fresh fruits and vegetables, and expressed interest in expanding their access to traditional native foods.

Alissa Jacobsen, '12, Stillwater, is president of the Student Organic Garden Club and leads the Crocus Valley Gardens initiative on the Morris Healthy Eating Student Leadership Team. As a student in Chollett's 2011 spring course, Jacobsen worked with other students to research Native American food traditions and growing methods prior to proposing a design for the Native American garden.

Kali Dale '14, Bemidji, was student coordinator for this event and will lead the work with the Native Garden this summer through Morris Healthy Eating. She is active in Morris's Circle of Nations Indian Association, American Indian Science and Engineering Society, and National Science Foundation funded STEP program.

Gabe Desrosiers, Morris lecturer in Anishinaabe (Ojibwe) language and culture, and member of the Ojibwe Nation, Lake of the Woods, Ontario, performed a blessing ceremony in June 2011 before planting the native garden.

Francis Gary Bettelyoun, coordinator of the University of Minnesota Twin Cities traditional Native American garden, visited Chollett's Culture, Food, and Agriculture class this spring to advise students. Bettelyoun is an enrolled member of the Yankton Nation and vice president of Buffalo Star People in Spencer, South Dakota, an organization that offers native landscape design, based on traditional and organic concepts, and community gardening.

Also, UMM External Relations contributed to the education and outreach aspects of this project by submitting articles to the local newspaper and posting an article on the school's website.

The project was essentially completed at negligible cost because the garden is maintained by a volunteer from the nearby student-led organic garden and the students and community members involved in the groundbreaking ceremony volunteered their time as well. Prairie Horizons farm donated hay that was used for mulch in the Native garden. Much of the planning for this garden was done as part of a service-

learning project for students at UMM. A grant is being written by Winona LaDuke that would provide funding for a summer course that would teach traditional Native American gardening practices, but as of this writing, the grant is still a work in progress.

Education and Community Outreach

The local community was a strong supporter of the Native American garden. The University coordinated community outreach by writing press releases to the local newspaper and by posting a story on the project on the school website. In addition, community members from Minnesota and North Dakota were invited to Morris to witness and take part in the blessing ceremony before planting the garden. In attendance at the garden blessing and planting were Morris faculty, staff, students, as well as high school students from the White Earth Indian Reservation and Native high school students participating in the Morris Wind STEP Program, a National Science Foundation funded pipeline to STEM fields for American Indian youth. Local community members volunteered their time to help plant the garden and the Prairie Horizons farm donated straw for mulching.

This project benefited from the Campus Ecology Fellowship and the National Wildlife Federation because that organization offers a unique opportunity to extend education and outreach about this project to national-scale audience. Without NWF and the Campus Ecology Fellowship case study, the University of Minnesota Morris would not be able to promote its sustainability initiatives as it does, and this relationship with NWF has been instrumental in promoting the work on the Native garden as well as in the past on other sustainability initiatives.

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MORE ABOUT YOUR SCHOOL

Campus Sustainability History

Two 1.65 megawatt wind turbines face the Pomme de Terre River near campus. The first wind turbine was funded by the University of Minnesota's Initiative for Renewable Energy and the Environment (IREE), which provided nearly \$4 million for renewable energy research and demonstration at the University of Minnesota West Central Research and Outreach Center (WCROC) and Morris campus. The second turbine began generating power on March 26, 2011 and the new structure was erected south of the WCROC turbine. It is 10 meters taller than the first turbine and the combined output of both turbines will provide an average of 70 percent of campus electricity. On good wind days, that statistic could climb as high as 100 percent.

In April 2005, the Minnesota Legislature allocated \$6 million to construct a biomass gasification research and energy facility that will lower more than 80 percent of the campus's fossil fuel usage, primarily natural gas. This biomass gasification facility uses locally available biomass stock such as corn stover, wheat straw, soybean residue, wood residue, and mixed prairie grasses as a source of carbon. The campus is working with the scientific community to address long-term questions related to soil health

and sustainability. The gasification platform will also be responsible for the cooling of campus and will dramatically reduce electricity demand. Additionally, the gasification platform will produce green energy through a renewable combined-heat-and-power (CHP) plant.

A solar photovoltaic system on the south side of the Science building converts sunlight into electricity and at the campus's Regional Fitness Center (RFC), locally manufactured solar thermal panels collect the sun's energy to heat swimming pool water. The project was spearheaded through UMM's Office of Sustainability, which coordinated the efforts of students, staff, and faculty to first write a grant proposal that would partially fund the solar panels and later facilitated the efforts to implement an educational outreach program to the community once the solar panels had been installed.

<http://www.morris.umn.edu/sustainability/>.

Image credit: UMM Alumni Relations