



# U.P. Ag Connections Newsletter

August 2026

Agricultural News from MSU Extension and AgBioResearch

Volume 30 Issue 8

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The Upper Peninsula Research and Extension Center (UPREC) is Michigan State University's northern hub for agricultural research, innovation, and outreach. With more than 125 years of service, UPREC advances profitable, sustainable, and climate-resilient agricultural systems tailored to the Upper Peninsula (UP)'s unique environmental and economic conditions. Operating across two campuses and more than 1,100 acres, UPREC integrates research, Extension, and partnerships to support producers, communities, and regional food systems.

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In 2024–2025, UPREC conducted a comprehensive strategic planning process involving MSU faculty, staff, AgBioResearch and Extension leadership, as well as nearly 100 agriculture stakeholders from the UP and beyond. The resulting 5–10 year strategy establishes a clear vision: positioning UPREC as a visible, trusted regional hub where research and Extension are fully integrated and responsive to UP needs.

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## Five strategic priorities guide this effort:

### 1. Conduct Locally Relevant Research

UPREC will focus on applied research addressing the needs of the Upper Peninsula. Areas of focus may include climate adaptation, soil health and regenerative practices, beef and grazing systems, market access, and support for new and beginning farmers. Expansion of on-farm research partnerships and improved research capacity are central to ensuring relevance and impact.

### 2. Strengthen Strategic Communications

Enhanced communications will increase awareness of UPREC's role, research, and opportunities. Priorities include refreshed digital presence, targeted outreach materials, and increased engagement with producers, partners, and regional stakeholders.

### 3. Expand Faculty Engagement

UPREC will actively encourage faculty participation by clarifying research opportunities, reducing logistical barriers, and strengthening collaborations with MSU and regional academic partners to grow research scope and competitiveness.

### 4. Optimize Outreach Staffing and Capacity

Recognizing staffing constraints, UPREC will work with Extension and AgBioResearch leadership to align priority needs, pursue strategic hires, and leverage partnerships to strengthen outreach and technical assistance across the UP.

### 5. Facilitate Regional Processing and Distribution

As a longer-term objective, UPREC will collaborate with partners to explore solutions for regional processing and distribution—particularly for meat and specialty crops—to improve market access and value-added opportunities.

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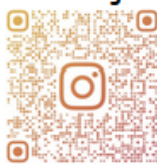
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# Renewable Energy Fundamentals Workshops Coming to Six MI Locations

By Mary Reilly

Communities across Michigan are increasingly being asked to evaluate utility-scale solar, wind, and battery energy storage projects. Questions about farmland, environmental impacts, safety, decommissioning, and local control continue to emerge as renewable energy development expands.

Michigan State University Extension's Renewable Energy Fundamentals workshops provide research-based information to help local officials and residents better understand these topics. Through presentations, discussion, and networking, participants will gain a deeper understanding of renewable energy regulation, siting, and development and leave with resources to support informed community conversations.

## Who should attend:

- Elected officials
- Planning commissioners
- Zoning administrators
- Local government staff

**Cost:** \$10 per person



**Register today:** <https://events.anr.msu.edu/fundamentals26/>

## Tips for Roller Crimping Cereal Rye

By Madelyn Celovsky, Christopher Galbraith and Korede Olugbenle

If you are planning on using a roller crimper to terminate your cover crop in spring, planning should start this fall. Roller crimping is a mechanical method of terminating an overwintering cover crop. Terminating with a roller crimper instead of tillage keeps cover crop biomass on the surface, which can provide weed suppression throughout the season. MSU Extension has a new publication and video outlining tips for roller crimping cereal rye in Michigan.

### Start with species selection

Winter cereal grains are the most effective cover crop that can be effectively terminated with a roller crimper. In Michigan, we recommend utilizing cereal rye, so below are more specifics on cereal rye. Cereal rye (*Secale cereale*) is one of the most used cover crops in Michigan because of its reliable winter hardiness and vigorous spring growth. Counting on roller crimping as your main method of termination requires a consistent stand with adequate aboveground biomass, and that begins with a strong cover crop establishment.

### Getting cereal rye seeded

For successful establishment, an early fall seeding date (August – mid-October) is preferred. Avoid “variety not stated (VNS)” seed because it can contain multiple varieties that may result in variable flowering timing. When selecting a variety, one that is early flowering and low lodging would be best. If utilizing a drill when seeding, a seeding rate of 45-60 lb. pure live seed (PLS)/Ac is recommended. If broadcasting with incorporation instead, the planned seeding rate should be increased to at least 50-65 lbs. PLS/Ac. A good cereal rye establishment has a higher chance of producing a consistent stand and a consistent stand with adequate aboveground biomass is needed for a successful roller crimping termination. The [Roller Crimping for Cereal Rye factsheet](#) provides more information on growing good cereal rye for roller crimping termination.



### Check the stand in the spring

In the following spring (March – April), check if the cereal rye has a consistent stand, which is needed to help suppress weeds after crimping. If the cereal rye stand is not consistent, weeds can establish that will not be terminated with the roller crimper and some other form of termination may be necessary.



### Roller crimping

Choosing the correct roller crimping equipment is important. Check out [this example from North Central SARE](#) of a crimper made from repurposed tillage equipment. Cereal rye should be crimped at anthesis (flowering), which often lines up around Labor Day. If rye is not fully terminated by crimping, an herbicide application or tillage may be needed. The [Roller Crimping for Cereal Rye video](#) has more information and a visual aid. Roller crimping too early may lead to poor termination and crimping too late may lead to competition with the cash crop. However, when timed right, roller-crimped cereal rye can help suppress weeds as well as conserve soil moisture. 2

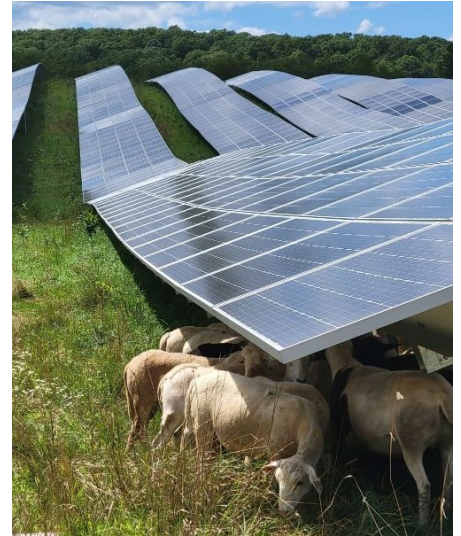
# Agrivoltaics as a Rural Economic Engine in Michigan

By M. Charles Gould

There is broad recognition that solar development can be sited in locations other than farmland, and that those alternatives should be evaluated first. However, solar projects already exist on farmland, additional projects are awaiting state or local review, and others are planned throughout Michigan's agricultural regions. When solar projects are built on farmland, it does not mean the land can't be used to grow crops or graze livestock.

## Producing food and power on the same land

Agriculture and solar is not a zero-sum proposition, meaning that if solar is put on agricultural land then agriculture must cease. That is simply not true, but it requires a paradigm shift in the way people think about how food is grown. Food for human consumption and electricity generation can occur on the same ground. In fact, not doing so may be one of the greatest missed opportunities in the future of sustainable land use. For example, if the vegetative groundcover of every currently operating and in-construction utility-scale solar facility (6.45 GW on approximately 32,000 acres in Michigan) was managed as an agricultural operation, the acreage could transform our state's sheep industry from \$13.9 million to \$40 million in annual farm cash receipts and up to \$115 million in annual regional economic contribution. This is where [agrivoltaics](#) offers a practical pathway to strengthen both energy and food security without requiring additional land. Agrivoltaic projects can be found throughout the United States and around the world (click [here](#) for a map of U.S. dual-use projects).



## Farmer choice and land use decisions

Conversations with farmers over the years have repeatedly highlighted the importance of respecting private property rights and farmers' ability to make decisions regarding their land. Farmers don't post a notice for public comment when they are going to grow soybeans in a field that grew corn the previous season. We accept the fact that they have made the best decision for their farming enterprise. No one questions their judgment. Why should that be any different for a farmer who recognizes the benefit of a solar project for their farming enterprise? Farm families who have owned and cared for their land for generations deserve a meaningful voice in determining its future.

For many farm families, these decisions are also shaped by economic realities. A significant number of farmers are [approaching or beyond](#) retirement age and wish to [transition out of production agriculture](#). Years of thin profit margins have left some farmers without retirement savings. Their children have witnessed the financial challenges their parents faced and are reluctant to continue farming. [Solar lease contracts](#) and [vegetation management contracts](#) can provide two new sources of reliable and predictable farm income. Lease payments can support retirement, while long-term vegetation management opportunities can create incentives for [younger generations](#) to remain engaged in the farm business. Farmland doesn't stay farmland because people love looking at it. It stays farmland because someone can make a living from it.

## Washtenaw solar project case study

When developers estimate the economic impact of a solar project, they routinely include indirect (supply chain) and induced (household spending) effects in their analyses. While these ripple effects represent utility capital expenditures, developers rarely calculate the economic contributions of agricultural activities that can coexist within the array fenceline.

The [Washtenaw Solar](#) project provides an example of the agricultural employment and economic benefits that can be missed when solar and agriculture are treated as mutually exclusive land uses. The Michigan Public Service Commission found the proposed solar project's current layout contains approximately 943 acres inside the array fencing. At an average stocking rate of three breeding ewes per acre, the land could support approximately 2,829 ewes. This stocking rate would provide low-impact seasonal grazing for the vegetation described in project filings.

Based on Michigan's average ratio of 1.2 marketed lambs per ewe, the flock would produce approximately 3,395 marketable lambs annually. This level of production generates more than 724,000 [three-ounce servings](#) of lamb each year, enough to serve over 181,000 families of four. If marketed wholesale two to three weeks before Easter, the lambs could generate approximately \$814,800 in gross farm revenue. Alternatively, producers could retain the lambs for additional weight gain or use them in grazing operations, marketing them later at heavier weights and potentially achieving similar or greater revenues depending on market conditions. Ultimately, returns depend on how producers position themselves within the lamb marketplace and capture consumer demand.

An economic analysis was conducted using [IMPLAN](#), an economic impact modeling software platform, to compare solar grazing activities with corn and soybean production over the 943 acres in the solar project. This comparison shows that the sheep + land maintenance scenario produces an estimated \$1.86 million in total economic impact, compared with \$1.49 million for corn and \$775,000 for soybeans (Table 1). Relative to traditional crop production, sheep grazing and associated vegetation management generate approximately:

- 25% more total economic activity than corn production
- 4 times more total economic activity than soybean production

|          | Sheep + Land Maintenance |            | Soybeans        |            | Corn            |            |
|----------|--------------------------|------------|-----------------|------------|-----------------|------------|
|          | Economic Impact          | Employment | Economic Impact | Employment | Economic Impact | Employment |
| Direct   | 1,188,557                | 13.52      | 522,138         | 5.00       | 701,356         | 2.50       |
| Indirect | 175,407                  | 0.78       | 136,078         | 6.52       | 543,722         | 3.26       |
| Induced  | 491,956                  | 2.55       | 116,547         | 2.48       | 240,616         | 1.24       |
| TOTAL    | 1,855,920                | 16.85      | 774,763         | 14.00      | 1,485,694       | 7.00       |

Table 1. Economic and employment impact comparison between solar grazing and corn and soybean production in the Washtenaw Solar Project.

Other implications include the following:

- The sheep + land maintenance scenario generates approximately \$492,000 in induced impact, which is more than double that of corn and over four times that of soybeans. This suggests that income earned from sheep grazing and vegetation management circulates more strongly through the local economy.
- The sheep + land maintenance scenario has the largest direct economic impact at approximately \$1.19 million and 13.52 direct jobs. This indicates that most of the value is generated through on-the-ground agricultural and land-management activity rather than through secondary economic effects.
- Corn has the largest indirect economic impact (\$544,000), indicating that corn production creates greater spending throughout supporting businesses and suppliers. However, even with these larger indirect effects, its overall economic impact remains lower than the sheep + land maintenance scenario.

It should be noted that the developer’s [siting application](#) states the solar project will create 13 total operations jobs. Under a solar grazing model, the mowing-related portion of these operational jobs would be replaced by shepherds responsible for vegetation management.

Practical agrisolar does not require specialty solar engineering

Sheep grazing demonstrates why specialty solar engineering is not required. A [2025 study](#) evaluated sheep [agrisolar](#) business models across solar projects ranging from 200 kW to 465 MW and concluded that conventional solar designs can accommodate sheep without reducing electricity yield. Reliable grazing service payments improved farm profitability and resilience, with modeled returns on investment of 16%–31% for breeding-flock systems and 22%–43% for purchased-lamb systems. The most important enabling decisions were operational—vegetation selection, water, fencing, access, contracts and coordination—rather than changes to the panel system itself.

As Michigan navigates the expansion of utility-scale solar development, the question should not be whether land produces food or energy, but how it can produce both. Agrivoltaics demonstrates that with [thoughtful planning and management](#), solar projects can support farm profitability, strengthen rural economies, enhance food and energy security and preserve agricultural opportunities for future generations. Rather than viewing agriculture and solar as competing land uses, policymakers, developers and communities should recognize the value of systems that allow both to thrive on the same acreage. Doing so may help address concerns regarding the "unreasonable diminishment of farmland" standard established under PA 233. The greatest public benefit will come from solar projects that simultaneously generate electricity, support agricultural production, create jobs and strengthen rural economies.

# Buckshot in Beef?

By Phil Durst

Ask them at the slaughter plant what the big quality problems are with cattle and sooner or later in that discussion you'll hear about shotgun pellets adulterating the beef. Quality assurance of beef and good stockmanship mean never shooting at cattle.

"Dang bulls out there fighting!" Clancy muttered to himself and anybody within hearing distance, which was only his dog, Oscar. "I'll teach them to fight instead of what I've got them out there for!" And with that, he pulled the trigger on the shotgun. Sure enough, the bulls, wounded with enough pellets to make them stop and assess the damage, stopped fighting and wandered around the pasture. Oscar looked up, then went back to sleep.

I suppose that might be called remote management, but while it was quick and efficient, it has a cost. Slaughter plants report that shotgun pellets are still a problem in cattle carcasses. Buckshot and birdshot continue to adulterate beef according to USDA and the FDA, and when found, entire animals can be condemned. That is a big loss, especially when cattle are high priced.



Clancy drove his pickup truck around the back side of the pasture where the ravine starts. He wanted the cattle to move out of the ravine, which was thick with brush but not much grazing. He couldn't get in there to chase them, and by the looks of things, Oscar had less interest. That's why Clancy always carried his shotgun in the truck. A few well-placed shots would get the cattle moved out of there. Shooting into the brush, Clancy figured that the cows would get a little sting, like touching a hot fence, but wouldn't be hurt too much.

When beef containing shot goes through a grinder, pellets can be sheared into many tiny, hard-to-detect fragments, requiring the disposal of that beef and additional beef that is not adulterated as a safety precaution. Processing downtime has an even higher cost. Every slaughter plant surveyed in the [2022 National Beef Quality Audit](#) reported issues with buckshot/birdshot, and despite the majority using metal detectors and X-ray machines, half of them reported receiving consumer complaints. Consumers don't want to find metal in their burger or roast!

Getting cattle to load on the truck had never been a good day at Clancy's. His setup was poor at best; he didn't get anyone to help him, and Oscar had long ago ceased to be effective. So, although he really didn't like to fire a round of birdshot to get cattle on the truck headed for the slaughter plant, he used this as a "last resort." After all, he was tired.

In each situation, Clancy went with the easy answer rather than the work of working cattle. The bulls should have been acclimated to one another before breeding season, or maybe he could have applied a maternal bovine appeasing substance (mBAS) to the head of each one before he put them together. It may not be the total answer, but they might be more mellow.

Hard areas of the farm or ranch should be fenced off. If the ravine is the water source, he could have developed a water source that fits the pasture set-up. He should have anticipated the problem areas and handled them ahead of time.

Clancy could have prepared his facility better for loading cattle, and if he was the only one loading a trailer, he should have made sure that his set-up was set up for success.

The fact that buckshot and birdshot in beef is still a problem is surprising. Really, it is about being too lazy to do the job right. How often has that described many of us? How often have we grabbed a tool like a cattle prod, or perhaps a shotgun, when good animal handling practices would have been the best choice? How often have I looked in the mirror, and Clancy looked back at me?

Now is the time to put away the tools that are counterproductive for quality beef, and to put the "man" back in management!



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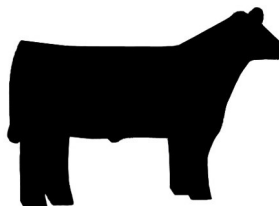
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