



Conserving rare breeds since 1977

Landmark Piglets Ready to Hog the Spotlight

By **Charlene Couch and Cathy Payne**

The first critically-endangered Large Black piglets bred from frozen, imported semen were born in the United States this summer. After years of extensive collaborative efforts from many organizations, new life and new genetics are being introduced to American Large Black Hog herds thanks to 25 half-British Large Black piglets born at Purdue University.

Solid black, deep-bodied swine with lop ears that cover their eyes, Large Blacks have long been prized for their docile nature, superior mothering abilities and succulent pork. Despite these qualities, the Large Black Hog is in global danger of extinction. Fewer than 150 purebred animals were registered in the United States in 2019. Through partnerships with breeders, universities, private donors, USDA, industry leaders and food organizations, The Livestock Conservancy is working to save this unique breed for future farming generations.

Small populations, like the Large Black, can quickly lose genetic diversity and suffer from inbreeding depression. This can lead to declines in fitness traits, including reproductive ability. To infuse new genetics into this U.S. heritage swine population, The Livestock Conservancy imported frozen semen from two Large Black boars from the U.K. in 2015. Importation was made possible by a significant gift from an anonymous donor, several additional private donations, as well as partnerships with the USDA's National Animal Germplasm Program (NAGP), Large Black Hog Association, Gloucestershire Old Spots America, British Pig Association, and Deepark Pedigree Pigs of the U.K.

The Livestock Conservancy and NAGP subsequently conducted inseminations during several on-farm trials. Despite



Katharine Sharp holds one of the first half-British Large Black piglets in the United States bred from frozen, imported semen. The piglets were born at Purdue University via artificial insemination. Their mothers were donated by Large Black pig breeders from across the nation.

efforts of the best swine reproduction specialists in the U.S. and participating farmers who have worked with this breed for decades, none of these attempts produced live piglets. The experts soon realized heritage breed pig reproductive cycling is different from commercial pigs, where artificial insemination is common.

Dr. Kara Stewart, assistant professor of Animal Sciences at Purdue University with a specialty in reproductive physiology, and graduate student Katharine Sharp, began exploring methods to control and synchronize ovulation of Large Black sows to identify ideal times for insemination. Thawed semen is only viable for a short time period, so predictable timing of ovulation and insemination is critical to the successful use of frozen semen. Twenty Large Black female pigs were donated to

The Livestock Conservancy from breeders across the nation and were transported from their home farms to Purdue University in 2018 to launch this research.

“When I heard that The Livestock Conservancy was having trouble finding enough girls for this research project, I thought I would donate four sisters that were weaned and ready to go,” said Felicia Krock, registrar and secretary of the Large Black Hog Association and a member of The Livestock Conservancy. “I thought if there were issues with the bloodline it would raise its ugly head through the use of three of my girls who were full siblings and one who was a half sibling to them. This was such a great opportunity to enhance the survivability of a very special breed.”

For nearly two years, Purdue scientists studied female reproduction for the breed, first using less expensive frozen semen from U.S. pigs to test their insemination protocols. The researchers refined a Large Black sow cycling protocol that allowed them to predict ovulation, thaw semen at just the right time, and inseminate the females. Each insemination trial at Purdue saw greater improvements in the rate of conception and number of live births. Pigs produced from these trials were used in further research projects to document growth and meat characteristics for the endangered breed.

The next, and most expensive, step was using the frozen, imported semen to create half-British and half-American piglets. The hard work paid off. Half-British piglets were born in May 2020 from five sows. The little boars and gilts are being distributed across the U.S. to broaden the genetic base for the Large Black breed.

“Preservation of heritage breeds is important to help maintain the genetic

continued on page 6

FROM THE DEVELOPMENT DIRECTOR



Spring Appeal Update

The Livestock Conservancy's spring appeal raised more than \$20,000, surpassing our \$12,000 goal. Funding from the appeal is now available through Emergency Response Fund Microgrants, which are still open for applications at <http://bit.ly/Micro-Grant>.

Your support also helped us transition our Chicks in the Classroom content online when schools closed because of the pandemic. The 15 short videos received more than 5,800 views from around the world on our YouTube channel. You can watch them at <https://bit.ly/ChickVideos>.

Your generous gifts also helped us identify and publicize COVID-19 resources for members and launch our renovated Heritage Breed Marketplace (online classifieds at heritagebreedmarketplace.com) to assist with alternative sales venues. Additional dollars were also set aside for emergency rescues and cryopreservation needs, which may result from the downturn in the economy.

Watch for more online education in the coming months thanks to your outpouring

of support and encourage heritage breeders to apply for an Emergency Response Fund Microgrant if the pandemic has affected their farm or ranch.

Giving Opportunity: Spanish Language Chicken Manual

The Livestock Conservancy is looking for a special donor to help us develop a Spanish language version of our *Heritage Chicken Manual: Chicken Assessment for Improving Productivity*. The English language version describes how to assess and select chickens to improve productivity. The manual has been used for many years as a guide to recover breed production characteristics of endangered poultry. These guidelines include well-established parameters developed by "old school" Master Breeders, as documented in poultry texts of the early to mid-20th century.

The Livestock Conservancy's *Heritage Chicken Manual: Chicken Assessment for Improving Productivity* is available for free downloads at <https://bit.ly/ChickenManual>. A printed copy can be obtained at <https://bit.ly/ChickenManualPrinted>.

A gift of \$800 will allow The Livestock Conservancy to provide a Spanish language version for free download as well, with the recognition "Provided by the donor's name" on each copy. For more information about this opportunity, please contact Karena Elliott at kelliott@livestockconservancy.org.

Oportunidad: Guía para la selección productiva de gallinas tradicionales

La Livestock Conservancy está buscando un donante para ayudarnos en el desarrollo de una versión español de nuestro "Heritage Chicken Manual: Evaluación del pollo para mejorar la productividad" que es una guía para la selección productiva de gallinas tradicionales y locales. Esta guía describe cómo evaluar y seleccionar los gallos y las gallinas para la reproducción exitosa. Esta guía se ha utilizado hace muchos años para recuperar las características de producción de razas de aves de

corral en peligro de extinción. La guía incluye parámetros bien establecidos en tal selección, desarrollados por los avicultores exitosos que usaban técnicas tradicionales, y documentados en los textos avícolas de principios a mediados del siglo XX.

La versión inglés, *Heritage Chicken Manual: Chicken Assessment for Improving Productivity* ya está disponible para su descarga gratuita en <https://bit.ly/ChickenManual>. Se puede obtener una copia impresa en <https://bit.ly/ChickenManualPrinted>.

Una donación de \$800 permitiría a La Livestock Conservancy producir una versión en español para descargar gratis, con la designación "Hecha possible por el nombre del donante" en cada copia. Para obtener más información sobre esta oportunidad, comuníquese con Karena Elliott en kelliott@livestockconservancy.org. ❖



THE LIVESTOCK
CONSERVANCY™

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 us and our conservation programs by becoming life members.

James Rouchon
Sparta, TN

Kyle Sonnenberg
Southern Pines, NC

Jason Turner
Daleville, VA

Lowell and Carolyn Larson
Burlington, WI

For more information on becoming a life member, please contact Karena Elliott at 806-570-0874 or kelliott@LivestockConservancy.org.



Emergency Response Fund



Give Now

Making a Splash with Ancona Ducks

Working to get a waterfowl breed accepted by the APA

By Amy McKamey

I have had an infatuation with waterfowl since a young age. I started my 4-H career with ducks and won many awards at my local fair and still have all of those trophies. It is a passion that I shared with my dad and we kept every breed we could find. Spotted birds, especially Ancona ducks, were always a favorite.

All our livestock, critical or not, need to earn their keep and be multipurpose on the farm. My family created a business with our waterfowl by doing almost everything, including showing, selling hatching eggs, ducklings, breeding stock, eggs for eating, meat, and value-added products such as feather toys for cats and painted feathers for hats.

Even though my family and I have won several awards showing waterfowl I can't show my favorite Ancona ducks because they are not yet American Poultry Association (APA) recognized. So, I decided to investigate why. My dad, yet again, stepped in to help me do a lot of leg work and phone calls. He started off with a call to the APA for more information about why this breed of duck wasn't recognized, and what we needed to do to go about getting a project like this accomplished.

We continued our research and reached out to every person we could find that was

breeding Anconas. We talked to many people, some in favor of the breed and some not so much. We came up with a list of people interested in supporting our efforts moving forward to get the Ancona recognized by the APA.

My next step was to create an Ancona Facebook page for discussions about the breed and to rally a core group of breeders together to start the process of becoming APA recognized. We then formed another smaller group of breeders to move forward with this process, which takes a minimum of five years, but generally much longer.

Getting a new breed into the APA standard is not an easy task. It takes a huge commitment from many breeders, expenses, travel, showing, breeding, and a lot of patience. Several people have attempted to get Ancona ducks recognized in the past, but failed. Even though I wasn't taken seriously when I first started this project, I wasn't going to be deterred by those challenges or other's previous failures. Those who know me know that I don't give up easily and once I have my mind set on something there's not much that can change it. My favorite ducks are worth it.

I fully understand why the APA has made the process so grueling. Many people can get wrapped up in the newest trends, including animals, and the

APA doesn't want to add a breed that may only last for a few years and then fall out of favor. However, I don't feel that is the case with Ancona ducks. They have been around since at least 1913 and continue to be loved and adored by many with their unique pattern of spots not found in any other breed.

For the past five years, our small, dedicated group has worked hard on several different aspects of this project. The first step was to write a breed history, which we did with the help of The Livestock Conservancy. Through research we discovered that the Ancona breed was developed in America and not in Great Britain. An article published in the 1913 edition of the *Water Fowl Club of America Yearbook* by W.J. Wirt of Ridge View Farms in Knowlesville, New York announces the development of a new breed of duck he created from several standard breeds of duck and were called the Ancona, named after the Ancona Fowl. The February 1915 *Poultry Item* magazine and the 1915 *American Poultry Yearbook* also mention the breed in their announcements of two first place wins for Ancona ducks in a Boston show by Willdum Duckery of Rowley, Massachusetts. There are no mentions of Ancona ducks in England or Great Britain.

The next, and most difficult step, was



Amy McKamey and a small group of breeders are working to have Ancona ducks recognized by the American Poultry Association. Ancona ducks are listed in the Watch category of the Conservation Priority List. Photo courtesy of Amy McKamey.

to create a breed standard. It took several years and several rewrites to get the standard written the way our core group of breeders and the APA both could agree upon. But, we finally managed to accomplish this. We also had to have breeding records of a minimum of five breeders breeding them for a minimum of five years, and producing birds to standard at least 50% of the time.

The standard Ancona duck averages 6 to 6.5 pounds, with a medium sized oval head, a medium-length bill that is slightly concave along the top line, an average neck that arches forward slightly, and body carriage that is 20 to 30 degrees above horizontal. Their eggs are white and their mottled plumage comes in a number of varieties, including black, blue, chocolate, lavender, lilac, and silver. Any combination of white and color is acceptable as long as there are obvious broken areas on the head, backs, sides, and underbody. The neck is normally solid white; bills are yellow with dark green or black spotting; and the legs and feet are orange with black or brown markings that increase with age.

Each one of the color varieties must be added to the APA separately through the same process. The original breed color is black and produces white eggs, so we have chosen this as the first color/variety to focus on. All other colors of plumage and eggs were brought in later and are not included in this original standard for the black variety. Once the initial color variety is approved we can start working to approve another variety.

Our group of dedicated breeders recently released this standard to the main Ancona Facebook group, which now has more than 1,800 followers, and are working toward the next steps in the process so we can send in our official application. These steps include taking birds to shows, and tracking and recording breeding records that prove we can produce over 50% of birds true to our written Ancona variety breed standard.

We are also collecting show information. I encourage anyone who breeds and shows Anconas to contact me by email at amy@heritagemeadowsfarm.net. We need to collect many records of these birds at shows to move forward with the next step of the application, which has several more steps and several more years of work ahead of us.

We hope to see this project to comple-

Welcome, Rhyne!

The Livestock Conservancy is excited to welcome Rhyne Cureton as the new Breed Association Manager. Known across the country, and even overseas, as a swine educator, before joining The Livestock Conservancy, Rhyne farmed in both Texas and North Carolina, raising pigs, poultry, goats, and cattle based on rotational grazing practices. He has also been invited to speak at several events, including the Organic Grower Summit, Zingerman's Camp Bacon, Carolina Meat Conference, and Southern S.A.W.G. on topics related to niche pig farming, increasing youth and diversity in agriculture and environmentalism, and consumer engagement.



Rhyne Cureton (center) with pig farmers in East Africa. Photo courtesy of Rhyne Cureton.

During the summers, Rhyne travels to East African countries, such as Uganda and Tanzania, to train rural pig farmers on how proper livestock husbandry and health correlate to farm profitability, as well as the importance of supply chain infrastructure and value-added opportunities for horticultural commodities.

Rhyne holds a Bachelor's Degree in Agricultural Education (Professional Services) from North Carolina A&T State University and currently serves on several boards and committees for organizations such as NC Choices, National Young Farmers Coalition, and EATBETA International.

Rhyne said he is honored to serve both The Livestock Conservancy and the 150+ breed associations within its network in this brand new position. He is excited to use his experiences and skills to take the lead in implementing a unified online pedigree registration platform for all heritage breed associations. In this role, he will be responsible for training and transitioning existing registries to the online registration platform and developing a system that supports breed census work as well as tracking important breed populations.

He looks forward to building strong and meaningful relationships with all of the breed associations, registries, and individual breeders as they work together, in partnership, to encourage growth and effectiveness towards heritage breed preservation.

tion in a few years. Anyone with questions about the breed or this process, can reach out to me by email at amy@heritagemeadowsfarm.net. You can also join our Ancona Facebook group, at www.facebook.com/groups/anconaducks/ ❖

Amy McKamey grew up on a small farm in Northeast Indiana. Even though farming has been a tradition in her family since 1340, she is the last one on the family tree still actively farming. She was a ten-year 4-H member and showed her first ducks in 1986. She graduated from Purdue University with a degree in Veterinary Technology and worked for more than 20 years in that field until she became a full

time farmer. Her small family farm is located in Hendrick County, Indiana, where she raises multiple heritage breeds from The Livestock Conservancy's Conservation Priority List, including Large Black hogs; Pilgrim geese; Aylesbury, Saxony, Runner, and Ancona Ducks; Dorking, New Hampshire, Buckeye, Phoenix, and Leghorn chickens; and Katahdin sheep (recently graduated from the list). Amy and her husband are co-Presidents of the Large Black Hog Association, working to help create an Ancona Duck Association, and leaders in the APA Ancona Duck Project. You can learn more about Amy, her family and their farm at <http://heritagemeadowsfarm.net/>

Landmark Piglets

Continued from page one

diversity of our livestock,” said David Burgett, a member of both The Livestock Conservancy and the Large Black Hog Association, who recently received a few of the piglets at his Illinois farm. “Having dwindled to such a small population, the Large Black Hog, through years of inbreeding with the limited number of bloodlines available in the United States, was in danger of losing some of the diverse traits inherent to specific blood lines. With the importation of British bloodlines comes the responsibility to work together as members of the Large Black Hog Association to improve the herd, to promote the breed and the characteristics that make it unique and so desirable, and build the population back up to avoid its extinction. We are grateful that we had this chance to participate in the joint project with The Livestock Conservancy and Purdue University to improve the future, and promote the survival of the Large Black Hog.”

A second breeding with imported semen will be conducted this fall to produce more piglets. Researchers plan to share their research results and techniques with farmers, enabling them to do on-farm artificial insemination and produce their own Large Black breeding stock. These new techniques for using frozen semen on heritage breed pigs will allow Large Black boar semen to be more widely exchanged among the nation’s breeders to keep their herds genetically healthy. The new frozen semen protocols may be useful for other heritage pig breeds, as well.

The Livestock Conservancy’s Swine Initiative with Large Black pigs illustrates the power of collaboration and technology to advance rare breed conservation.

Learn more about Large Black pigs at <http://bit.ly/LargeBlackPigs>

Livestock Conservancy Swine Initiative Timeline

2008 – In November, a Rare Breed Swine Initiative Meeting was held at the National Small Farms Trade Show and Conference in Columbia, Missouri. The meeting was organized by The Livestock Conservancy and supported by the Renewing America’s Food Traditions (RAFT) collaborative. Eleven rare swine breeds are currently listed on The Livestock Conservancy’s Conservation Priority List and each heritage



The 25 piglets born at Purdue University were distributed to U.S. breeders, like Darren and Felicia Krock, above, to broaden the genetic base for the Large Black breed. Photo courtesy of Katharine Sharp and Purdue University.

pig breed was represented by a breeder or breed association. This collaborative meeting was a step toward understanding the specific conservation challenges of heritage swine breeds.

2011-2014 – Through funding from the Southern Sustainable Agriculture Research and Education Program (SSARE), The Livestock Conservancy collaborated with rare breed associations, producers, Virginia Tech University, University of Missouri, University of Kentucky, Purdue University, Berea College, and Agriculture and Agri-Food Canada’s Canadian Animal Genetic Resources to study growth, meat characteristics, marketing, and genetic diversity for eight heritage breeds of pigs. This work alerted collaborators that several pig breeds were coming to a critical point in their genetic diversity in the United States. Additional revitalization efforts were needed to avoid inbreeding bottlenecks that could cripple producers’ efforts with rare breeds.

2015 – The Livestock Conservancy imported frozen semen from two Large Black and two Gloucestershire Old Spots boars from the U.K. Importation was made possible by a significant gift from an anonymous donor, donations from breeders including Ruth Blaney from New York and Kimberly Ruessler from Florida, as well as partnerships with national and international collaborators.

2015-2018 – The Livestock Conservancy and NAGP conducted inseminations

through several on-farm trials. None of the attempts produced live piglets. Swine reproduction specialists and participating farmers discovered heritage breed pig reproductive cycling is different from commercial pigs, where artificial insemination is common.

2018-2020 – Dr. Kara Stewart, assistant professor of Animal Sciences at Purdue University, and graduate student Katharine Sharp, explored methods to control and synchronize ovulation of Large Black sows to identify ideal insemination times with frozen semen.

2020 – The first critically-endangered heritage breed piglets bred from frozen, imported semen were born in the U.S. in May. New life and new genetics are being introduced to American Large Black Hog herds as 25 half-British Large Black piglets are distributed to breeders. A second breeding with imported semen will be conducted in the fall.

Future – Researchers plan to share their heritage swine reproduction techniques with farmers, enabling them to do on-farm artificial insemination and produce more genetically healthy Large Black Hog breeding stock. These new techniques for using frozen semen will allow Large Black boar semen to be more easily exchanged among the nation’s breeders. The new protocols may also be useful for other heritage pig breeds. ❖

Benedictine Sanctuary for Breed Conservation

By Don Bixby

Motivated by the Benedictine obligation for wise land stewardship and preservation of culture going back to the fifth century, the Abbey of Regina Laudis in Connecticut has long been at the forefront of the local food and environmental movements. Care of the land on the working monastic farm is characterized by sustainable practices. Pastures and hay fields are managed by rotational grazing and each year 6-8,000 square bales of hay are put up to feed the dairy herd, beef herd, oxen, and a flock of sheep.

With the help of grants from USDA Natural Resources Conservation Service and River Restoration Foundation, the pasture access over sensitive wetland areas was improved with the installation of high-tensile electric fencing. A new barn was funded by a grant for heavy use area to allow for seasonal housing of the Belted Galloway bull and some steers to prevent damage to the surrounding landscape and run-off to wetlands and streams. Taking sustainability one step further, all of the manure is collected from the barns and composted with wood chips gleaned from various clearing projects to be redistributed onto the fields. The monastic community, including guests and interns, regularly works at land clearing around field edges or overgrown areas. The soil is also tested on a regular basis and fields are supplemented with lime and fertilizer as needed, as well as organic inputs from an extensive composting program of manure, kitchen scraps, and woodchips from landscaping work.

Traditional or heritage breeds, like the ones found at the Abbey, are often better suited for land management and sustainable land practices, especially for small diversified or homestead farms. These breeds may, however be overlooked in favor of more popular but less well adapted breeds.

Dutch Belted Cattle

“Since 1991, the Abbey has been devoted to the conservation of heritage breeds,” said Sister Telchilde Hinckley, O.S.B., Ph.D. She is an inspired guide for the agriculture program at the Abbey of Regina Laudis and a longtime member of The Livestock Conservancy. She first learned about Dutch Belted cattle at a meeting of



Sister Telchilde Hinckley, O.S.B., Ph.D. is an inspired guide for the sustainable agriculture program at the Abbey of Regina Laudis in Bethlehem, Connecticut. Photo courtesy of the Abbey of Regina Laudis.

the American Minor Breed Conservancy (now The Livestock Conservancy) at Plimoth Plantation in 1990 during Dr. Drew Conroy's oxen workshop. Soon after, the Abbey acquired a pair of calves that were trained as working steers and they introduced the assets of the breed to their community. The following January, *National Wildlife Magazine* published an article about breed conservation featuring her driving team of Dutch Belted oxen.

By 1998, four heifer calves were raised as the foundation of a small dairy herd. The calves were unregistered Dutch Belts, which were entered into the Breed Up program at 50%. A Breed Up program is the most practical way to get started with such a rare breed since purebred stock is not always available. As an example of the longevity and hardiness of this breed, the granddaughters of those first four calves are currently being milked in the Abbey's dairy.

Even though the Abbey started with unregistered cattle, their entire herd of Dutch Belted cattle is now registered and has been the source of new stock for herds in five other states. With the support of

The Livestock Conservancy's 2019 Northeast Microgrant program, Sr. Telchilde obtained semen from five different Dutch Belted bulls to help foster the critically endangered Dutch Belted breed. Despite the small size of the Abbey dairy, Dutch Belted cattle from their herd have gone to homes across the Northeast and the semen obtained through the microgrant will help to preserve the diversity and continuity of the breed.

The Dutch Belted breed was developed in the Netherlands more than 400 years ago by Dutch aristocracy smitten by the beauty of the breed. Some cattle were imported by the promotor P.T. Barnum and added to the menagerie of his traveling shows. Dairymen soon embraced the breed and the Dutch Belted Cattle Association of America was established in 1886. The Association and registry have been in continuous operation since then. By the early 20th century the breed was sought after for dairy production and won many prizes. Overtaken by the Holstein breed, due to its response to intensive grain fed management, the Dutch Belted breed is now listed

continued on next page

Benedictine Sanctuary for Breed Conservation

Continued from previous page

in the Critical category of The Livestock Conservancy's Conservation Priority List.

Dutch Belted cattle are of medium build with good longevity. They are excellent grazers with first-rate milk components: high protein, butterfat and milk solids. The small herd of hand-milked cows at the Abbey provide milk, cheese, butter and ice cream for the community and the guests who are received in the monastic guest houses. This traditional breed is well suited for grass-based dairying, and their milk is excellent for the small-scale production of dairy products. They are also uncommonly charming and passers-by often stop to admire them in their pasture.

The Dairy

The dairy at the Abbey of Regina Laudis began in 1975 with the gift of a Holstein calf from a local dairy farmer. That same year the dairy became a Connecticut State Licensed Dairy and has been designated as a Connecticut Dairy of Distinction since 1976. The Abbey is among the few dairies in the state to hold licenses for raw milk and cheese production and retail sales.

In 1977 the Abbey began making Bethlehem cheese, a pressed, uncooked, semi-hard, fungal-ripened cheese made from raw milk. A St. Nectaire-type cheese, the technique was shared by a third-generation cheese maker from Cézallier in the Auvergne, France. In recent years, additional types of traditional cheeses have also been developed at the Abbey. Aged raw milk cheeses, including Bethlehem and a farmstead cheddar-type and fresh pasteurized cheeses are available seasonally at the Monastic Art Shop.

The transition to Dutch Belted cows introduced the unique quality of their milk and contributed to the texture and taste of the cheese. The rich components of this milk are perfectly suited to cheese production, and led to adjustments in the cheese-making techniques. About ten years ago, a Milking Shorthorn cow (also listed in the Critical category on the Conservation Priority List) was introduced into the dairy as a replacement when it was impossible



The Abbey has kept a flock of approximately 30 Shetland sheep for more than two decades. Photo courtesy of the Abbey of Regina Laudis.

to find a Dutch Belted cow. Their milk is also highly compatible with the Dutch Belted milk.

Commercial starter cultures of bacteria or fungi are never added to Bethlehem cheese during production or the 60-day ripening period. Certain fungi grow naturally on the cheese rinds in the cheese cellar in a way that is reproducible and predictable and parallels the course of ripening of traditional St. Nectaire cheese. There is a growing interest in natural or native strains of microorganisms that contribute to aroma and consistency of cheese as consumers seek products that embody terroir or the "taste of place" where they were made.

The Abbey dairy plays an important role in education. Monastic interns and visiting nearby University of Connecticut groups are introduced to the mission of breed conservation through heritage breeds which are particularly well suited for life in New England. Interns regularly participate in the "high touch" work of the dairy such as hand milking and cheese making. The Abbey regards these traditional skills as precious and part of an important mission to be maintained in the current world. Bethlehem cheese provided a model for the study of stable microbial succession during ripening in a natural environment and became the basis of graduate research by Sister Noella Marcellino in dairy microbial ecology at the University

of Connecticut. Some interns have fallen in love with artisanal cheesemaking and the process of fermentation critical to the transformation of milk into cheese, and after their internship have pursued further education and/or certification in these areas.

Shetland Sheep

The Abbey has sheltered a flock of approximately 30 Shetland sheep for over two decades. The flock is managed by shepherd and weaver Sister Jadwiga Makarewicz. The yearly life cycle of the sheep is intimately connected with the seasons, the life of the community and the liturgy. In the late fall, during the short days of Advent, the ewes are bred. By Christmas time they are pregnant and spend the months of winter in the main sheep barn. In the season of Lent as the days grow longer, preparations are made for lambing, which begins during Eastertide. With the help of many others, the three shepherds known as the Shepherd's Group keep round the clock watch to assist the ewes during lambing. Twins are typical and lambing season is always full of color and marking surprises. Each year as a part of the Mandatum meal on Holy Thursday, one lamb is chosen and blessed as the Paschal lamb, representing the sacrifice of Jesus. By mid-spring, the flock is hand-sheared. The wool is spun into yarn and sold in the Monastic Art Shop, along with tanned sheepskins. The lambs are weaned

by summertime and ready to join the rest of the flock on the rocky grass pastures where they remain until autumn.

The Shetland breed is a member of the northern short-tailed sheep breed family. Sheep have lived on the Shetland Islands for well over 1,000 years. The rugged habitat and geographical isolation produced a breed that is distinctive. They are fine boned and small in size. Rams weigh 90 to 125 pounds, and ewes weigh 75 to 100 pounds. Most rams have spiraled horns, while most ewes are polled. Shetland sheep are calm and charming in disposition, docile, and intelligent.

The Shetland breed is especially prized for its wool, which is fine, soft, and strong with color possibilities ranging from white to black, browns, tans, and even blue black. Fleeces average two to four pounds and vary in crimp from wavy to straight. Most Shetland sheep in North America descend from a 1980 importation of 32 sheep by the late G.D. Dailley of Ontario, Canada. The North American Shetland Sheep Registry began keeping a North American flock book in 1991.

The North American Shetland Sheepbreeders Association was formed in 1994 to promote the breed and to support the growing number of Shetland breeders in North America. The Shetland breed has prospered in recent years and is now classified as Recovering both in the United Kingdom and North America. Though the Shetland sheep seems to have a secure future, North American breeders have an important role to play, not only through breed promotion on this continent, but also in the conservation of its entire range of colors, markings, fleece types, and other characteristics. To continue their support for this breed, the Abbey sells breeding stock as well as fiber producing animals.

Belted Galloway Cattle

Beef cattle production at the Abbey has a long history and was based on a number of breeds and crossbred animals. The gift of a Belted Galloway bull and heifer in 2001 began a transition from a mixed breed herd to a purebred herd.

This breed is remarkably well suited to these rougher Connecticut pastures. They grow a shaggy hair coat in the winter, but in the summer, they shed this coat to tolerate warm climates better than most other cold adapted cattle. Belted Galloway cattle are hardy, easy to manage, and thrive on grazing. Their beef, like that from other



Beef cattle production has a long history at the Abbey. The Belted Galloway breed is remarkably well suited to Connecticut pastures. Photo courtesy of the Abbey of Regina Laudis.

Scottish breeds, is of high quality and can be marketed in a variety of specialty niches, including grass-fed and organic beef.

Under the guidance of Sister Augusta Collins, a limited amount of custom raised grass-fed beef is available for sale through regular customers, word of mouth, and contacts through the Monastic Art Shop. Leather products made from the tanned hides of the herd are also occasionally available. The breed's belted pattern combined with their shaggy hair makes the tanned hides distinctive and attractive rugs.

Galloway cattle originated in the rugged hill country of southwestern Scotland. During the late 1700s and early 1800s, the Galloway breed was developed through selection for standardized, polled beef cattle that retained environmental adaptation. Galloways came to be celebrated for their efficiency on rough forage, maternal ability, and high-quality beef. A herd book was established in 1877.

While most Galloway cattle are black, the distinctive black with a white belt variation was recognized in a separate herd book in Scotland in 1928. Galloways are medium in size, with cows weighing about 1,000 pounds and bulls about 1,600 pounds. Cows show strong maternal instinct, including the ability to protect calves against predators.

Belted Galloways were imported to North America beginning in the 1940s, and the Belted Galloway Society in the United States was founded in 1951. Because of its attributes as a quality breed for grazing and browsing, the breed is increasing in numbers in North America and globally. It is listed in the Watch category on The Livestock Conservancy's Conservation Priority List. ❖

For more information about the Abbey of Regina Laudis, their heritage breed livestock and their sustainable land management practices, visit their website at <https://abbeyofreginalaudis.org/stewardship-dairy.html>

Don Bixby, DVM is the former director of The Livestock Conservancy from 1987-2004. He and his wife now live in New Mexico, the Land of Enchantment, and still advocate for breed conservation and sustainable agricultural practices.

Appreciations for Dave and Millie Holderread

Dave and Millie Holderread announced their retirement earlier this year. At Holderread Waterfowl Farm and Preservation Center, they have studied, raised, and sold rare breed ducks and geese since 1961. The following are well-wishes from their many colleagues and customers.

John Metzer, Metzer Farms in California: When I think of preeminent waterfowl breeders, I immediately think of Dave Holderread. His knowledge and passion for ducks and geese is, without question, unsurpassed. Dave started me with his Brown Chinese geese and improved the quality of our birds many times by adding genetics from his flocks. Just as it takes many hands to raise a child, it takes many hands and ideas and encouraging suggestions to build a business – and Dave and Millie definitely left their mark on Metzer Farms.

I have a waterfowl hatchery, but nothing matches Dave and his wife Millie's breeding farm and hatchery. Dave puts a premium on high quality show birds but also offers birds for those that only want them as pets, as a simple hobby, or for beautification of their farm. He not only sold ducklings but adult birds. They chose to keep their breeding farm and hatchery intimate and completely under their care – you knew that any bird purchased from them had been individually seen and inspected by Dave.

The focus of Dave and Millie's farm and hatchery was to conserve and promote the wide variety of duck and goose breeds. At one time, they had more than 40 breeds or strains of ducks and 20 of geese. They worked with such rare breeds as the Shetland goose, Silkie, Spotted Call, and Golden Cascade – a duck breed they developed. There are more of these rare breeds throughout North America because of Dave and Millie.

Dave is the one I always go to with questions that no one else can answer. This ranges from his obvious expertise with genetics, to nutrition, to management, and to breeding for excellent egg production. In fact, it was Dave's idea to develop our Golden 300 egg laying strain of duck. He is generous with his knowledge and will share it with anyone that asks.

Dave and Millie's two books, *Raising Ducks* and *The Book of Geese* have always



David and Millie Holderread at home on Holderread Waterfowl Farm. Photo by Jeannette Beranger.

been my first recommendation for anyone wanting to raise waterfowl correctly. How many people can demonstrate their expertise over such a diverse range of subjects – feather coloring, processing, nutrition, caring for birds, incubation, health and preparing birds for show? Dave can!

Dave was not only an expert on waterfowl, he also loved his Paso Fino horses. Most people have poultry as their hobby animals. Not Dave. His poultry were his livelihood and his horses from Puerto Rico were his love and hobby. Starting in 2013, Dave started breeding and saving this rare and beautiful breed of horse that he rode as a child in Puerto Rico.

Dave and Millie are extremely kind and generous hosts. They are the type of friends you wished you lived closer to so you could see them more often. With retirement here, I wish them the very best in pursuing those interests and projects that eluded them during all those years of countless hours raising, breeding and hatching waterfowl for all the rest of us to enjoy and love.

Craig Bordeleau, Duck Buddies and Side Chicks LLC in Connecticut: The simplest and most accurate description of Dave Holderread's position in the world of waterfowl can be summed up with a single word: iconic. He wrote the books, defined

the standards, created breeds, discovered genetic relationships, and successfully created and implemented many breeding programs for threatened breeds and species, plus all of those gorgeous colors developed on his farm. Ducks and geese certainly would not be as understood on the level they are today had Dave not devoted a lifetime to discovering and teaching every aspect of raising waterfowl he possibly could. I've personally improved my understanding of responsible breeding through the many ways Dave has shared his discoveries with the world.

However, to be fair, he couldn't have achieved the level of success that he has without help. With his wife Millie by his side, it seems as though they could accomplish anything as a team. I've always liked the fact that you don't see Dave Holderread listed as the sole contributor on works nearly as often as Dave and Millie Holderread are both credited. If you've ever purchased birds from them, there's a good chance you've also dealt with their niece Wanita. She's very knowledgeable, organized, and an all-around pleasure to talk with. While it is somewhat disappointing to see the retirement of such amazing people, I feel as though they've given more than enough to the world. I'll be forever appreciative of the things I've learned

from them. My own success has come from building on the strong foundation of knowledge put in place by the Holderread family. It's time they sit back, relax and enjoy the life they've built. I hope retirement carries with it everything the Holderreads plan and wish for it to be. Thank You Dave, Millie, and Wanita! You truly are the best!

John G. Whitman, Jr. and Virginia Whitman, Green Forest Farm in Vermont: We began with ducks about five years ago, ordering Silver Appleyards from Dave Holderread. The advantages of ducks over chickens (we keep both) include the ability to easily walk them from pasture to pen for nighttime safety, and our ducks have never flown over a pasture fence. Holderread's descriptions of each duck breed helped us to choose breeds that suited our farm. We now keep Welsh Harlequins, and just as Dave says, this brilliantly colored duck lays like a Campbell, and is a good forager. Wishing Dave and his family all good things, and thank you for all your



David Holderread, a preeminent waterfowl breeder, turns eggs. Photo by Jeannette Beranger

conservation efforts in this realm. You've made such a difference.

Lisa Douglas, Hedgerow Farm in Georgia: We have kept ducks for five years. Our first flock were Silver Appleyards from Dave Holderread. He and Wanita answered our questions and gave us sensible, experienced advice. When our farm's customers asked for more duck

eggs we looked at the breeds list on The Livestock Conservancy Conservation Priority List and added a flock of Welsh Harlequins. Here in the Piedmont region of Georgia the ducks lay very well September through May with a noticeable decrease in the summer months. The Welsh Harlequins are calm and hardy, and do well on the pasture with chickens, guineas, and sheep. Wishing the Holderreads all good things in their retirement.

Terry Howell, Two Wells Farm in New York: My Saxony duck stock all came from Holderread Waterfowl Farm and Preservation Center. I have really enjoyed working with Dave over the years. He has sent me exceptional stock that have always arrived safe and healthy. The Saxony breed is a great all round farm duck. We use them for eggs, meat, and to control the slug/snail population in my goat pastures. This reduces my goats' risk of meningeal worm infection which is very prevalent in my area. ❖

Vote Now: Board Elections

The Livestock Conservancy is governed by a Board of Directors that sets policy and priorities for the organization. Directors are elected by the membership and serve three-year terms, and may be re-elected for a second term. Potential board members are put before The Livestock Conservancy's membership for election via online and mail-in ballots. Once elected, board members assume their responsibilities at the fall Board Meeting, and have the opportunity to make a significant impact on the conservation of endangered breeds of livestock and poultry.

Get to know our 2020 Board of Directors candidates, and see details for how to vote below:

David L. Anderson

David was born and raised in southwestern New York state. As an adult, he relocated to California where he lives with his wife, Michele.

David is a life-long breeder and exhibitor of many standard-bred breeds



and varieties of poultry, including large fowl chickens, bantams, turkeys, geese, and ducks. He served six years as president and ten years on the Board of Directors of the American Poultry Association (APA), North America's oldest livestock organization (established 1873). David is a general licensed poultry judge and has judged throughout the U.S., Canada, and Mexico. He has served as an expert poultry witness in court on multiple trials in California and testified before the state legislature concerning poultry matters. He was inducted into the California Poultry Hall of Fame and the APA Hall of Fame in 2006.

David holds a BA in psychology with advanced studies in systems management from the University of Southern California. He is retired after serving 30 years as the founder and president of Key Group, a management and marketing consultant firm supporting aerospace-oriented service companies. His list of clients included both privately and publicly owned companies, and ran the gamut from "Mom and Pop" businesses to industry leaders like Westinghouse and Lockheed-Martin. David is a proactive community leader, serving five years on the board of the local

unified school district and as a member of the local area advisory committee.

Norman Burns

Norman is the President and CEO of Conner Prairie Museum in Fishers, Indiana. The museum houses a wide collection of heritage breed livestock and is an active breeder of Ossabaw pigs, Tunis sheep, and English Longhorn cattle among others.

Raised on a small farm in middle Tennessee that raised Hereford cattle, he has been actively involved in museum administration and entrepreneurial leadership, fund raising, preservation, conservation, animal husbandry, education, and cultural heritage tourism for more than 34 years. He tried his hand at hand shearing demonstrations and many other tasks with heritage breeds and heirloom plants at living history museums in Tennessee and Indiana before moving into administration.

As the CEO and Executive Director of six different historic properties and



continued next page

Vote Now: Board Elections

Continued from previous page

general museums, Burns has developed nationally recognized, award winning, and innovative programming. He has developed visionary strategic, site master and business plans that have allowed organizations to experience stages of developmental growth in operational income, physical plant and properties.

Norman has also served on various boards, committees, and task forces for local and regional cultural tourism agencies and for local, state, regional, and national museum organizations. He is currently the incoming Chair for the American Association for State and Local History.

Jay “Jerry” Calvert

(Running for a second term) Now retired, Jerry was a Partner at Morgan Lewis & Bockius LLP, one of the largest law firms in the world, for 36 years. During that time, in addition to his busy litigation practice, he served in a number of management roles, including as the firm’s Managing Partner, a member of the firm’s Executive Committee, and Manager of the firm’s global Litigation Practice. A seasoned commercial litigator, Jerry handled large, high-profile business disputes, including matters involving anti-trust, intellectual property, securities law, and healthcare and regulatory issues. His clients range from global enterprises in the airline, banking, and pharmaceutical fields to those in the petroleum, healthcare, life sciences, and electric utility industries.

Jerry has also served on the board of a number of non-profit organizations, including the Zoological Society of Philadelphia (PA) and the Wentworth Watershed Association (NH). He served for seven years as the Chairman of the Board of the Philadelphia Zoo and, after a year’s hiatus, Jerry is once again serving on the zoo’s Board and received their Conservation Impact award in 2015. He is also a former member of the Board of Trustees of the Eastern Pennsylvania Chapter of the Leukemia and Lymphoma Society and served as the President of the Board. Jerry is a former Chairman of the Steering Commit-



tee of the Sunday Breakfast Club, a club for leaders in the Philadelphia area.

While Jerry lives in Bryn Mawr, Pennsylvania, he also has a farm in Wolfeboro, New Hampshire, where he spends half of his time. His particular agricultural interest is in Dexter cattle.

Keisha Cameron

Raised in Brockport, New York, Keisha Cameron was the daughter of Southern preachers who became Northern school teachers. She pursued a major in Speech Pathology and American Sign Language (ASL) and interpreted at Ashland University before attending Hampton University on a track and field scholarship. As a life-long student and working mother of three, she later attended SUNY Empire State College to study Social Theory, Structure and Change, an interdisciplinary program focused on socio-cultural anthropology.

Professionally, Keisha spent more than a decade co-managing 5 Acre Studios, a creative brand marketing and photography company with her husband Warren. In 2009, using an anti-racist/anti-othering framework, Keisha founded The Exchange – a multicultural arts and education organization dedicated to promoting belonging through education, hospitality, and play.

In 2013, Keisha received her Permaculture Design Certification, leading to a study of agroecology and indigenous land and foodways. In 2014 she and Warren founded High Hog Farm in Georgia, which honors sustainable farming traditions combined with a focus on food justice and food sovereignty. An active community supporter, social justice advocate, and agroecologist, Keisha is an engaged board member, organizer, and volunteer with many local and international organizations. In 2019, she graduated from Southern University’s Small Farmer Agricultural Leadership Institute.

High Hog Farm strives to provide restorative healing spaces for Black, Indigenous, and People of Color (BIPOC) leaders, growers, and advocates and all those engaged in reclaiming agrarian lifeways. To that end, Keisha lives a life generated by love and a desire for understanding, in



an effort to bridge divides and strengthen relationships both locally and abroad.

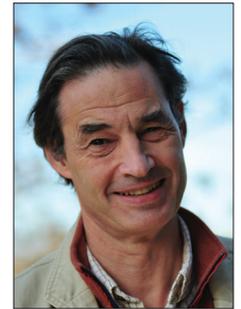
Adam P. Dixon

Adam is President and Co-Founder of Applied Constructal, Inc. a company focused on bringing high-tech, energy-saving solutions to ecological and environmental problems.

He has worked for companies in a range of renewable and sustainable technologies, including the Smart Grid, electric mobility, and distributed generation technologies like marine turbines and waste heat. He also consults in a new form of carbon finance.

Adam studied at Harvard, Oxford, and Leningrad State University, and has extensive experience working in Central Europe and the Former Soviet Union (FSU), especially Russia and Central Asia. He was a specialist on Central Asia at Chatham House (Royal Institute of International Affairs), a Senior Consultant on Defense Conversion in Central Europe at the KPMG Barents Group, and a Manager for Central Europe and the FSU at Newbridge Networks (now a part of Alcatel), before moving into renewable energy in 2003. In the U.S., Adam worked closely with GridPoint, Inc. and the Smart Cities group within the Media Lab at the Massachusetts Institute of Technology (MIT), which developed folding electric vehicles for deployment in “CityBike” type systems in congested urban centers.

Adam first encountered Akhal-Teke horses while working for Chatham House on the re-invention of national identities in Post-Soviet Central Asia and has worked with them ever since, including a breeding program near Staunton, Virginia for more than 15 years. Born in New York City, Adam is a U.S. citizen who lives between NYC and Vienna. He is married with four children.



Vote Now: Board Elections

Kathleen Finlay

Kathleen has been a leader in the regenerative agriculture movement for most of her career. She has also been instrumental in organizing women who work for environmental progress. As President of Glynwood Center for Regional Food and Farming in New York since 2012, she has refined the organization's mission and become a national figure in the world of progressive agricultural nonprofits. Under her leadership, Glynwood has become a premier learning hub for food and farming professionals.

Previously, Kathleen was a Director of Harvard's Center for Health and the Global Environment, where she developed and shaped programs to educate communities about the correlation between human health and the global environment; created a farm-friendly food policy for dining services; and produced a comprehensive online guide to nutritional, seasonal eating and cooking in the Northeast. She also founded the Harvard Community Garden, the University's first garden dedicated solely to the production of food, produced two award-winning documentaries ("Once Upon a Tide" and "Healthy Humans, Healthy Oceans"), and co-authored the book *Sustainable Healthcare* (Wiley, 2013).

Kathleen also founded Pleiades, a membership organization working to advance women's leadership in the sustainability movement. She holds a degree in Biology from University of California Santa Cruz and a Master of Science in Science Journalism from Boston University. She has authored numerous reports and publications and acts as an advisor to various environmental and community organizations, including Congressman Sean Patrick Maloney's Agricultural Advisory Board and Senator Kirsten Gillibrand's Agricultural Working Group.



Tim Safranski

Growing up in the Columbia River gorge in Oregon on a small diversified livestock farm provided unique perspectives for Tim Safranski. A career in the animal industry was the goal, and hogs, Hereford hogs among them, helped show him paths in that direction.

Tim completed his Bachelor of Science degree at Oregon State University while living in the sheep barn and then made his way to the Midwest. He earned his Master of Science and Doctor of Philosophy degrees at the University of Missouri and spent a couple years working for USDA-ARS in Clay Center, Nebraska.

In January 1996, Tim returned to Missouri, where he has served as the State Swine Breeding Specialist. Since returning to Missouri, he has led an integrated extension and research program in the areas of genetics, genetic conservation, and reproductive management, in addition to teaching the Swine Production class at MU. He has presented in 25 states and on five continents on topics of swine genetics, reproduction, and management. He currently serves as Professor of Animal Science and State Swine Extension Specialist.

Tim, his wife, and four sons raise cross-bred cattle, Katahdin sheep, American and Silver Fox rabbits, Standard Bronze turkeys, and various chicken breeds on 91 acres in Callaway County, Missouri.

Renard Turner

Renard was born into a career Air Force family. When his father was stationed in California at Travis Air Force base, he attended Armijo High School in Fairfield, California, where he was introduced to vocational agriculture. He later went on to study agricultural science and engineering, including in-depth histories of all commercially raised domestic livestock breeds, cattle, sheep, horses, swine, and poultry. He loved it, so much so that during this



time, Renard also participated in livestock judging contests as a member of The Future Farmers of America.

Renard's passion for agriculture remains to this day. He and his wife Chinette own Vanguard Ranch in central Virginia, where they have raised registered Horned Dorset sheep, Karakul sheep, Kiko goats, Spanish goats and horses. Currently they raise Myotonic goats, white utility king squabs, and organic herbs and vegetables. He is passionate about preservation and responsible breeding of functional animals. To Renard, the old genetics are special and must be preserved. Spanish horses are especially interesting to him and he would love to help bring others into the fold.

Ballot

All Livestock Conservancy members may vote for the Board of Directors, with one vote cast per membership. There are eight open positions and eight candidates. You may vote for as many Board members as you wish. There are two ways of voting:

Vote Online with the digital ballot at bit.ly/TLCVotingBallot

Use this printed ballot and mail it in.

As a member of The Livestock Conservancy, I would like to vote for the following people to fill the open seats on the Board of Directors:

- David L. Anderson
- Norman Burns
- Jerry Calvert
- Keisha Cameron
- Adam Dixon
- Kathleen Finlay
- Tim Safranski
- Renard Turner

Return printed ballots to The Livestock Conservancy by mailing them to PO Box 477, Pittsboro, NC 27312.

Ballots must be postmarked no later than Thursday, October 1, 2020.

New Board members will be announced in October.

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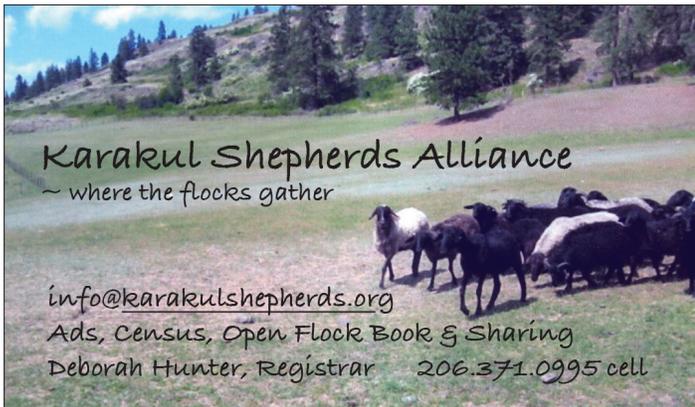
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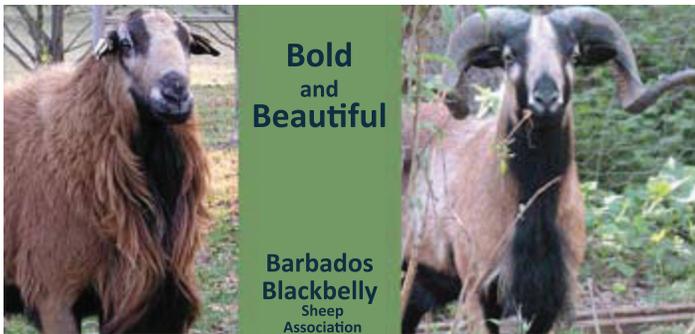


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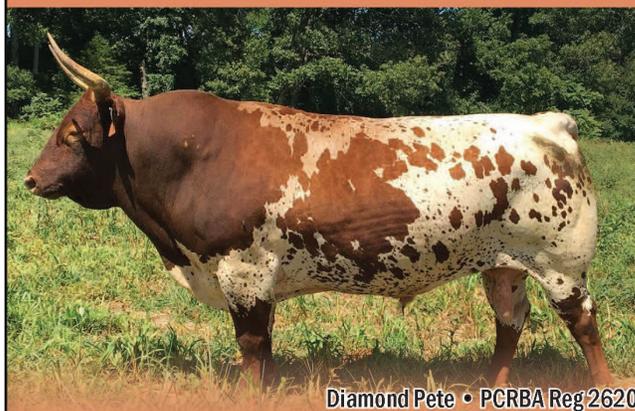


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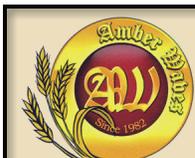


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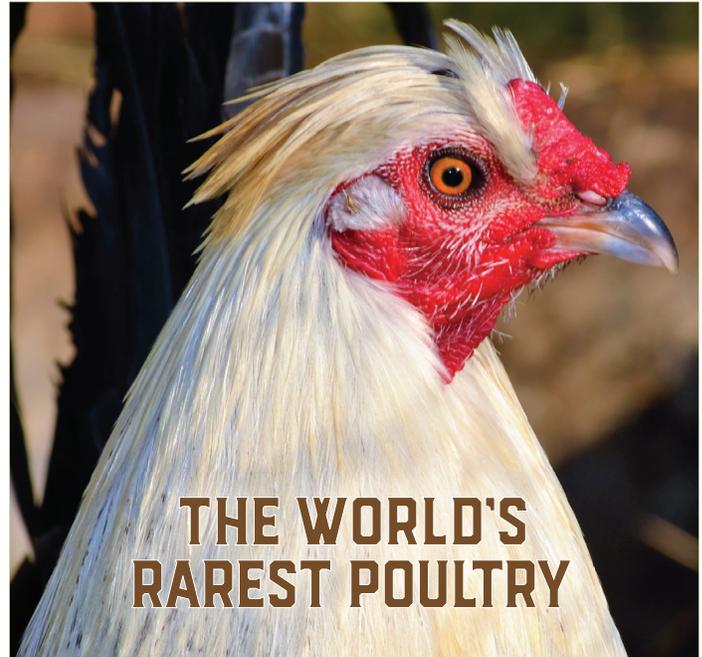
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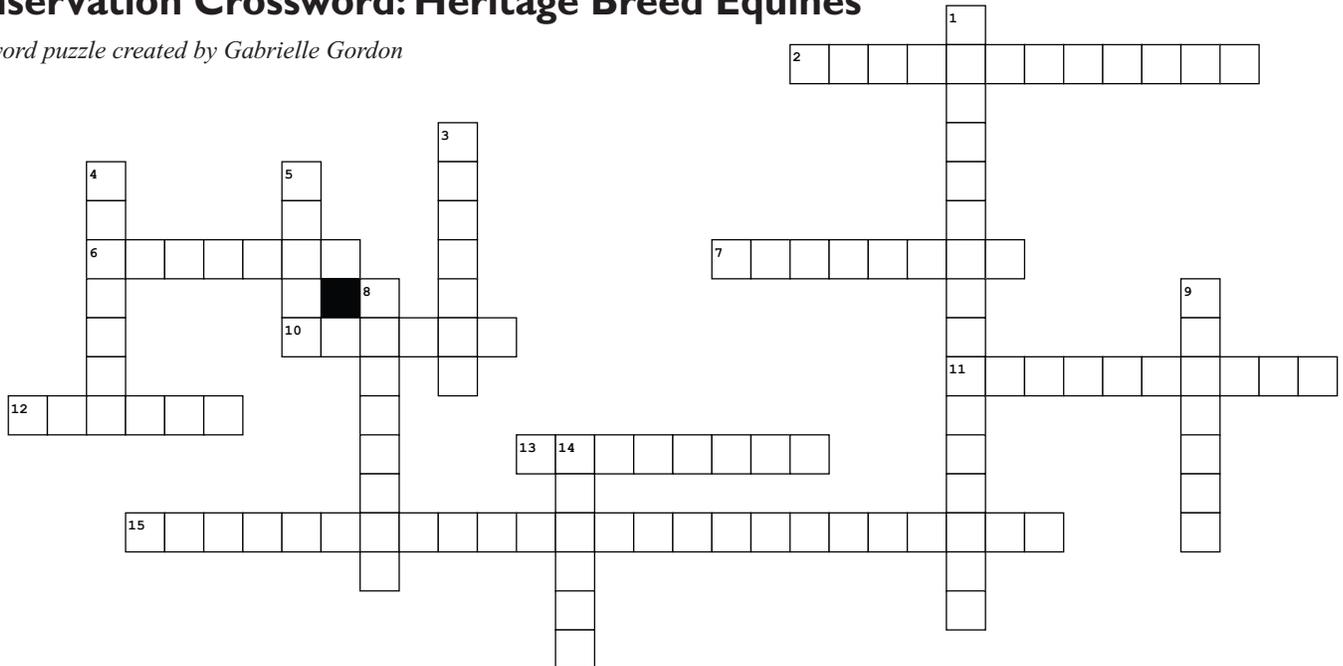
A Bridge to the Future for Heritage Breeds www.svfoundation.org
NEWPORT, RHODE ISLAND

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DATED MATERIAL

Conservation Crossword: Heritage Breed Equines

Crossword puzzle created by Gabrielle Gordon



ACROSS

2. Oldest standardized British horse breed, owned by British and Japanese monarchs.
6. The only draft horse breed developed primarily for farm work.
7. Earliest Spanish Colonial horse developed in the Yucatan Peninsula of Mexico.
10. Large English draft horses developed from Flemish stock and known for their "feathered feet."
11. Originating from Turkmenistan, this breed represents the pure living descendant of the Scythian horse.
12. Colonial Spanish breed living on the North Carolina barrier islands.
13. This primarily black British breed worked in Northern England coal mines.

15. A large donkey breed with George Washington as a leading breeder.

DOWN

1. Hardy pony originating in Eastern Canada.
3. This horse excels in driving, high stepping trot, and is an all-around performance breed.
4. This breed is native to Persia and very small. It's considered more like a horse than a pony.
5. Pony cousin to the Fell Pony and used in English lead mining pits.
8. This breed is known for famous white stallions from the Spanish Riding School and are native to Central Europe.
9. Pony native to Sweden and documented back to the ancient Goths.
14. The most primitive northern European horse breed, standing about 11.2 hands.

For the solution, see page 2.

For a list of equine breeds and to learn more about rare horses and donkeys, browse our Conservation Priority List online at bit.ly/ConservationPriorityList

CALENDAR

Many events are being modified, rescheduled, moved online, or canceled due to COVID-19. Check our website and with event organizers for the latest updates before making plans to attend any event.