ASGA

CASE STUDY

Solar Grazing Story: Marcus and Jess Gray, Gray's LAMBscaping

Jess and Marcus Gray work tirelessly to bring solar grazing opportunities to Virginia. They do this for their family, their business, and their community. Their impact extends beyond state lines and lifts the entire solar grazing industry. New ideas and business models aren't easy: they've faced challenges, overcome hurdles, and changed hearts and minds along the way. Their story is a farmer's story– they put their heart and soul into their farm and tried everything they could think of until they found a way that worked. And now they are sharing their lessons with the solar grazing community to help light the way.

Building Community Through Solar Grazing

Solar grazing can create unexpected community connections. While they are driving sheep across public roads, the Grays often see people come out of their homes to watch and take pictures. ***"A lot of them have stories about their relatives who had sheep,"*** Jess said. ***"And then it gets them talking to neighbors that they hadn't talked to in a really long time."*** These conversations are bringing sheep farming back into the local culture and boosting the local farm economy.

In one encounter with a woman who owns a local feed store, Jess listened to her initial opposition to a solar project. The woman feared losing business from farmers because she assumed the solar project would take farm lands out of production. Jess connected her with a solar construction manager who needed straw and confirmed that the Grays would need sheep feed and minerals. This conversation completely changed the woman's perspective. ***"By the time we got done talking to her, she walked out with a big smile on her face and said, 'I'm a fan of solar now.'"***

The Grays, like other solar graziers, have shown that solar grazing can stimulate rural economies by creating new agricultural enterprises. ***"We come in, and we start this whole economy that doesn't currently exist by adding a new farming enterprise to our region,"*** Marcus explains. This includes creating demand for veterinary services, minerals, equipment, and eventually vehicles and other supplies.

"Solar has the ability to build communities more so than people realize," Jess concludes. ***"A lot of times it's like, 'Oh, that's the farmer's land, I'm not a part of it, I don't care,' but now that we're putting solar on it, it does become more of a community event."***

Going Back to Virginia

The Gray family's roots trace back to the 17th century in Virginia, but, like many young people, they left farming in search of better economic opportunities. Before returning to Virginia, they spent several years moving around with their children and working nine-to-five jobs. Marcus spent 20 years as a wildlife biologist, and Jess, who holds an undergraduate degree in exercise sports science and a master's degree in business administration, worked as a coach and communications manager at a university.

Throughout their careers, they remained committed to land stewardship and to maintaining ties to farming, running chickens and raising dogs on their properties, but they never quite fit into suburban life. For Marcus, farming represented something fundamental that he couldn't find in a career: ***"I see farming as your base of operation, and then if you want to pursue another career or work in some other field, you can do that, but you have to maintain the farm because it's something bigger than you."***

Marcus and Jess knew that supporting a growing family while farming would be challenging. Economic realities had led many of their family members to pursue other careers, and Marcus' father had a difficult life on the family farm. Their careers provided a solid financial base for their family, even if it was not their preferred path. ***"We were chasing the dollar, and we were always moving for work, for better jobs, for better pay,"*** Jess recalls. ***"We kept thinking to ourselves, 'We don't like this. We don't like that our kids aren't rooted in anything. We don't like that they don't have a connection to the land.'"***

When the COVID-19 pandemic disrupted their careers, it created an opportunity for the Grays to make a change. Despite the risks and economic uncertainties, they decided to commit to building a substantial farming operation and move back to Virginia.

To start, the Grays assembled a small flock of 30 sheep on a 30-acre farm. They focused on building an efficient, sustainable operation and explored raising a variety of livestock, including cows, chickens, ducks, and geese, while growing vegetables and maintaining a pumpkin patch. They named their operation "The Kitchen Sink Farm," as a reflection of their "try anything to see if it works" attitude.

Despite early successes in Virginia, the economic viability of their farm remained in flux until they happened on an unexpected opportunity. While driving their children to a basketball game, they took an unfamiliar route and came across a 1,000-acre solar installation. The timing was perfect; it was precisely when their farm's forage was running low. ***"Our sheep would love that,"*** they thought, immediately recognizing the potential opportunity.

Not knowing how to proceed, they contacted their local extension agent, who directed them to ASGA. This connection would prove transformative for their farming operation and their family's future.

From Traditional Farming to Solar Farming

The Grays immersed themselves in learning everything they could about solar grazing through ASGA's resources and felt ready to launch their operation. But securing their first solar grazing contract required patience and persistence. ***"We spent the whole first year convincing solar companies that sheep grazing is effective,"*** Jess explains.

As they began looking for solar sites, they faced two major challenges. First, they needed to grow their flock to meet the

vegetation demands on a large solar site. This required time and capital investment. ***"The average flock size in Virginia is around 30 head of sheep,"*** Marcus explained. ***"People go, 'Wait, you want to graze a 300-acre solar farm? You don't have enough sheep.'"*** The Grays began renting land at other farms to swell their ranks.

The second challenge proved more frustrating: gaining acceptance from solar owners and operators. The process was fraught with challenges, including personnel changes at solar companies that forced them to restart relationship-building efforts. ***"We were the only ones believing in ourselves, believing that everything we were doing was going to work out,"*** Jess recalls. ***"It definitely did, but it was a good two years of struggle."***

To promote the effectiveness of solar sheep, the Grays conducted numerous farm tours to demonstrate their flock's capabilities and arranged visits to existing solar arrays. Their persistence paid off, and they got on their first solar site in October 2022, officially launching Gray's LAMBscaping. In a pilot project, they put sheep on limited acreage and collected data on their performance. ***"We studied and figured out what worked best,"*** Jess recalls.

The Learning Curve

Most solar grazing in the United States happens on operating solar sites, but many of the initial sites the Grays worked on were still in construction. This meant they had to learn to integrate sheep into an active construction project. ***"It was a big curve for us to learn the construction lingo, to learn the solar company business lingo,"*** Jess explains.

They also encountered logistical challenges. Their initial watering system design proved inadequate when they scaled it for a large solar site. ***"What is a mobile watering system that also doesn't waste water?"*** Jess asked herself, recognizing that with rotational grazing, she couldn't dump 50 gallons of water every time they moved the sheep, especially when they had to haul it to the sites.

Livestock guardian dogs posed another challenge. They require proper containment systems and feeding stations to keep the sheep from accessing the dogs' food. Like the watering system, the feeders went through several iterations. ***"My dog feeders went through three or four rounds of builds,"*** Jess recalls. ***"I built them so they're sheep-proof and mostly animal-proof."***

Fencing strategies also evolved with their operation. Initially, they created numerous paddocks with temporary fencing, but this approach required excessive labor. ***"We were spending so many hours building fences when we could be spending more time with our flock,"*** Jess explains. As their numbers increased, they adjusted their approach, focusing on appropriate stocking rates for each site's largest paddock and reducing the need for extensive internal fencing.

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Building a Lasting Livelihood

In a few short years, Gray's LAMBscaping grew at a remarkable pace. ***"Once you get your first contract,"*** Jess said, ***"It's a lot easier to get your second one, but that first one is the hard part."*** Today, they manage vegetation on six solar farms, totaling 4,000 acres, with a flock of 1,300 sheep. They plan to eventually get over 5,000 sheep. This challenge doesn't intimidate Marcus; his great-grandparents managed 3,000 acres.

The solar grazing contracts have not only turned the Grays' operation into a viable farm but also into a thriving business. ***"It made us solvent,"*** Marcus states simply. While they continue to reinvest much of their income into operations, they're no longer depleting their savings or wondering how they'll make ends meet.

The Grays are especially proud of the health and productivity of their animals. The abundance of shade from the solar panels has helped during the hot summers. ***"All the elements we need to raise really great livestock are in place,"*** Jess explains.

Having access to more grazing acres on solar sites has been a game-changer for their operation, enabling greater adaptability. ***"If there's a problem in one paddock, a distasteful plant or whatever, we can get away from it,"*** Marcus explains. ***"If there's a predator problem, we can get away from it and go somewhere else. If there is a parasite outbreak, we move."***

It's also allowed them to be more selective about their breeding program. The local sale barn has come to appreciate the quality of the Grays' culled animals, which are often perfectly healthy but simply don't fit their specific solar-grazing needs.

Now that they have an established solar grazing business, they have opened consulting opportunities with solar developers. The Grays have advocated for design considerations that benefit both sheep and site management, including appropriate spacing between panels and fencing, seed mixes with more palatable species for sheep, and the strategic placement of access roads and gates. This, in turn, has helped solar developers better prepare sites for sheep.

Experiments with Virtual Fencing and Cattle

The Grays continue to look for ways to innovate. They are experimenting with virtual fencing technology for sheep on solar sites. By using specialized collars that deliver audio warnings and mild corrections when animals approach boundaries, they've been able to pilot sheep containment without physical fencing in certain areas. The technology offers exciting possibilities for tracking sheep behavior and forage preferences.

Their next project will bring cattle onto solar sites. Marcus envisions a multi-species approach that would further reduce the need for mechanical mowing: ***"If we were to put cows in that mix too, we could be pulling that down to one mowing per year or maybe just weed eating."*** This approach would create opportunities for more farmers while improving land management. The complementary grazing habits of sheep (which prefer broadleaf plants) and cattle (which prefer grasses) could maximize vegetation management while producing two different agricultural products from the same land.

Global Perspective and Leadership Beyond the Farm

As their solar grazing operation expanded, Jess and Marcus invested in learning beyond their own farm. They sought ideas to strengthen rural communities and revitalize the U.S. sheep industry. For Jess, education and leadership became essential tools for ensuring that innovation in agriculture could coexist with long-standing rural traditions.

In 2023, Jess was selected as a Nuffield International Farming Scholar and traveled with eight other scholars to Brazil, Texas, Canada, England, and New Zealand. For her individual study, she expanded her travels to Australia, Scotland, England, Wales, and Montana to examine sheep economies worldwide and explore how elements of sheep culture could be revitalized in the United States. ***"It was a chance to meet farmers of all backgrounds and connect on a sheep level,"*** Jess says. "***We stayed with farming families and learned how they handle sheep farming where they live."***

Inspired by her international experience, Jess served as a Virginia Rural Leader in 2024 and traveled across the state to better understand what makes the state's rural areas unique. ***"I traveled all the rural nooks and crannies of Virginia to see what makes rural Virginia so special and to better understand how solar can keep the rural traditions and culture alive alongside solar,"*** she explains. ***"Both of these experiences help shape not only what our company currently cares about, but also help drive our future decisions."***

Passing the Farm to the Next Generation

For the Grays, perhaps the most meaningful impact of their solar grazing operation is the opportunity it creates for their children. ***"The goal for us is to turn our grazing operation over to the kids,"*** Jess explains. Rather than their children competing for the same roles, they envision each finding their own niche within the diversified operation.

"My one son does really well with guardian dogs," Jess said. ***"And so I always say, 'Archer, you could do the guardian dogs. That could be your thing. Our daughter really loves working with the vet and learning the ins and outs, and I said, 'Okay, you can either go to vet school, you could be a vet tech, and you could be in charge of total sheep health.'"***

Solar grazing creates multiple opportunities for each child to eventually grow within the family farm. It's a stark contrast to the traditional pattern where family farms struggle to survive beyond three generations. Through solar grazing, the Grays have found a way to honor their agricultural heritage, embrace innovation, ensure their family farm endures for generations, and build a sustainable business that allows them to work alongside the people they love. For Marcus, whose family has farmed American soil since before the revolution, this continuity carries profound significance. ***"I can now build something that's going to be able to support the family in the future."***