



Solar Grazing Story: Chad Raines, Key Farms, Inc.

Chad Raines knows firsthand the struggles family farms face today. A 4th generation cotton farmer from Lamesa, TX, Chad took over the family business, Key Farms, in 2008. Unfortunately, Chad struggled to keep the farm profitable growing cotton and row crops alone. Looking for a new way forward, Chad found an innovative opportunity to make his agricultural business thrive: grazing sheep on large solar sites.

Keep the Farm in the Family or Move On

“One day my dad came into my office at the bank, which he did nearly everyday. But this time he closed the door and sat down. I knew something was wrong.”

After graduating from Angelo State University in 1994 with a Bachelor’s degree in Business Administration and Finance, Chad spent 12 years working as a commercial agricultural banker in his hometown of Lamesa, TX. It was in the midst of a successful banking career that his father, Joe, needed to have that closed door conversation. Agriculture was changing rapidly and Joe’s heart wasn’t in it anymore. He knew it was time to retire, but what to do with the family farm?

That day in his office, Joe offered Chad the first shot to take over Key Farms if he wanted it. Although he had a good nine-to-five job, Chad didn’t want to be the generation that let the family farm go. He knew he had to keep it going.

Chad took over Key Farms in 2008 and, following in the footsteps of the three generations before him, he focused on cotton. Chad’s first year was relatively successful, but soon he was struggling to stay profitable growing cotton and other row crops. Chad recalled. *“The problem with cotton was that I sold cotton in the 2010s for the same price that my granddad sold it in the fifties, but the cost of production was a whole lot higher now.”*

By 2014, Chad knew he needed to try something different. After researching his options, he approached his banker with an idea: what if he purchased a flock of sheep? His banker was hesitant to lend him the money to buy sheep. Lamesa is a cotton-farming community after all, and the bank needed some convincing that sheep could be profitable. They settled on a plan to start small with 200 head. The bank gave him the loan and Chad started the transition to sheep ranching.

Chad consistently improved the farm by using cover crops and planting crops for his sheep. He also transitioned to organic farming, reducing his use of chemicals: *“I was practicing regenerative farming before I even knew about regenerative farming. I didn’t know what I was doing, but I was doing what I thought was best for the land and the soil. A farmer is the original environmentalist.”*

After 10 years of raising cotton and losing money, Chad finally saw a profit after just one year of raising sheep. He then went



back to his banker and pushed to increase his flock to 2000 head, so he could fully transition from cotton to sheep. Chad said, *“After a stressful day, I loved to get on my utility vehicle and ride out amongst the sheep and watch them graze. Just the peace of that is what I needed, and I realized that’s what I wanted to continue with.”*

The Solar Grazing Opportunity

Despite these initial successes, Chad’s sheep business struggled through a number of drought years, forcing him to either buy hay or sell his animals. *“It just kept not raining. I spent a little over \$100,000 on hay one winter and just knew that I could never do that again,”* Chad recalled. He began hunting for pasture to lease in areas that had better rainfall conditions.

It was around this time that Chad began to hear about solar grazing, which he thought might hold the answer to his feed

problems. Chad initially struggled to find information on how to get started. Then a friend told him about JR Howard, owner of Texas Solar Sheep, LLC. JR had recently started a solar grazing business in East Texas. Meeting JR changed the course of Chad’s farming life. He didn’t just give Chad advice, he helped Chad learn how to launch his own solar grazing operation.

After developing a friendship with JR, Chad met Lexie Hain from the solar firm Lightsource bp. Before she worked at Lightsource bp, Lexie had been a solar grazer and was one of the founders of the American Solar Grazing Association (ASGA). She serves on ASGA’s Board of Directors. After an initial hour-long phone call with Lexie, she told Chad about ASGA and its resources. Immediately after ending the conversation, Chad found ASGA’s website and became a member.

Over the next year, Chad learned everything he could about solar grazing. He watched every past webinar recording, read all the materials, and joined every ASGA solar grazing call he could. *“Everything I have today, I credit to ASGA,” he said. Things came full circle for Chad in 2023 when ASGA invited him to join the ASGA Board. “It was a no-brainer; I wanted to give back to ASGA.”* Chad currently serves as ASGA’s Treasurer and has exponentially grown his solar grazing business over the past few years.

Armed with solar grazing knowledge from ASGA, Chad began seeking out contracts from solar firms.

The Waiting Game

Chad struggled to obtain his first solar grazing contract. Solar grazing was still a new concept, and solar companies hesitated to make the change. While Chad did have targeted grazing experience, he didn’t have experience running sheep on solar sites. He continued to talk to different companies, submitting grazing proposals and waiting for that first opportunity.

While searching for contracts, Chad attended the Solar Farm Summit in Chicago, where he met Ely Valdez, founder of Solar Farm Services and an ASGA Board Member. Ely was an early solar grazer and had a number of mowing contracts on solar sites. While Ely was working on transitioning to more grazing contracts, he was building up his flock and needed more sheep. He gave Chad his first solar grazing opportunity. They worked out a deal to bring some of Chad’s sheep to a solar site Ely managed vegetation on. The deal was a win-win: Ely was able to find the sheep he needed, while Chad gained valuable solar grazing experience and a mentor. Chad learned under Ely for a year, and that experience helped him land his first solar grazing contracts.

Chad said, *“Having that experience made all the difference in the world. Ely and JR both have been so good to take me under their wing and teach me and help me. They are a big part of my growth in solar grazing.”*

A Rapid Rise to Solar Grazing Success

In less than three years, Chad went from hearing the term “solar grazing” for the first time to managing vegetation on 19,500 acres (~3000 MW) of solar across Texas, Arkansas, and Louisiana. All of his sites are large solar sites, ranging from 600 to 4000 acres.

Chad’s challenge now is to continue scaling up his sheep operation to match the solar grazing demand. He currently has 3000 head of breeding ewes, with 1500 lambs on the ground. He keeps all of his ewe lambs to grow his flock quickly. Chad has had to get creative to match the demand to service the solar sites. He formed a partnership with another West Texas farmer, Wade Littlefield. Partnering with Wade not only allowed Chad access to more sheep but also provided an opportunity to increase his knowledge and get someone to help run part of his operation. Chad also leases sheep from other ranchers.

Now Chad wears multiple hats as a farmer producing a commodity lamb crop and as a professional service provider for solar companies: ***“I take a lot of pride in the fact that we know this is a service industry. I know I am no longer just a sheep rancher. I’m providing a service, and my tool is sheep. Our job is to keep the site in compliance with their regulations.”*** He does this by employing a hybrid approach of sheep grazing and mechanical mowing. Chad uses a rotational grazing approach, and if there are areas that the sheep missed, he’ll mow to clean up the areas. He’s also responsible for mowing outside the fence areas and viewsheds.

In addition to providing excellent service to solar companies, Chad prides himself on being able to run his entire operation the same way he did before solar. Everything is done on-site, including lambing, sorting sheep, using herding dogs, and keeping guardian dogs. He expects that solar grazing will improve soil health on these solar sites and leave the land in better condition when the solar site lease has ended.



“It is thanks to solar grazing that I have a chance to do something outside of the box, a chance to save my family farm.”

Solar grazing is making up for his early difficulties with cotton. In the next year or two, he estimates that he'll be able to completely pay off the losses he accrued from his years as a cotton farmer. After that, he plans to expand his farm. In the meantime, he'll continue to lease any additional sheep he needs, with the added benefit of helping local producers who have sheep but are not interested in becoming solar graziers.

Advice for New Graziers

Now that Chad has built his reputation as a successful solar grazier, he has advice for those looking to get started. His first suggestion is to take the time to gain experience and build a flock, which can relieve some of the stress and complications of getting started if you try to grow too fast.

His next piece of advice: *“Always remember that this is a service industry; it's not just a ranching or grazing business. It's important for graziers to do a good job.”* He suggests prioritizing helping the solar grazing community and industry grow.

Chad also benefited from having sheep experience, owning a flock of 2,000 head, and a strong background in finance and business.

Solar Grazing Brings the Next Generation to Key Farms

Solar grazing gave Chad the ability to keep his family in farming and create a thriving new business. In a recent Reuters story on his operation, Chad estimated that if he had stayed in cotton he would have lost about \$200,000 in 2024. Instead, he saw profits of around \$300,000 that year. If Chad had continued as a cotton farmer, he knows his 4th generation family farm would have gone under.

The stress of knowing he would be the one to lose the family farm if he didn't make a chance is what motivated Chad to find solar grazing. *“It is thanks to solar grazing that I have a chance to do something outside of the box, a chance to save my family farm.”*

Not only did Chad keep the farm going, solar grazing is motivating the next generation of Raineses to go into the family business. Chad's eldest son, Ross, is already working fulltime as a solar grazier. Ross graduated from college in 2024 and immediately began working for his father, including managing one of their sites in Arkansas. Chad's younger son, Jackson, is a sophomore at Texas Tech majoring in Energy Commerce. Jackson plans to return to the family farm after graduating. Nothing makes Chad more proud than working with his two sons.

With solar grazing, Chad now has the opportunity to work alongside his family and continue doing what he loves with the people he loves. Chad credits his success to his family, especially his wife, parents, and children. Chad's growth and work are extremely impressive, as are his motivations. He states, *“All of this is for them.”*



Front left to right: Vivian and Joe Raines, Back: Eric, Jackson, LeeAnne, Chad, and Ross Raines