



THE LIVESTOCK CONSERVANCY

Conserving rare breeds since 1977
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Braydn Starkenburg, an active junior member of the National Lincoln Sheep Breeders Association and his local 4-H club, shows Lincoln sheep in South Dakota. Lincoln sheep are listed as Threatened on the Conservation Priority List. Braydn received a 2022 Youth Microgrant to help increase interest in the breed and the genetic diversity of his herd. Photo by Olivia Spaight.

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Dutch Belted cattle, listed as critical on the Conservation Priority List, on pasture at Dutch Meadows Organic Dairy in Pennsylvania. Photo courtesy of Raymond Stoltzfus.

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WHY I RAISE DUTCH BELTED CATTLE

By Raymond Stoltzfus

I have lived my whole life on Dutch Meadows Organic Dairy, but only started taking over the farm operations after my wife, Fannie Mae, and I were married in 2018. My son Abner Wayne is the fourth generation on the family farm which was started by my grandfather in 1952.

My father, Alvin, took over the roughly 100-acre farm in 1986 and farmed conventionally for a few years until he started having allergic reactions to the chemicals he was spraying. He had always liked the idea of farming without chemicals, and had seen the negative effects of conventional farming on the cows and the land, thus he decided there had to be a better way to farm.

COW GENETICS

My father first tried raising cows organically with corn, but he quickly decided that it made more sense to rely on pasture as the primary feed source for his cows. However, switching to a grass-based dairy meant he had to move away from his Holstein herd and find a breed more suited to grazing.

After he attended a grazing conference in Pennsylvania in the mid-1990s he came away convinced that moving to an all Dutch Belted herd made sense. This breed does very well on an all-grass diet and produces a good amount of milk.

There is also a strong demand for registered Dutch Belted heifers, providing a boost to farm income. We decided to switch to an all-registered herd a few years ago. Most of our cows were registered through the Dutch Belted Cattle Association's breeding-up program, since we used registered bulls.

My wife and I own about 45 mature Dutch Belted cows, but are expecting to increase our herd size to 60 in the next few years. We are moving toward a full A2/A2 herd, which is highly demanded by some milk customers.

Dutch Meadows Dairy tests all heifer calves and sells any that do not test A2/A2. Science has found A2 milk beneficial for people with dairy intolerance but there is not consistent evidence of other health benefits. However, A2 milk can command higher prices in the marketplace.

At this time, many registered Dutch Belted cattle are raised on family homesteads and hobby farms. As a dual-purpose breed, they are very well suited for these types of farms. I also see high potential in using Dutch Belted cattle as a low input, low maintenance dairy cow and am working on making top-quality dairy genetics available.

However, one difference with Dutch Belted cows is they do not produce quite as much butterfat as Jersey cows. Our current yearly butterfat herd average is 4 percent. The milk is not as creamy as Jersey milk, although some customers of mine say that Jersey milk is too thick and heavy and they prefer the Dutch Belt milk.

MANAGING COWS

The cows are milked in a double-six parallel milking parlor. Using bucket milkers and a vacuum system, six cows can be milked at once.

Our practice is intensively managed through rotational grazing, with the cows concentrated on a small paddock for a short period of time. The cows are put on pasture when the grass is fairly tall because we found that the grass has more energy and less protein when it is tall.

The whole farm gets mowed twice a year, while other parts are mowed more often. All the pastures are clipped in June and August after the cows graze them. This is done for weed control, not for hay production. Given the option, cows favor certain kinds of plants over others and periodic clipping after the cows graze keeps weeds under control. At other points, when cows cannot keep up with the pasture growth, the herd will skip one or more paddocks, and these paddocks will be mowed and the grass put in the barn as hay instead.

In the summer, cows are outside all the time and moved to new grazing paddocks at least three to five times daily, twice daily in the spring and fall. In the winter, the cows are outside a few hours per day (weather permitting) to graze stockpiled forages, fed dry hay and baleage in a bunk feeder and housed on a bedded pack.

The cows' entire dry matter intake is from pasture, wrapped hay, or dry hay. In addition to forage, the cows always have free choice minerals, and in the winter

molasses and apple cider vinegar are mixed in with the hay as a supplement. Milking cows, heifers and weaned calves get about the same ration.

The calves are raised on peach teat feeders with four to six in a pen, fed two gallons of milk daily for five months, and then transitioned to a half gallon of milk daily plus hay for a month before they are weaned completely. After experimenting with different methods, including running calves with cows, nurse cows, and keeping cows with momma, we found that feeders were most efficient on our farm.

The shift to organic production and going from grain and corn silage to pasture, has brought improvements in cow health and a dramatic decline in veterinarian bills. Dutch Meadows Dairy went grain-free about 10 years ago, at which time the few cows that did not keep their body condition without grain were culled from the herd.

I believe is better to start with a clean slate and have heifers raised from the start on grass, rather than switching them from grain to a grass-only diet, but it can be done after they are matured if you have high quality forages.

This article was originally printed in the January 2022 edition of the Dutch Belted Bulletin. Raymond can be reached at dairy@dutchmeadowsfarm.com.

WELCOME TO OUR NEWEST LIFE MEMBERS!

The Livestock Conservancy would like to give a special thanks to the following individuals who recently chose to support conservation programs by becoming Life Members:

Lynda Davies
East Bernard, TX

Bart Noll
Eugene, OR

To become a Life Member, contact Karena Elliott at 806-570-0874 or kelliott@livestockconservancy.org

2022 LIVESTOCK CONSERVANCY MICROGRANTS AWARDED

The Livestock Conservancy is excited to award more than \$20,000 to rare breed farmers, ranchers, shepherds, and breed organizations across the country. Now in its fifth year, the competitive Microgrants Program has awarded more than \$76,000 to our most important conservation partners – the people doing the hard work day after day to steward these genetic treasures. Three-quarters of the world's food supply draws on just 12 crops and 5 livestock species. However, heritage breeders like the ones below are working to restore biodiversity and to educate their communities about the importance of biodiversity for the security of tomorrow's food systems and fiber sources.

"Premier 1 Supplies and its customers value raising livestock and poultry," said Ben Rothe, Chief Executive Officer at Premier 1 Supplies and Microgrant donor. "That's why we've partnered with The Livestock Conservancy to encourage and help future farmers conserve breeds and promote biodiversity on our farms."

The Microgrants program provides up to \$2,000 for heritage breed conservation projects in National, Youth, and Breed Association categories. New this year is support from KageWerks, Inc. for a project focused on one of the 16 endangered rabbit breeds on the Conservation Priority List.

"I have a life-long passion for rabbits," said Kevin Whaley, founder of KageWerks, Inc. He raises several heritage breeds,

including Belgian Hares and Giant Chinchillas. Whaley created a modern solid-floor cage design for rabbit's special needs and is excited to support heritage breeders through The Livestock Conservancy's first rabbit-focused Microgrant.

Louis Eubanks, Bob Gjerdingen, Drs. Pam Hand and Will Hueston, Pat Lusted, and Standlee Premium Western Forage are additional 2022 donors who support microgrants for heritage livestock and poultry conservation.

"Small financial awards make a big difference for heritage breeders," said Dr. Alison Martin, Livestock Conservancy Executive Director. "These strategic investments were selected by a panel of judges as excellent examples of livestock conservation in action."

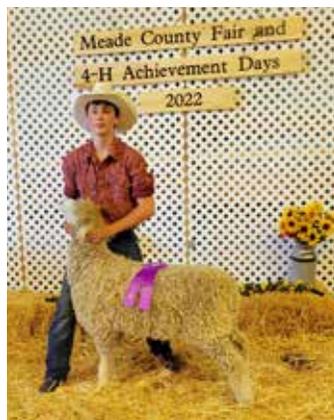
While it takes a long time to move a breed to the next category on the Conservation Priority List, Microgrants have targeted nearly one third of the more than 170 breeds on the list in just five years. From improving infrastructure to expanding educational opportunities, these investments help secure and sustain heritage breeds in a changing world.

"Being a member of The Livestock Conservancy for more than 20 years, I have certainly enjoyed reading about the wonderful work the organization has done to promote heritage breeds," Pat Lusted said. "I have not lived the lifestyle to keep animals but wanted to help. I find Microgrants are a great way to pay it forward."

YOUTH MICROGRANT RECIPIENTS



Carter Benini breeds Blanc de Hotot rabbits and is an active member of the American Rabbit Breeders Association and his local 4-H club in Delaware. He loves teaching others about rabbits and regularly works with disabled communities and his local community college. Carter plans to improve his outdoor rabbitry and expand his breeding program.



Braydn Starkenburg, an active junior member of the National Lincoln Sheep Breeders Association and his local 4-H club, will improve the genetics of his flock with two new unrelated ewes and a ram. There are few Lincoln sheep in South Dakota and Braydn hopes to increase interest in the breed by entering his sheep at local fairs and livestock shows.

BREED ASSOCIATION MICROGRANT RECIPIENTS



Launched in 2019, the **Hog Island Sheep Breeders Association's** early growth was deeply impacted by the COVID-19 Pandemic. They have now developed new Articles of Incorporation and applied for 501(C)3 non-profit status. Microgrant funds will be used to create a new website, improve recruitment through social media, create brochures, and hold an owners meeting in 2023.



The **Pure Puerto Rican Paso Fino Federation of America** will upgrade their registry software to offer online database searches for owners. Users will be able to research pedigrees and evaluate hypothetical matings to better conserve the breed's genetic diversity. The Federation will also expand services to Puerto Rico, where only paper records are available at this time.

NATIONAL MICROGRANT RECIPIENTS



Shave 'Em to Save 'Em
Fiber Provider **Lucienne Brown** raises Dorset Horn sheep on her farm in New Hampshire. She plans to build a chute and handling system to make it easier for students to learn about sheep husbandry through hands-on experiences. With easier handling, Lucienne will also provide data to the National Sheep Improvement Program.



Helen E. Raleigh plans to install an automatic waterer system for her herd of Randall Lineback cattle in Delaware. The improved infrastructure will ensure pregnant cows and calves are never without water and enable her to implement rotational grazing practices to improve foraging.



Larry Daugherty plans to clear more land on his farm in Pennsylvania for pasture. With support from Premier 1 Supplies, he will introduce new bloodlines to his Galloway cattle and Large Black and Red Wattle pigs. By expanding his herds, Larry hopes to host educational programs, mentor more new breeders, and give back to fellow veterans.



Connie Jean Ribbeck raises Sebastopol geese in Washington. She plans to improve fencing to increase the amount of forage available to her birds, especially goslings. By saving on feed, Connie will be able to attend more poultry shows and support poultry clubs to encourage more breeders to get involved with this Threatened breed.



Dr. Alondra M. Diaz Lameiro will collect, catalog, and analyze the Puerto Rican Paso Fino horse's morphological, behavioral, and genetic diversity to help breeders make informed breeding decisions. She will collaborate with all three associations, both on the island and mainland, and with students at the University of Puerto Rico at Mayagüez.



Tiffany Taylor raises Crème d'Argent and Silver Fox rabbits in Indiana. With support from KageWerks, Inc., she plans to improve both her grow-out system and marketing opportunities for the Crème d'Argent Federation. An active mentor for new breeders, Tiffany will also sponsor 12 specialty rabbit shows in 2023 to increase visibility for the Threatened breed.



Old World Wisconsin, one of the world's largest outdoor museums depicting rural life, will start a Java chicken Animal Ambassadors program. As the second oldest breed of chickens in the U.S., Javas play a significant role in life on historical farms. The museum will build a chicken coop and promotional panels to tell the story of Javas on homesteads.



GOAT RESEARCH THAT'S NOT BOER-ING



Dr. Maria Leite-Browning on pasture with the Tennessee State University herd of Dexter cattle. Dexters are listed as Recovering on the Conservation Priority List. Photo courtesy of Maria Leite-Browning.

By Cathy R. Payne

Deep research into heritage breeds does not happen in every American university that offers agricultural programs. In fact, it rarely happens. When heritage breeds are examined at the university level, it is sometimes by happenstance. Such was the case initially for Dr. Richard Browning, DVM, at Tennessee State University (TSU) in Nashville, when he and his wife, Dr. Maria Leite-Browning, DVM, delved into research on the characteristics of Dexter cattle, Spanish goats, and Tennessee Fainting Goats, also called Myotonic. Their research brings awareness to the importance of heritage breeds in a way that benefits future generations of researchers and veterinarians. Inevitably, students who become instructors and professors will carry that knowledge to other state universities.

Richard, a professor of Animal Science at TSU, raises Dexter cattle, Tennessee Fainting Goats, and Spanish goats at the TSU farm. He grew up in southeast Texas in a Navy family and started showing Red Brahman cattle in high school. This sparked his interest in grazing livestock.

Maria grew up in the city of Salvador in the state of Bahia in Brazil. She developed an interest in farm animal production and worked with sheep, goat, and cattle producers in northeastern Brazil. Maria attended veterinary school in Bahia, where she also did research, some extension work, and teaching. Then she came to the United States.

"That was 30 years ago," Maria said. "I've been working with beef cattle and goats for my entire career."

Maria later retired from university work, but still works with her husband. Today, she mainly works with health, biosecurity management, and reproductive assistance for beef cattle and meat goats.

A HERD LIKE NO OTHER

Richard was not particularly aware of heritage breeds until he needed to put together a research herd of goats for the university. Boer are the most popular breed of meat goat in the United States, and they come from a dry climate. The second most popular are Kiko goats, an Australian breed developed from feral stock to be parasite resistant.

"For us, the Spanish goats were a second thought," Richard said. In his pilot research project, he bred Boer and Kiko does to Spanish bucks. He needed a third breed to eliminate the sire effect. After the first year, his Boer does has some issues and he had to reassess his project.

Richard decided to add Spanish does to the herd to produce a three-breed, diallel cross mating scheme. Diallel crosses are frequently used in genetic studies for determining mode of inheritance of the examined traits and the number of genes that control the trait and gene effects.

"Leslie Edmundson, part of the Spanish Goat Association, began calling me for permission to post some of our research results on their website," Richard said. "That's how I learned about The Livestock Conservancy and that Spanish goats were

a heritage breed. All I knew before was that they were devalued as a breed. With the published research, folks started to take a second look at Spanish goats."

With his new appreciation for the breed, Richard likes to share information about Spanish goats with producers that aren't familiar with them.

"I ask them, 'Are you familiar with the Texas Longhorn cattle?' Just scratch out Longhorn cattle and replace it with Spanish goats, and you'll have the history. All those Spanish-type animals came over with the Spanish explorers in the 1500s, including those goats."

Richard explained the concepts of overall productivity versus individual productivity that grounded his research. His emphasis is on low input to the herd. He follows a herd over several years and looks at the their productivity and individual performance.

"When an economic assessment of performance is made on the population, the new meat goat producer needs to know what the benefits will be in the long run," Richard said. "The herd is the production unit, and that unit includes individual contributors. Our Spanish goat herd may be the only one in the country with whole herd evaluations."

Richard keeps records on Expected Progeny Differences (EPD). This data ranks the superiority of individual animals. It's all about breeding values as opposed to phenotypic records.

Breeders of heritage stock will often note that, while the breeds they raise are smaller than commercial ones, their

inputs are lower. Heritage breeds may forage for much of their food, need fewer medications or less veterinary care, or produce offspring in larger numbers or with higher survivability rates. They may live longer and maintain the ability to produce viable offspring for a longer duration. Therefore, over a number of years, the herd will earn more income because of reduced inputs overall.

"We're really trying to push the envelope in terms of performance reporting," Richard said.

He also thinks that a goat producer needs to have good records. All the research he's conducted over the years is based on good record keeping.

"There's no fancy research techniques to what we're doing," he said. "We have a herd of goats out there, and we're really diligent in performance reporting—reproductive data, herd health data—particularly in terms of parasitism, fecal egg counts, hematocrits, FAMACHA scoring, hoof disease."

Through his diligent record keeping, Richard noticed that the Boer does had all kinds of trouble.

"They were not fit," he said. "When we brought in our first Spanish goats, they surprised us by doing just as well as the Kiko does. We've spent more than a decade verifying our first year of data. It never changed."

A UNIQUE CATTLE BREED

When Richard started his job at TSU the program was researching Angus, Brahman, and Senegal cattle. That herd was dispersed when Richard began his research with meat goats. By 2015, administrators wanted to bring back cattle. Richard was willing to do that, but not at the expense of his important research with meat goats. Because of limited acreage, he decided to use a smaller cattle breed and do something unique. He found the Dexter breed a natural fit for this project. The acquisition of Dexter cattle allowed TSU to highlight alternative means of cattle production for those with smaller acreage. The smaller size and docility appealed to inexperienced students, as well.

"We found the very first Dexter bull for our herd from The Livestock Conservancy's classified ads on the website," Richard said.

He also likes to ask producers he's



Dr. Richard Browning on pasture at the Tennessee State University farm with a Spanish goat, listed as Watch on the Conservation Priority List. Photo courtesy of Richard Browning.

working with if they are familiar with The Livestock Conservancy. If he's attending or speaking at a conference, he likes to give out brochures to attendees."

Some of them are looking at doing something different," he said. "They've been doing regular commodity breeds all this time and are trying to find another way to make this cattle thing work. We're always about the data. It's important to have numbers to go with the narrative. With Spanish goats, we have proven function. We're hoping to have something similar with Dexter cattle."

HERITAGE LIVESTOCK ADVOCATES

Through researching Spanish goats and Dexter cattle Richard and Maria understand the importance of heritage breed conservation.

"Certainly The Livestock Conservancy is filling a role that is needed to preserve heritage breeds," Richard said. "Working closely with the organization since 2018, I've learned a lot. I try to carry that out whenever I'm speaking with producers, particularly on the cattle side. We run Dexters, but I tell them there are a number of heritage breeds that might fit whatever they want to do in their unique production system."

Although the Brownings did not begin their careers as advocates for heritage livestock, they are now champions of several heritage breeds and The Livestock

Conservancy. Their research not only inspires heritage producers, but also meat producers looking for lower inputs or for breeds suitable for small, sustainable operations. As more universities look at the benefits of heritage breeds, further research will be funded. It will also show students that there are more options available for different types of farming systems. In this way researchers, students, future farmers, homesteaders, and producers will all benefit.

Read more about Richard's research with goats and cattle online at <https://www.tnstate.edu/faculty/rbrowning/>.

Cathy R. Payne first learned about The Livestock Conservancy in 2008. When she retired from teaching in 2010 and started a sustainable farm, she decided to focus on heritage breeds. She became a member and raised Khaki Campbell ducks, Silver Fox rabbits, American rabbits, Gulf Coast sheep, and American Guinea Hogs. Cathy sold her farm in 2018 and advocates for heritage breeds year-round as a part-time Program Research Associate for The Livestock Conservancy.

Cathy is also the award-winning author of "Saving the Guinea Hogs: The Recovery of an American Homestead Breed," with a foreword by D. Phillip Sponenberg, DVM, Ph.D. It is available for purchase on The Livestock Conservancy's web store.

UPGRADING POULTRY ENCLOSURES



Jessa Lane and Jeff Kreis hold a Dorking chicken (Threatened), Welsh Harlequin duck (Recovering), and an Icelandic chicken (Threatened) in front of their barn at their Grownstede Smallhold farm in Marshall, Wisconsin. Photo courtesy of Jessa Lane.

By Jessa Lane

Grownstede Smallhold was organized by partners Jessa Lane and Jeff Kreis in December 2018 upon finding premises to operate a farm in Marshall, WI. The operation began with heritage poultry; much of the basic internal infrastructure was in place and the birds that remained on-property between operators jump-started the undertaking. Husbandry of Dorking chickens began immediately, an Icelandic flock was obtained in January 2019, and work with Sussex chickens, Welsh Harlequin ducks, and Black turkeys followed in February that year.

I took a class and became certified as a NPIP tester in Spring 2021 to further the farm's ability to sell and share hatching eggs and live birds throughout the U.S. This would also support other local breeders and poultry show hopefuls.

The purpose of raising heritage poultry is to maintain rare genetics and recapture the multipurpose and sustainable use of these birds in daily life. Grownstede Smallhold sells hatching and eating eggs, and live chicks. We have actively been working on conformation and type for all of our poultry. Our farm

maintains a healthy atmosphere for our animals, produce, and land—operating as organically and regeneratively as we possibly can.

While the interior set-up for poultry husbandry was updated to the needs of the operators and the poultry raised at Grownstede Smallhold by 2021, the lack of exterior runs prohibited future growth of the operation. A design for the exterior—including a roofing, gutter,

and tank water catchment system—was conceived to complete the system as a whole. Grownstede Smallhold received a 2021 National Microgrant for \$2,000 from The Livestock Conservancy to complete this project.

Full designs were drawn up for the project through the final months of winter and early spring, and purchases were made to begin the project.



Drawings of the upgraded poultry enclosures, courtesy of Jessa Lane. Top, north side run. Below, south side run. Upgrades included roofing, gutters, and a water tank catchment system.

The proposed plan for the base level of the exterior runs was upgraded from treated lumber throughout to half-buried concrete block around the perimeter, with the addition of a crushed stone apron surround that would help control mud and erosion and aid in snow removal. The block lends itself to much better longevity and superior predator resistance. Block, stone, and concrete were ordered, metal for the fabrication of post anchors was obtained, and tear-down and grading commenced on the South side of the barn, which contains the bulk of the runs.

We originally planned to begin with the North side, but after much conversation, we decided that South side took priority since there is a higher number of pens, especially as an increase in instances of avian flu began to restrict the birds' movement outdoors.

Jeff spent a lot of time sifting through a large berm containing asphalt and dirt at the back of the property to gather fill for grading. He built a soil screen out of scrap wood and pallet racking, and a neighbor with a dump trailer helped to remove the asphalt remnants.

As the ground was prepped for the concrete footer, block, post holes, and grading, we discovered massive rocks and several remnants of a concrete pad. In some cases they were broken with the aid of a hammer drill, then an anchor was placed to pull them out with a chain around the bucket of the tractor. This further delayed progress as it took a week to resolve and get the full trench hand dug for the footing. As an added onus, the post hole digger broke and dirt was sucked out of the holes with a shop vac instead.

When the South side pens were finalized, a full barn clean out began. This allowed all birds to be contained outside safely while two days were spent scooping, sweeping, vacuuming, blowing, and sanitizing the interior, which is a project completed twice a year. We then moved on to treating, banding, sorting, and NPIP testing all birds. This was accomplished easily since there are now two separate holding areas per pen divided by interior, pop, and exterior doors.

The supplies for the water system were then sourced. We bought the exterior tank at a farm auction, and the



Top left, a before photo of the poultry enclosure at Grownstede Smallhold farm. Top and middle right, progress on the project with framing and roofing. Below right, new water tank catchment system. Photos courtesy of Jessa Lane.



remainder were a donations from my father. Miscellaneous hardware and new hose ends were already available on site.

The final design of the tank was slightly reversed from the original plan. The water drains from the gutters directly to the holding tank on the outside, which allows for overflow into what will be the gravel apron and some perennial bushes from the Arbor Day Foundation.

The exterior tank catchment allows us to fill the interior tank as needed through an additional filter or fill our field watering system. One filter is a wide screen on top of the gutters, the second is as the water flows into the tank, and the third is between the interior holding tank and the exterior, which has a filter small enough to screen out algae.

The only drawback of this system—which is an aspect that has not changed—is that it must be drained and winterized from about December to March to survive our Wisconsin weather. During that time, the interior holding tank is filled via a hose run from the house from a spigot in the mudroom.

The materials remain on hand for the remainder of the construction on the less-complicated North side runs. The

project took longer than anticipated because of injury and family obligations; and rather than risk a half-finished run project by the time the ground froze, leaving birds without any containment, we decided to leave the North side run as-is through the winter months until it can be completed in the spring.

My next steps during the winter months involve revamping our website and expanding farm marketing to share availability of heritage hatching eggs and chicks. On farm hatching commences near March with rolling hatches occurring for 3 more months to both build breed stability for Grownstede Smallhold and meet the demands of our growing customer base.

Overall, our Microgrant project has been a success. Our heritage breeds are constantly divided both inside and outside and cannot interbreed. Sales and breed genetics remain distinct and pure.

Jessa Lane stumbled across an ad for a ten-acre farm rental. She and Jeff Kreis jumped in feet first, and Grownstede Smallhold came into being. Learn more about their farm at <https://grownstede.com/>

COMPOSTING WITH DONKEYS



A team of three American Mammoth Jackstock donkeys pulls a load of food scraps collected from through downtown Montpelier, Vermont, back to Vermont Compost Company to be composted. Photo courtesy of Vermont Compost Company.

By Emma Marks and Emily Rose Johnson

Heritage breed farm animals, including American Mammoth Jackstock donkeys, are becoming increasingly endangered as the modern agricultural system prioritizes efficiency and continues to scale up production. To save these breeds from extinction and preserve biodiversity, they need roles in our food and agricultural systems.

One local business, Vermont Compost Company, has a creative solution – it uses a team of three American Mammoth Jackstocks to pull a cart through downtown Montpelier, picking up food scraps from local businesses.

Vermont Compost Company was founded in 1992 by Karl Hammer, a member of The Livestock Conservancy. At their hilltop farm in Montpelier, they compost community food scraps, manure, silage, wood chips, and bark to produce high-quality, living compost and potting soil for organic growers.

American Mammoth Jackstock donkeys play an integral role in operations at Vermont Compost. Karl's first team of donkeys arrived at their Main Street site in 1996. Since then,

their herd has grown to include seven donkeys and a mule.

MORE THAN A LOGO

Vermont Compost's herd functions as more than curious lawn ornaments. They contribute to operations at nearly every stage of business. Their donkeys offer a compost contribution by converting pasture land into rich, biologically active manure. Compared to other sources, equine manure is rich in organic matter and nitrogen. One of the keys to the company's compost recipe is the diversity of inputs, from food scraps, bark, and wood chips, to equine, bovine, and avian manures.

The donkeys also function as draft animals. Twice per week, a three-member team pulls a cart to town, picking up food scraps from locations around the city. The current team brings about 2,000 lbs. of food scraps to their site each week. Pickup locations include a distillery and a retirement community.

In this fast-paced and short-sighted world, some may see a donkey-pulled cart as a quaint marketing stunt. For Vermont Compost Company, it's anything but. They believe the era of

fossil fuels will one day come to an end and it is therefore imperative to invest in alternative forms of energy. Draft animals like donkeys are the original solar-powered vehicle, converting forage and water into donkey-power. When well cared for, equines serve as a great renewable resource.

TRAINING THE TEAM

American Mammoth Jackstocks are critically endangered donkeys. George Washington, one of the leading agricultural innovators of his day, helped developed the heritage breed. Washington, along with Henry Clay and others, were gifted a small number of donkeys from European breeds which they used to create the American



Mammoth Jackstock. These sturdy donkeys are still mainly used to produce draft and riding mules.

Mammoth Jackstock are one of an increasing number of endangered heritage breeds as farming systems continue to value uniformity over diversity in livestock. In 2015, the United Nations Food and Agriculture Organization (FAO) estimated that an average of two domestic animal breeds are lost each week.

To ensure long term success of American Mammoth Jackstock bloodlines intentional breeding must select for the characteristics that make a healthy, capable draft animal. Vermont Compost Company has welcomed four donkey foals to their fold, with the newest arrival to be born in 2023.

Caring for, training, and safely leading a team of donkeys requires a specialized skill set. Analiese, the current herd manager for Vermont Compost, grew up leading teams of oxen with her grandfather. She's one of a small number of young people working to preserve this knowledge for future generations.

The process Vermont Compost uses to train their draft animals takes years and is focused on animal and human safety. Jake, a young donkey born in 2021, began his training by learning to lead with a halter and rope. As he masters this skill Analiese will begin teaching him basic commands like step up, woah, gee, haw, and back.

During the next few years Analiese will slowly introduce Jake to wearing the full harness and being guided from behind. Once he becomes comfortable with ground driving, he will work alongside a team to pull lightweight loads. Around four years of age, Jake will reach his full size and may begin pulling full loads, with plenty of training under his belt.

A FUTURE FOR FOOD SYSTEMS

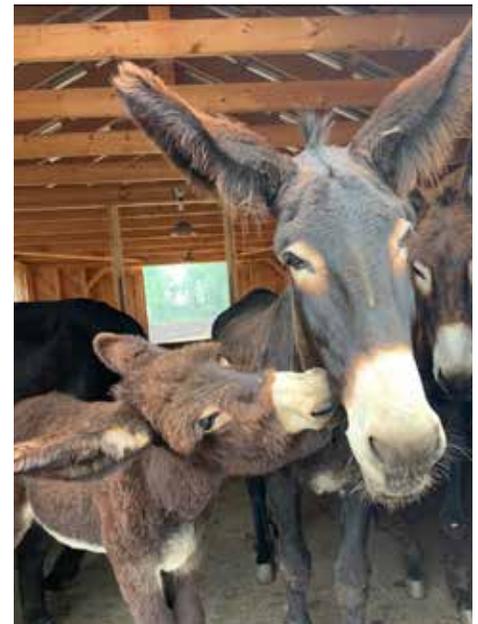
For Vermont Compost Company, the question, "Why donkeys?" comes down to a question of imagination. "Are we willing to imagine a world beyond fossil fuels? Are we ready to prepare for that world today?" By working with heritage donkeys, who are supporting a more resilient, future-oriented food system.



Vermont Compost Company founder Karl Hammer hugs one of the seven American Mammoth Jackstock donkeys on site. Photo courtesy of Vermont Compost Company.

Emma Marks is the Vermont Compost Company Marketing and Sales Associate. Learn more about the company at <https://vermontcompost.com/>.

Emily Rose Johnson is The Livestock Conservancy Communications Coordinator. After learning about the complexities of small-scale farming during her time in Hyderabad, India, she developed a passion for sustainable production and interned with a few farms in France and the U.S. She recently completed her Master's degree in Political Economy at UNC Chapel Hill. Prior to graduate school, she worked with a few nonprofits in Memphis, developing educational and marketing materials, managing media responses, coordinating website content, and expanding community reach and engagement in her work. Emily Rose runs The Livestock Conservancy social media pages and other communications projects.



Four-month-old Jake, an American Mammoth Jackstock foal, kisses his mother Mary, while Omar photo bombs. Photo courtesy of Vermont Compost Company.



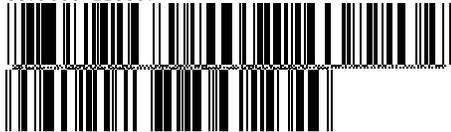
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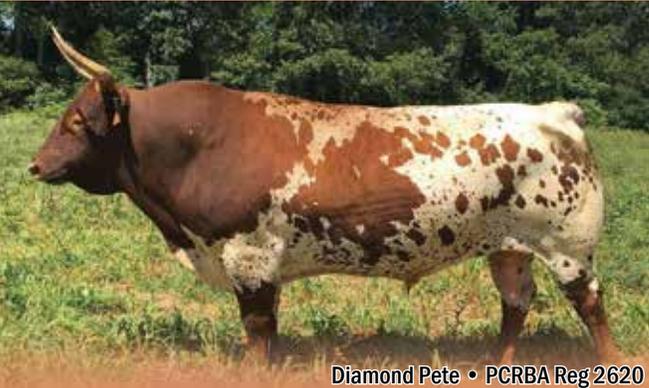




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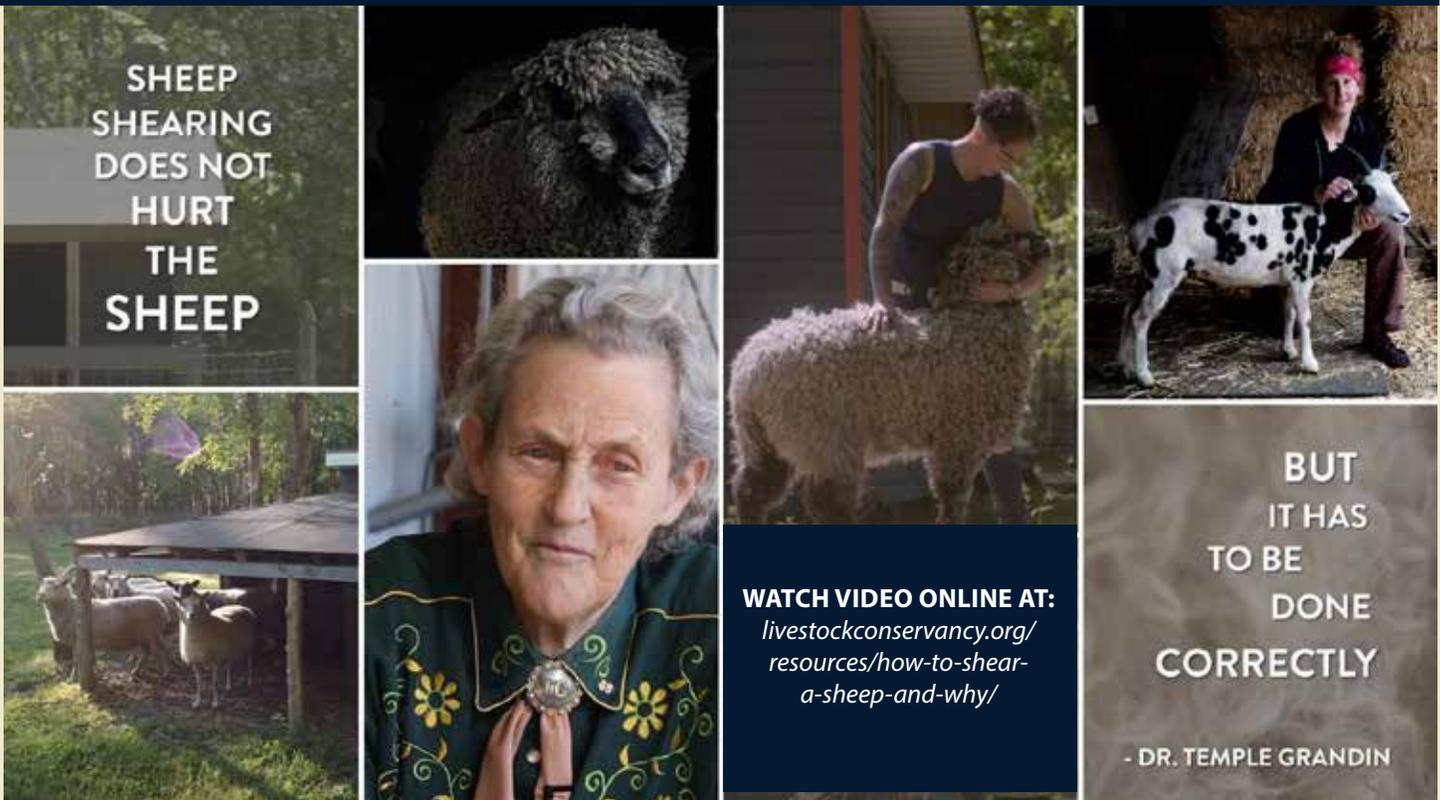
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Thank you to Isabella Rossellini, Executive Producer of the film and Livestock Conservancy Ambassador, for her gift that made this project possible.