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CASE STUDY

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Solar Grazing Story: Lyndsey Smith and Chris Moore, Shady Creek Lamb Co.

In the heart of Ontario, Canada, Lyndsey Smith and Chris Moore lead the Shady Creek Lamb Company, a thriving solar grazing enterprise that manages vegetation across 800 acres of solar with 1,250 sheep. They've faced many challenges, but through creative solutions, like lambing directly on solar sites and innovative winter grazing strategies, they've built a sustainable business that keeps agricultural land productive while creating renewable energy. For Lyndsey and Chris, solar grazing represents more than just an income stream—it's a way to preserve agricultural traditions while adapting to changing times, proving that with innovation and perseverance, family farms can thrive in the renewable energy landscape.

From Family Roots to New Beginnings

"The farm we live on was Chris's grandparents' dairy," Lyndsey explains. ***"They moved here sometime in the 60s. The dairy closed in the early 90s."*** Chris moved to the farm in 2012, and Lyndsey joined him in 2016, after working in agricultural media for over a decade. Her agricultural roots trace back to Manitoba, where her family ran a small goat dairy.

The couple's agricultural backgrounds influenced their approach to farming, but their motivation runs deeper than family tradition. ***"There's just something about growing and producing food that's really important,"*** Lyndsey reflects. ***"Once you start doing it, it feels like it's something you need to be doing."***

Their partnership thrives on complementary strengths. Lyndsey brings expertise in livestock genetics and agronomy, and is fascinated by plant-ruminant interactions and biodiversity. Meanwhile, Chris would rather spend time with nature, sheep, and dogs than most humans, and constantly explores innovative ways to use animals instead of machinery. ***"He comes up with crazy ideas and wants to try new things,"*** Lyndsey says with admiration. ***"He's always looking at ways to use animals to do what machinery does because of how cool ruminants are."***

Both share a deep appreciation for working outdoors. ***"We really enjoy being in nature,"*** Lyndsey says. ***"There's something really rewarding about being able to do something productive that also is outside and on the landscape."***

The Challenge: Making Farming Financially Viable

In 2017, Lyndsey and Chris faced a fundamental challenge that many small-scale farmers encounter: how to make a living. ***"It's one thing to have a bit of land or have a couple of animals,"*** Lyndsey explains. ***"But realistically, how do you***

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actually derive income and make a profit from farming on the livestock side if you don't have a whole bunch of land already or if you're not already part of a family farm that's growing or continuing? It's really difficult."

The couple needed to expand their existing flock to be profitable, which meant either investing in expensive infrastructure or acquiring more grazing land. With limited capital, purchasing additional land wasn't feasible. They needed an innovative solution that would enable them to scale their operation without incurring substantial debt.

The turning point came when Chris, who regularly drove past a 200-acre solar installation about six miles from their farm, had what Lyndsey calls ***"one of his ridiculous ideas."*** What if they could graze sheep on that land? "***Just because grandpa farmed a certain way doesn't mean we have to keep doing that forever. Successful farmers adapt,"*** he says, ***"and I saw unconventional grazing setups as an opportunity."***

"Chris had always wanted to put sheep into it," Lyndsey recalls. After consulting with another Ontario farmer who was planning to graze sheep on their own solar site, they realized this approach could triple their flock size while keeping costs down. Solar grazing could provide both additional land for their expanding flock and a new income stream to support their growth. It was a perfect solution to their land constraints—if they could convince the solar company to give them a chance.

Pioneering Solar Grazing in Ontario

When Lyndsey and Chris approached their first solar company, solar grazing was virtually unknown in Ontario. There was no established model to follow, no pricing structure to reference, and limited resources to provide guidance.

"We were very much at the front of this industry, really kind of forming and solidifying it into what it's becoming," Lyndsey explains. ***"I feel like we're still at the very beginning of something, but it is turning into something really cool."***

With limited resources and abundant determination, they prepared as best they could. They visited the other Ontario farmer who was beginning to graze solar sites, and researched solar grazing projects in the United Kingdom for additional insights.

Chris's experience with adaptive grazing proved invaluable. During Ontario's 2012 drought, he had learned to graze sheep in unconventional places on non-traditional forage, using temporary solar-powered electric fences. This experience, combined with Lyndsey's communication skills, enabled them to pitch their idea to the solar company.

"We were lucky in that the company we started with was keen on doing this and was very helpful in navigating what we needed for insurance," Lyndsey said. ***"They took a chance on us."***

Their pilot project was successful enough that they expanded the next season and purchased additional sheep from a grass-based flock. ***"I cannot stress how important that is,"*** Lyndsey emphasizes. ***"We bought the genetics from a farm that was grazing and lambing on grass, which is how we knew we would be grazing and lambing."***

Their most significant early investment was a mobile yard. ***"Probably the best money we spent,"*** Lyndsey notes. ***"It has paid for itself many times over. Having a very fast, very mobile way to secure your sheep, work them, move them, sort them, load them."***

From this modest beginning, their business has grown substantially. Today, they manage vegetation for two solar companies on seven different sites. In co-operation with three other sheep farmers, their operation covers approximately 800 acres.

Innovative Approaches to Flock Management

One of the most distinctive aspects of Shady Creek's operation is the practice of lambing directly on solar sites. This practice raises eyebrows among traditional shepherds, but it works remarkably well. ***"We didn't have the infrastructure to be able to lamb the entire flock size that was required to graze,"*** Lyndsey explains. ***"It was either build infrastructure to lamb them at home and then move them, which we did not have money for, or just lamb them at the solar site."***

Their approach leverages natural instincts and abilities. ***"Sheep are incredibly capable of easy lambing, loving their lambs, and having smart lambs that get up and drink if you select for it,"*** Lyndsey says. The solar panels provide advantages for lambing, creating sheltered areas that protect newborns from harsh weather and provide ample shade. ***"Ewes thrive with all the extra room; mismothering is rare in this system,"*** she adds.

Their lambing strategy, known as draft lambing, works with the sheep's natural "hefting" instinct—the tendency of ewes to stay in one place after giving birth. ***"If you've ever noticed, a ewe when she lambs will stay in that spot if you don't move her,"*** Lyndsey explains. "***And that's because by instinct, they need to stay still so that their lambs, who are very small and can't walk far at first, will find the udder, get their colostrum, and get strong."***

Each morning during lambing season, they open the fence to fresh pasture. Pregnant ewes without lambs move eagerly to the new grass, while ewes that have lambed in the previous 24 hours stay behind with their newborns. This creates a natural sorting system, allowing the team to manage different groups based on their lambing status. ***"Draft lambing was definitely something I had to learn about and adapt to,"*** Chris says. ***"Watching the flock carefully as it moves ahead is key, but understanding animal behavior has allowed it to be leveraged."***

"It actually works really well," Lyndsey says. ***"It's pretty cool to work with their own instinct of wanting to stay with their lambs and just using that to your advantage."***

While this system isn't perfect—occasionally groups mix if fencing fails or predator pressure increases—their mortality loss rates are comparable to those of barn lambing operations. The key has been selecting ewes and rams with the right genetics and temperament for outdoor lambing, and continually selecting for these traits.

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Solving the Winter Feed Challenge

Another innovative aspect of their operation is their approach to winter feeding and management. Rather than building expensive barns to house sheep during Canadian winters, they've developed strategies to keep sheep on pasture year-round.

"Livestock are a lot tougher than a lot of people will give them credit for," Chris says. ***"As long as they are well-fed and have shelter, it doesn't need to be a full-on barn."*** The home farm has 40 acres of forest that is well-used in winter feeding operations. Temporary paddocks are built along the edge, and feed is unrolled down forest paths ahead of poor weather to encourage sheltering.

Their wool-breed sheep have excellent cold tolerance. ***"Wool is amazing,"*** Lyndsey says. ***"Wool insulates even when it's wet. Our sheep in full wool have done incredibly well in very, very cold Canadian winters."***

For winter feeding, they use a custom-built bale unroller that allows them to feed large numbers of sheep efficiently without competition at feed bunks. ***"We had an unroller made by a neighbor who's a talented welder,"*** Lyndsey explains. They have two versions—one that attaches to a quad and uses gravity, and another that is hydraulically driven and connects to a tractor.

"Having both is important," Chris says. ***"In the spring, we don't want to tear up the ground or cause compaction with the tractor,"*** he explains. During the spring thaw, they move ewes to a long-standing pasture with a thick thatch, to decrease compaction on the winter hay fields.

This approach not only saves infrastructure costs but also improves their fields. ***"Why would we stack manure in a pile and then have to spend a whole bunch of fuel traipsing that manure out to the fields when really you want the manure in the field?"*** Lyndsey asks. ***"We feed them in the field, and they drop their manure and their urine in the field, which is where you want it anyway."***

In recent years, they've added cover crop grazing to reduce their reliance on stored feed. By grazing cover crops on neighboring farms after harvest, they have significantly extended their grazing season. ***"When most people are starting to feed hay in September or October, we can usually stay out grazing till December, sometimes later,"*** Lyndsey says. ***"It has offset at least a month, if not two or three, depending on the year, of stored feed."***

Challenges and Adaptations

Despite their success, Lyndsey and Chris continue to face significant challenges. Flystrike—a condition where flies lay eggs in sheep's wool—has been particularly problematic in recent years. ***"This year, we have been absolutely hammered by flystrike,"*** Lyndsey says with frustration. ***"It is incredibly labor-intensive to try and treat for it. The survival rate is not good—I'd say it's less than 50% once it's established."***

Other challenges include tight profit margins, high land prices, and fluctuating input costs. Being within city limits means they face added competition for land from developers and speculators, driving up prices. ***"Growing a land base is incredibly challenging, especially where there's productive land,"*** Chris says. Labor access presents another ongoing challenge. While their location near urban areas helps attract workers, finding people interested in outdoor livestock work can still be difficult.

Interestingly, many of the challenges they anticipated with solar grazing haven't materialized. ***"Nothing that we really deal with at the solar is worse because we're at the solar,"*** Lyndsey said. ***"If anything, it's probably better parasite-wise because we have more land, because we manage our grazing, and because we've got really great feed."***

A key lesson they've learned is the importance of appropriate pricing. ***"When we priced ourselves at the beginning, we were kind of guessing,"*** Lyndsey admits. ***"It's probably one of the biggest mistakes we made—we underbid because we didn't know what it should cost or would cost."*** Additionally, they didn't build inflation adjustments into their early contracts, and this made it challenging as costs increased. ***"Farmers getting into solar grazing now have so much more information to build off of than we did,"*** Lyndsey says.

Building Community Understanding

Tours of the solar grazing sites are one of the most rewarding aspects of their work. ***"Some of the best experiences have been sharing what we do. Actually hosting tours on site and watching the sort of light bulb moment for so many people,"*** Lyndsey says. ***"It is so remarkable to see people's faces when they see just how alive the land, the space underneath the panels, is."***

These tours help counter misconceptions about solar installations. ***"From the road, it's really hard to fully grasp what it's like, how very pasture-like that ground still is, even though it has solar panels on it, when you're grazing it, when you're managing the grazing with sheep, and just how alive and vibrant and cool and lovely it is under those panels."***

Lyndsey passionately challenges the notion that solar installations take land out of agricultural production. ***"I fundamentally reject this idea that solar arrays somehow take land out of production,"*** she states firmly. ***"It just doesn't have to be that way. Before we started solar grazing, we saw solar sites as 'taking up' valuable farmland. Now we fully understand that***

the land is still very much farmland, it's just raising food a bit differently." Chris has a similar mindset and adds, ***"I say it all the time, solar doesn't mean it's not farmland anymore, it just means we farm it differently."***

Lyndsey points out the environmental benefits of their approach compared to the surrounding cropland. ***"We have perennial cover. We are grazing 200 acres in the middle of soybeans and corn. So we have flowering plants all year for honeybees, and native pollinators, and insects, and birds. We have so much life in these 200 acres."***

She continues, ***"I've worked in agriculture my entire career and walk many fields, both for pasture and grain. The biodiversity, habitat, and life that thrives below and between grazed solar panels is second to none. Because we manage the grazing, the land is well-covered and supports hundreds of sheep and their lambs, plus we also maintain valuable habitat for spiders and insects and milkweed for the monarch butterflies and clover for the bees. Solar grazing means the same acre that powers homes can also feed people and support biodiversity– it's a win, win, win."***

Looking to the Future

After years of rapid growth, Lyndsey and Chris are now focusing on refining their operation. ***"For right now, I think we want to get better at what we're doing on the production side and not necessarily go bigger,"*** Lyndsey explains. They're exploring improved fencing to reduce labor costs and increase efficiency. ***"Fencing is the biggest labor cost, and focusing on making the fencing job as efficient as possible is the difference between making a profit and not,"*** Chris says.

For their family, which includes three children, they hope their operation will continue to provide not just financial stability but also valuable life experiences. ***"Local food is important to us,"*** Lyndsey said. ***"It's really important for us to continue to build some of those local food value chains."***

As solar grazing continues to grow in Ontario, with at least 10 sheep producers now managing commercial-scale sites, Lyndsey and Chris take pride in their pioneering role. ***"It's so cool that we've been part of this group that really started doing this,"*** Lyndsey reflects.

Chris adds that the adoption of solar grazing has been slower in Ontario than expected. ***"It's a lot of work, and finding the right sheep and developing the skill sets required to do the job isn't easy. There's opportunity, but it takes commitment to changing how you do things — and change is hard."*** By embracing change and working in harmony with natural systems rather than against them, Shady Creek Lamb Co. has found a path to sustainability that honors traditional agricultural practices while meeting the challenges of the future.

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