

SUN SHINES ON COMMERCIAL SOLAR SITE RIBBON-CUTTING CEREMONY

The warmth from the sun was made known to more than 30 invited guests at the Blue Prairie commercial solar site ribbon-cutting ceremony on August 19. On this nearly 90-degree day, the Jackson Electric board of directors cut the ribbon for this commercial solar site which is located on Hwy. C in the Township of Albion, Black River Falls. This is the first commercial solar site to interconnect with Jackson Electric Cooperative's distribution lines.

There are 7,000 individual panels at this site, and it is anticipated that this 2.5 megawatt system will produce an amount of electricity equivalent to the usage of more than 620 households. The system went on-line July 23.

Sheep raised by the landowner will graze throughout the 15-acre solar field. This will help to manage vegetation within the project area while keeping the land in agricultural production while generating solar power. Project partners were OneEnergy Renewables, Arch Electric, and Jackson Electric Cooperative.

Above: Let the sun shine down on 7,000 panels at the Blue Prairie commercial solar site. Photo courtesy of Arch Electric.

1. Jackson Electric Cooperative's Board of Directors cuts the ribbon for the Blue Prairie commercial solar site.
2. Eric Udelhofen, director of project development from OneEnergy Renewables, shares that this system has the capacity to generate five million kilowatts per year.
3. Wade Christianson, landowner, will graze approximately 40 sheep within the solar site.
4. More than 30 invited guests attended the ribbon-cutting ceremony.



MY CO-OP



EARS OF EXPERIENCE

Land lab moves the classroom outdoors

Learning with Purpose “The goal of everything I teach to my students is to develop educated, informed consumers that can be critical thinkers on how food is raised, produced, and processed,” says Black River Falls High School agricultural education teacher Brad Markhardt. “There are many different aspects of ag. within agricultural education, including the land lab.”

It Takes a Community Four years ago, the School District of Black River Falls Agricultural Land Lab was located next to the Spaulding Community Garden, located at the corner of Spaulding and Rye Bluff Roads, across from the Lunda Park. At that time, the agricultural department was growing crops and just starting to raise bees before the land continued to flood, preventing access to the hive.

In 2020, a Black River Falls FFA

alumni member headed an agreement between the Black River Falls School District (BRFSD) and the Jackson County Board of Directors to allow use of the land next to the Jackson County Animal Shelter. “The high and dry land is much more suitable for an outdoor learning lab,” says Brad. “Alumni members helped us move our fence and buildings from the old location to the new location in summer 2020.”

Setting up the new land lab would not have been possible without the FFA alumni, students, school district, and many community volunteers. “There were so many people in the agricultural community ready to help with the project,” Brad recalls. “Not only did they donate their time and resources, but also their skills. The BRFSD maintenance crew helped finish a shed that the construction class had started, community members donated items,

Black River Falls High School ag. education teacher Brad Markhardt explains the design of the keyhole raised garden, which features a central composting system.

such as compost, and others have helped with the tillage of the soil.”

On the Sweet Side The primary purpose of the land lab is to give students hands-on experience with growing a horticultural crop, sweet corn. The students are involved with planting, soil testing, weeding, and even harvesting the corn to sell to consumers.

“Sweet corn is a good crop for students to grow because it is harvestable at a certain time,” explains Brad. “Some students were involved with putting the deer fence up around the new location, while the plant science class did the planting, thinning, and first weeding before the end of the school year.”

Over the summer, a few FFA students were involved with maintaining the sweet corn crop. Two varieties of sweet corn were planted to allow for two harvest times in August. Students and their parents showed up on two Saturday mornings to harvest the crop to sell to community members that stopped by. “We’ve even donated some of the corn to the local food pantry,” Brad adds.

Another important lesson the land lab teaches is crop rotation. Opposite the sweet corn is a field of fallow cover crops, buckwheat and clover. “We’ll rotate the field next year to teach the students crop rotation to minimize pests and micronutrient depletion,” says Brad. “The plant science class will plant buckwheat where the sweet corn was this past year.”

The cover crops chosen for the land lab were carefully selected with bees in



1. The Hugelkultur technique is an inexpensive way to add organic matter to your soil and reduces the amount of soil required.
2. The School District of Black River Falls Agricultural Land Lab provides students with a unique educational and leadership experience.

mind. “Corn is a wind-pollinated crop,” Brad explains. “We chose to plant clover varieties that would attract bees to provide students with another opportunity to learn how everything works together.”

A Hive of Activity Bees play a major role in agriculture, so it’s no wonder that Brad has incorporated an introduction to bees/beekeeping segment into his teaching. Brad shares, “It’s fulfilling as an educator when they look at the world differently and discover things they never realized before.”

Some of the students show apprehension, while others are eager to put on the bee suit and get hands-on with their learning. “They get to be as involved as much as they feel comfortable with,” says Brad.

Before heading out to the land lab, among the many things you’ll find in Brad’s classroom is a hive learning tool. This model of a hive provides students with a real-life look and feel with diagrams and facts to familiarize themselves before visiting the real hive. “It provides another opportunity to increase their comfort level,” Brad explains.

Students often have a preconception about bees from previous experiences, especially if they’ve been stung in the past. Brad shares that there was a point when he wasn’t sure about the bees himself, but more exposure lessened his worries. “Inviting experienced guest speakers and having an actual hive made me much more comfortable,” he says.

Some guests who have shared their beekeeping knowledge with Brad’s students include Jackson Electric members Mike Brauner and Joe Williams. Both have helped Brad and his students gain confidence around bees. Joe has demonstrated the honey extraction process with the food science class. “I want my students to understand the benefits of locally sourced honey, showing them that there is very little processing involved with natural honey,” Brad says.

In addition to learning how to check the hive, students learn how to prepare the land lab hive for winter by insulating it. The spring class provides the supplemental feeding over the winter and removes the insulation when temperatures rise at the end of the school year.



1. The new land lab offers students the opportunity to learn about crop rotation. The buckwheat, clover, and sweet corn plots will be rotated next growing season.
2. A hive model in Brad’s classroom acts as a teaching tool to help students grow more comfortable with beekeeping before visiting the land lab’s real hive.
3. Black River Falls agricultural education teacher Brad Markhardt shares the best way to gain confidence around bees is to learn from experienced beekeepers.

Brad’s landscape design class has been indirectly involved with the bees. “The class installed pavers to minimize weeds and grass for less maintenance around the hive. It also acts as a heat sink in the winter to keep the hive warmer,” explains Brad. “In the summer, we have a cloth shade installed so that they are not agitated by the heat.”

While the land lab doesn’t currently have bees because of the move, Brad is hopeful to have a hive next spring. He plans to order the bees from Theisen’s, which has been a great supporter of ag. programs.

Other Ag-tivities If you’ve ever driven by the land lab, you’ll also notice a high tunnel greenhouse. While it’s not currently in use, when operational this greenhouse will provide another layer of hands-on experience for students. At this time, the plan is to raise tomatoes, onions, and cilantro. “This is another way to introduce students to the many ways they can be involved with horti-

culture and food production,” says Brad. “We also grow produce in the ag-tivity greenhouse by the high school. The students learn about food production, such as making salsa from their tomatoes and peppers. Some of this produce is also donated to the food pantry.”

Outside of the high school greenhouse, you’ll notice a variety of raised garden beds. “This one is called an African Keyhole garden,” Brad points to a raised garden bed built with brick pavers. “The center is a composting system that provides water and nutrients to the plants growing around it.”

Another unique raised garden bed includes the Hugelkultur, German for hill mound, which is formed by filling a shallow pit with rotting wood, gradually forming a mound. “This year we tried growing strawberries in our Hugel garden,” Brad shares.

Brad is looking forward to hiring a student intern who will help manage the land lab and ag-tivity produce. Funds were donated by a community member



for this intern to receive a scholarship upon high school graduation. “I would like to train a student that would also help get other students involved,” he says.

Full Circle How do the land lab, ag-tivity room, and FFA all relate to each other? “That’s a great question that I’m glad you asked,” Brad responds. “We use the three-circle model approach to agricultural education.”

The first component is Supervised Agricultural Experience (SAE), which is a student-led, instructor-supervised learning experience designed to allow students to gain outside-the-classroom experience in the area of agriculture they are interested in. “If students don’t have space or resources at home, they can work on their projects at school or at the land lab,” Brad explains.

The second circle is the classroom or laboratory agricultural instruction itself. “FFA, the leadership aspect of agricultural education, is the third circle. It’s also the financial vehicle for the land lab expenses,” he adds.

The goal of the three-circle model of agricultural education is to generate well-rounded students who are equipped to be educated leaders in agriculture, business, and industry. This teaching leads back to Brad’s own teaching philosophy.

“When students go through agricultural education, they’re a more informed consumer. I also encourage them to discover a new hobby or side business,” states Brad. “I’m excited to say that one of my students has received a grant to start up his own beekeeping operation.”—*Brandi Shramek, Member Relations Advisor*



Look for Jackson Electric’s employees wearing pink shirts and hard hats in support of National Breast Cancer Awareness Month.

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Jackson Electric’s pledge to its members

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- Reference “The Seven Cooperative Principles” as our guide to do our business
- Operate our business in a financially sound manner
- Hold ourselves accountable to the highest standard for employee and public safety and security

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