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Conserving rare breeds since 1977

Why Registration Matters

By Alison Martin

A recent question from a Livestock Conservancy member raised an important point that may resonate with many of you. "The Guinea Hogs that we have are all unregistered; registration, correct me if I'm missing some important aspect, seems more important if one is wanting to sell breeding stock instead of pork products," writes a member in North Carolina.

Some of you will empathize with him

- he's raising pigs for his own freezer, selling to family and friends, and hoping to build a side market for charcuterie, as so many are now doing with Guinea Hogs. Why pay the extra money for registered stock? After all, the folks who raised these pigs 150 years ago on homesteads across the South sure didn't register their pigs. Such a process didn't even exist. And another thing, some breed registries take so long to get the paperwork back, is it really worth the hassle?

Others among you will feel quite differently – you may have spent years working to conserve your own breeds and build their numbers, using breed registration and promotion as tools to encourage interest and value in the breed. Maybe you're the breed registrar and have dedicated hours, months and years to making sure everyone gets their registration papers and helping folks use the pedigrees to make breeding decisions.

But why does registration *really* matter?

Conserving rare breeds. All of us who raise rare breeds and work to conserve them do so because of the unique characteristics of that breed. Each has just the right adaptation, personality, performance, or appearance that makes it a breed. Conserving these characteristics means mating only within the breed; too many breeds have been lost when the purebreds used to create value in crossing weren't maintained. The Livestock Conservancy calls

The Livestock Conservancy depends on breed registries as its main source of information to prioritize breed conservation. Pictured are a Red Wattle sow and piglets owned by Josh Wendland in Barnes, Kansas.

this "crossbreeding out of existence." One of the easiest ways to make sure that you and others are keeping the breed true to its own character is to use only registered, purebred breeding stock, and to keep up with registrations. Breed registries are also the Conservancy's main source of information to prioritize breed conservation – if animals aren't registered, then it becomes very challenging to track improvements or declines in breed conservation status.

Breed promotion. Maintaining and selecting for breed characteristics ensures that the same things that attracted one

breeder will attract new breeders. This is important even to those who are raising their animals for market products. Breeders who work together through the breed association raise the level of awareness for both products and breeding stock. One needs to look no further than the highly successful marketing program for Angus beef. By registering animals, we support breed associations and their breed promotion efforts, which benefit all who raise the breed.

Raising the value of your animals. Who knows what the future will bring? Let's look at theoretical breeder Ms. Suarez, who raises pigs – let's call them the Super Heritage Breed. She is successful building a market for her animals, is able to increase the size of her herd, and naturally she keeps her best gilts for breeding. As Ms. Suarez learns what her customers want, she selects the gilts who can pass those characteristics to their offspring and who also developed

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Why Registration Matters

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into great mothers. Not only does her herd get bigger, they get better. In fact, in five years Ms. Suarez has a reputation for having really good quality breeding stock, and other breeders approach her wanting to buy a boar. But she never anticipated selling breeding stock, so none of her pigs are registered. Wanting to make extra money by selling registered breeding stock, she asks the Super Heritage registry for the procedure, only to be told that they have a closed herdbook and that her wonderful breeding stock cannot be registered. By not planning ahead, Ms. Suarez can't take advantage of the market for purebred breeding stock, even as a sideline to her meat business. She has also inadvertently removed her stock from the gene pool, and the improvements she has made to her stock are lost to the breed rather than providing a lasting contribution.

If your current breeding stock is registered, thank you for contributing to the future of the breed! If not, consider getting your registrations up to date or adding some registered breeding animals to your herd over time. Doing so will help ensure that your herd's legacy will influence the breed for generations to come. •

Breeders Directory Update

The next edition of the *Livestock*Conservancy Breeders and Products

Directory is being assembled and will be mailed out in early 2014. The distribution sched-



ule is changing from late July to the beginning of the calendar year, taking into consideration that many people will be using the directory to buy and sell stock and products beginning in the spring. This will change the split year designation "2013-2014" to simply the "2014" directory. The directory can also be viewed online year-round at www. livestockconservancy.org.



Our Wishlist

At the Conservancy, we could use a few things under our tree this season too! Below is a list of items we can use if you are able to contribute. If you have any of these items and would like to donate them to The Livestock Conservancy, please contact us at (919) 542-5704, or email albc@albc-usa.org. All donations are greatly appreciated and a donation receipt can be provided.

Rolling suitcase in good condition (approx. 28" - 30")

New vacuum cleaner Gas cards

Printing and photocopying gift cards Server < 2 years old High-capacity external hard drive

Laptops < 1 year old
Desktop computers < 2 years old
iPads with cellular capability

19-inch+ LCD monitors LCD projector

Copy paper

Bubble mailers (book/document size)

Hanging file folders
Manila file folders

Printing and photocopying gift cards
Postage stamps

25- and 50-count chick shipping boxes Humidity pads for GQF incubator

FedEx and UPS gift cards Farm/feed store gift cards

(national chains)

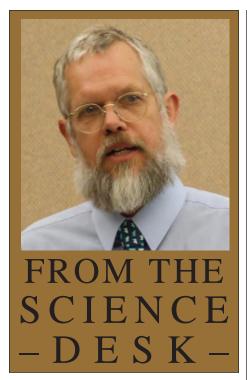
Airline miles Car rental miles

Hotel reward points

Livestock trailer

Minivan

Farm truck < 50K miles Silent auction items: restaurant gift cards, locally produced gift items, livestock or farming books, artwork, and items, etc.



Conservation of Landrace Breeds

By D. P. Sponenberg

The following piece highlights some recent conservation discussion around critically endangered landrace horse breeds. Successful conservation techniques used for the Choctaw horse are used to demonstrate steps that can be used to protect the genetics of landrace breeds of all species.

Conserving heritage livestock breeds is never easy, and the effective conservation of local landraces is always challenging.

Landraces get their character from a combination of foundation (the original animals put into the area), isolation (the fact that few other animals were added), and selection (what folks used instead of what they discarded). An important overarching influence is the fact that these landrace breeds were used for a variety of tasks, which have their own effects on the breed. These all work together to yield a final "type" that characterizes the breed, and this ideally leads to a breed standard that encompasses the type in all its variations. This standard should ideally reflect what the breed actually is, and not what it should be in someone's (or some group's) imagination.

In the old days, the foundation of landraces would remain intact because isolation was assured by the difficulty of bringing other animals into the area. Put another way, once folks had work animals, the hassle of bringing in another one (even if marginally "better") simply was not worth the effort. So, before improvements in communication and transportation in the 1900s, local breeds all tended to remain isolated. After improvements in communication and transportation infrastructure, the isolation of these livestock gems became much more uncertain.

After the end of isolation (and in the current era this is true nearly everywhere), it is important to more deliberately define and conserve local landrace breeds, or we risk losing them forever. The isolation that once protected them is simply gone. For example, it may have been easy to say in 1913 that a Newfoundland Pony was any pony from Newfoundland. That is not the case in 2013 because other breeds of ponies have been introduced to the region. How a breed like the Newfoundland Pony is defined, then, becomes a critical issue, because the goal of conservation is to include every pony that meets the definition and to exclude all of those that do not.

As an aid to conserving landraces, most breeders eventually organize a registry. Registries are great, but only if they help to define and conserve the landrace. They are not so great when they impede those goals. It is important to note that for any breed, an animal is a member of the breed not because it is registered, but that it is registered because it is a member of the breed. That is, the status of an individual animal as a member of this breed is not because of its registration status, but because its ancestors had the history of foundation, isolation, and selection typical of the breed. A registry is only valid and useful if it acknowledges all such qualifying animals equally, and also if it excludes animals outside of that group. Again using the example of Newfoundland Ponies, animals are not "more Newfoundland Pony" or "less Newfoundland Pony," they are either Newfoundland Ponies, or they are not, and the goal of the registry should be to identify and validate all of those that are.

It is common among most landraces for breeders to eventually want to close the registry after a certain number of animals have been registered. In most cases this is a mistake, because it is routine to encounter animals of the right type, foundation, and isolation for many years after the organization of breeders starts. These "found" animals are likely to be extremely important to the future genetic soundness of the breed, because usually they are not closely related to what has already been registered. For maximum benefit to the breed, these found animals need to be carefully evaluated, and then once accepted, they need to be fully accepted on equal footing with other animals in the registry.

The usual successful steps in landrace conservation include:

- 1. Define the foundation, isolation, and selection behind the breed.
- 2. Describe the overall type that resulted from step 1. This is physical, mental, and also genetic. One or the other of these might be more important, depending on the breed.
- 3. Identify all the animals that qualify by steps 1 and 2 and register them.
- 4. Develop a protocol for evaluating candidate animals that will be presented in the future but that do not have registered ancestors. This is politically tricky, but essential for the breed's genetic future.
- 5. Accept these qualified outside animals completely and fully into the registry. It is a common mistake to limit this to females, or to require a number of generations of mating to those lines previously registered. This completely defeats the benefit that these overlooked animals can bring to the breed.

The steps can be taken one at a time. This evaluation will use experiences with the Choctaw horse, a Colonial Spanish horse, that has had good success in conservation breeding. Possible actions with other landrace breeds will also be outlined.

Step One: Define the foundation, isolation, and selection behind the breed. This can be broken down into substeps: Foundation

Knowing the exact foundation of a landrace can get difficult, but the animal history of the local area can help. In the case of the Choctaw horse, the foundation is the Colonial Spanish horses brought to the coast of Mississippi and Alabama by the Spanish in the 1600s and 1700s. The horses flourished there, and then were brought west with the Choctaw nation in 1830 along the Trail of Tears. The goal of conservation is to try to get back to that

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Conservation of Landrace Breeds

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foundation as much as possible, although obviously there will be gaps in the records back to that time frame.

In the case of some landrace breeds, the original source of animals is unknown, but it is possible to say that in the case of the Choctaw horses, local horses were the usual source of equine power for centuries. Based on oral or written histories of the area and animals that were common in the region in the early period of colonization, many of the influencing founders can be inferred. The exact foundation may be tough to ferret out, but it is more possible to reflect on later additions to the scene, and to try to eliminate those influences. For example, for horses these likely include other breeds of "blooded" saddle or carriage horses that were common throughout the Americas in the late 1800s, and perhaps increasingly since then. In a sense the search for the foundation becomes "what it is not" as much as "what it is."

Isolation

When identifying the influence of isolation on Choctaw horses, fortunately, it is helpful that the Colonial Spanish type is easily disrupted by crossbreeding to the more common North American breeds such as Morgan, Quarter Horse, Thoroughbred, or draft breeds. In other words, a trained observer can fairly accurately distinguish herds that have been influenced by crossbreeding from those that are minimally influenced. That helps to focus on more isolated herds. Between the herds, though, some have more geographic isolation than others, and also no direct indication of recent crossbreeding. Those are the herds of most interest.

The documented history of landrace breeds of conservation interest usually boils down to little or no evidence of cross-breeding to other likely candidate breeds that could have been in the area since the late 1800s. This is unlikely to be absolute. Understanding the typical appearance of the breed, as well as of the introduced breeds, can help to sort through this detail.



The Choctaw horse, a Colonial Spanish horse, has had good success in conservation breeding. Photo by Jeannette Beranger.

Selection

Selection is the final contributor to breed type. In the case of Choctaw horses, the selection history is one of free-range production, with recruitment into ranch and riding use that emphasized easy gaits, endurance, soundness, and gentle, agreeable temperament. The goal was a reliable horse that could work all day long.

While important to document, selection history is more important in influencing final type than it is in assessing the candidate animals. Nevertheless, if a candidate herd has a known history of selection that diverges strongly from the norm, that could make that herd of less interest because the final product is likely to be different.

<u>Step Two:</u> Describe the overall breed type.

Animals consistent with a certain combination of foundation, isolation, and selection history are going to have a consistent appearance and attitude. While there will be some variation, as is normal in all breeds, a majority type is going to emerge in the stage of defining the breed. It is animals of this type that are most useful in further defining the breed, noting that some animals vary in certain regards. This analysis is physical, mental, and also genetic. The genetic analysis must be broad enough to be inclusive, but should focus primarily on the most typical animals, unless these are all from a closely

related substrain.

The overall type of the Choctaw horse is a Colonial Spanish type, which it shares with many other branches of the family tree. This type was established by traditionalists with a long history of association with the breed. The breed standard describes both the most typical and nontypical conformation and type, which allows for variation within the type. This is an essential detail if important variants are not to be lost for future generations. The horses have also been sampled widely for genetic analysis, which helps to identify typical and nontypical DNA types.

<u>Step Three:</u> Register the qualifying animals.

Registration of Choctaw horses has a fairly long history, especially for the branch of the breed in Oklahoma. This is through various of the multiple registries for Colonial Spanish Horse. Wherever possible, it is advantageous to bring multiple registries into congruence to see where registrations overlap, and where certain animals are excluded by one or the other, and for what reasons. If those reasons are biological (type) then they may be valid. If they are more politically motivated, then this impedes effective breed conservation. Ideally a single entity with registrations can be developed that takes the registered ponies back to their ancestors, giving them pedigrees and longer known family lines.

<u>Step Four:</u> Develop a protocol for accepting animals with unregistered parents.

For landraces it will nearly always be the case that ongoing searches will find animals in unusual locations and circumstances that just happen to be previously undocumented purebreds. Finding and including these is very important and has no "cutoff" date.

Recently, while investigating old Spanish cattle and sheep along the Gulf Coast, a few stallions that were typically Spanish were encountered in Mississippi. This was in the region of the old original homeland of the Choctaw nation. The next step was to investigate the history, which revealed that the horses and their ancestors were bought with the large farm, and were of a stock that "had always been there." This is the sort of history typical of a genuine and important discovery. The DNA on the stallions was evaluated, and they cluster closer to Choctaws than to anything else, and so were accepted as Choctaw horses.

For any landrace breed, it is important to realize that they might turn up in a variety of locations. The first step in evaluation is to check the type, and the breed type needs to be unmistakable on the candidate animals. That is, they should be very typical, and not out on the fringes of breed type. Then the history should always

be one of isolation, and if the type is right this will likely be the case. Those with the best "eye" for type will be readily able to distinguish a specific breed. After evaluating type and history, the candidates should be evaluated by DNA analysis, if possible, and if nothing odd is flagged at this step they should be accepted.

<u>Step Five</u>: Accept all qualifying animals equally.

With the Mississippi Choctaw stallions as an example, the next step is to use them as full members of the breed. In this case, the breeders have discovered a strain separated from the Oklahoma horses by 200 years, so this is a distantly related strain that can bring some welcome genetic variation into the existing horses. One way to do this is to mate Oklahoma mares to a Mississippi stallion, and then to mate daughters back to the other Mississippi stallion. This would secure that line a place in the future of the breed, for the vitality and long-term viability of the breed.

Something similar needs to be possible with any landrace breed for candidate "found" animals that pass all evaluations. Again, the issue is that an animal is purebred because of its foundation, isolation, and selection history, and not because of its registration status. The goal of the registration status is simply to reflect the accuracy of purebred designation. It is a

Navajo-Churros are a classic American landrace breed. Shown are lambs owned by Cassie Larsen of Little Creek Plantation in Brunson, South Carolina.

mistake to doom these animals to minimal influence by insisting on multiple generations of crosses back to registered stock, for that assures that the breed cannot take advantage of the genetic breath of fresh air they offer.

Summary

These steps have proven valuable in the effective conservation of many North American Landraces (Choctaw horses, Pineywoods cattle, Texas Longhorn cattle, Navajo-Churro sheep, Gulf Coast sheep, Florida Cracker sheep, Spanish goats, Myotonic goats, and many others!). When used in a clear-headed and logical way they can help to drive decisions that effectively secure these unique breed resources for a successful future. •

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We're Tweeting!

The Livestock Conservancy has recently joined Twitter and LinkedIn! With growth of our Facebook fan base by over 300% in the past year, social media has become a terrific way to reach some of our members between newsletters, connect with other organizations and find new people interested in our mission. You can find us on Twitter @LConservancy, or through the social media links on our website.

Some interesting social media stats:

- Twitter over 550 million users
- LinkedIn around 259 million users
- Facebook 1.2 billion users
- The Conservancy's most popular Facebook post reached over 200,000 people in 24 hours
- The Conservancy's YouTube video "Turkey Talk" has been viewed over 230,000 times to date
- Twitter's fastest growing demographic is the 55-64 year age bracket
- YouTube reaches more 18-34 aged adults than any cable network

Next time you're online, find us on Facebook, Twitter, LinkedIn, YouTube, Blogger, by email, and through our website.
Oh, and don't forget to #livestockconservancy! ❖





The Livestock Conservancy's 2013 National Conference, "Sowing the Seeds of Conservation," took place in November in Cary, North Carolina. For this conference, experts from Seed Savers Exchange discussed heirloom plants, in addition to heritage breeds. The philosophy behind saving heirloom seeds is nearly identical to that of saving heritage livestock and poultry breeds – preserving genetic diversity in agriculture and our food systems. Attendees enjoyed over 20 workshops and clinics on topics ranging from pasture and forage management, to saving seeds, to agritourism. Next year's conference heads to the Lone Star State for the first time and will be held in Austin, Texas, November 14-15, 2014. More details coming soon!

"Sowing the Seeds of Conservation"

2013 Bixby-Sponenberg Conservation Award

This year, the Bixby-Sponenberg Conservation Award was presented at the National Conference to Jess Brown of Poplarville, Mississippi, for his years of work saving the Pineywoods cattle breed from extinction. The award is reserved for an individual or organization that has shown relentless dedication to conservation of rare breeds over many years.

Jess, a seventh-generation farmer from Mississippi, has worked tirelessly to save critical bloodlines of Pineywoods cattle, Gulf Coast sheep, and Choctaw horses. One of Jess's most important contributions to conservation is his ability to successfully breed old cows, getting additional calves out of animals that would normally have been thought of as finished with their reproductive years. This ability to get "bonus calves" has helped secure extremely rare bloodlines and contributed to the overall strength of the Pineywoods breed. Jess also has a particular affinity for "blue" color genetics, which can be seen through the amazing variety of beautiful hues in his herd. Jess has served as an advocate and leader in the Pineywoods Cattle Registry and Breeders Association, and currently serves as its president.

A somewhat accidental contribution to conservation occured when Jess and his family decided to keep the local "Pine Tacky" horses that had "always been there" on their land. Knowing little about the origin of the horses, the Browns decided that the horses were unique enough to possibly warrant conservation. A pleasant surprise came during a visit from Dr. Sponenberg, when he noticed that the

horses very closely resembled the Choctaw Colonial Spanish horses in Oklahoma. Genetic testing was done to compare the two populations and proved that Jess's horses in fact were the left-behind descendants of the Choctaw horses that were brought to Oklahoma on the Trail of Tears with the tribe in 1830.

According to Jeannette Beranger, The Livestock Conservancy's Research and Technical Programs Manager, "Jess and his father always stop and take time to talk to anyone interested in their breeds. Jess is genuinely a nice person, and his sincerity has allowed him to effectively communicate with and assist many new breed

stewards throughout the years." Jess has also done an incredible amount of historical research on Pineywoods cattle and the "cattle culture" of his home county of Pearl River, Mississippi. His collection of historical photos, literature and documents is quite possibly one of the finest examples of historical breed documentation in existence today. Jess presented much of this research at the 2011 conference in Wichita, Kansas, where he took home top prize in the poster contest. The Livestock Conservancy has been thrilled to award the Bixby-Sponenberg Conservation Award to Jess, and to add him to the exceptional list of recipients of the award. Congratulations, Jess! ❖



Jess Brown received the 2013 Bixby-Sponenberg Conservation Award. Photo by Jeannette Beranger.

THANK YOU TO OUR SPONSORS





The William JJ Gordon Foundation











Thank You for a Delicious Meal!

The Livestock Conservancy thanks the following members for their donation of heritage breed meat for the meals at our 2013 National Conference.

Daniella & James Adams Pineywoods beef

Charles & Marilyn Barnes
Dexter beef

Kathy Donovan Karakul lamb

Sharon Funderburke

Red Poll beef

Julie Gauthier Delaware chicken

Bill Mahler & Kate Potter

Dexter beef

Bruce Miles

Dexter beef

Jeff Wilkins

Red Poll beef

Loss of an Early Leader

The Livestock Conservancy lost a beloved friend, early board member, and long-time conservationist this fall. Nils A. Berglund passed away unexpectedly Tuesday, October 22, 2013, at his home Swanton, VT. Nils was 62 years old.

Born on January 6, 1951, in Southampton, New York, he was the son of the late Leigh and Gertrude (Okerstrom) Berglund, Sr. Nils was a 1973 graduate of the University of Vermont and a 1976 graduate of the University of Connecticut, where he received a Master's Degree in Agriculture. For many years he was an Agent for the Suffolk County Co-operative Extension Service. Nils



was a poultry expert, raising and showing his own stock on a national level. He was also always there to answer a question for someone else about the raising of poultry. He loved raising chickens, ducks, geese, quail, homing pigeons, and Devon and Guernsey cattle.

Nils was former Chairman of The Livestock Conservancy (then the American Minor Breeds Conservancy), past President of the American Milking Devon Cattle Association and a former Senior Warden at St. Luke's Episcopal Church.

Survivors include his partner of 17 years, Donald Fournier of Swanton; brother, Leigh Berglund, Jr. and his wife, Eva, of Sag Harbor, New York, his Goddaughters Erin Sepe Pirro and Martha Julian, and many special friends.

Those planning an expression of sympathy have been asked to consider donations to The Livestock Conservancy, P.O. Box 477, Pittsboro, North Carolina 27312. Private messages of condolence to the Berglund family are welcome at www.heald-funeralhome.com.



American or Import?

By Ryan Walker

At The Livestock Conservancy, we often receive questions about American vs. imported breeds being included on the *Conservation Priority List* (CPL). Currently, 68 of the 190 breeds on the list are unique to North America, and 122 have been imported at some point in American history. Most of the imported breeds came from Europe, brought with colonists or early explorers.

At the Conservancy we are concerned with protecting the genetics of breeds that have a significant history of use in American agriculture, regardless of where they were developed. Because most of the original livestock in the early United States (and Colonial period) were imported, we include them, as well as the breeds that were developed later in America from these imported breeds. As of 2007, there were just over 7,600 total breeds of livestock and poultry globally, with just over 1,400 classified as endangered. 190 of these breeds currently fall within the criteria to be included on our CPL.

The distinction of breeds unique to North American is indicated through bold listings on the CPL. The parameters for inclusion (shown for livestock breeds below) go further in depth to explain what is included on the list and what isn't. There are breeds that were developed in America but aren't endangered, and there are breeds that are "rare" in America, but not internationally; neither of these would be included on the CPL. Additionally, some breeds are rare globally and have been recently imported, but do not yet have a broad enough genetic base in America to allow for effective conservation.

The inclusion parameters below are for livestock. Additionally, there are similar criteria for poultry and rabbits that can be found at: www.livestockconservancy.org/index.php/heritage/internal/parameters-cpl.

Parameters of Livestock Breeds on the Conservation Priority List

Livestock breeds on the Conservation Priority List generally conform to certain genetic and numerical parameters:

1. The breed is from one of the seven traditional U.S. livestock species: asses, cat-



Farmyard engraving by S. Sartain from the Conservancy's 1868 copy of How to Make the Farm Pay by Charles W Dickerman.

tle, goats, horses, pigs, rabbits, and sheep. Rabbit parameters are defined separately. 2. The breed census satisfies numerical guidelines:

Critical: Fewer than 200 annual registrations in the United States and estimated global population less than 2,000.

Threatened: Fewer than 1,000 annual registrations in the United States and estimated global population less than 5,000.

Watch: Fewer than 2,500 annual registrations in the United States and estimated global population less than 10,000. Also included are breeds that present genetic or numerical concerns or have a limited geographic distribution.

Recovering: Breeds that were once listed in another category and have exceeded Watch category numbers but are still in need of monitoring.

Study: Breeds that are of genetic interest but either lack definition or lack genetic or historical documentation.

- 3. The breed is a true genetic breed (when mated together, it reproduces the breed type).
- 4. The breed has an established and continuously breeding population in the United States since 1925. Or, if imported or developed since 1925,
- The foundation stock is no longer available.
- Must be below global guidelines for inclusion (see #2).
- Must have at least three breeding lines in the United States.
- Must have at least 20 breeding females in the United States.
- · Must have at least five breeders in dif-

ferent locations in the United States.

- Must have an association of breeders in the United States.
- Must be contributing to the breed's survival internationally. In general this means that:
 - » the United States population is reciprocal to other international populations. Registry must be sanctioned by the mother organization so as not to be a dead-end for the breed, and breeding stock must be licensed according to the rules of mother organization;
 - » or is an important and numerous population when compared to that in other countries;
 - » or the non-United States populations of the breed are at risk geographically or politically.

Breeds not meeting all these criteria may be placed in the "Study" category and monitored.

Although conserving the breeds that have been developed in America is vital, it is important to remember that the United States itself is made up of both immigrants and native peoples. Livestock in many ways mirror the humans that have served as their stewards, in their immigration patterns, in their regional adaptations, and through their cultural identities. As we continue to work to embrace diversity in humans, the same is needed for livestock, for in the words of the late author Stephen R. Covey, "Strength lies in differences, not in similarities."

Classroom Heritage Chicken Hatching Project

By Jeannette Beranger

This past spring, The Livestock Conservancy was approached by Ginger Cunningham of our local Cooperative Extension office to help with an embryology project being conducted by a 4-H School Enrichment Program. Previously the program had acquired eggs from a local commercial hatchery, but our good friends at Extension believed that perhaps it would be more interesting for the students and teachers if they used Heritage breed eggs. That's when Ginger came to the Conservancy.

The program was funded by the United Way of Chatham County, North Carolina, and is an annual program for Chatham County Public Schools. Chatham County 4-H furnished a 4-H embryology curriculum, materials, and incubators for each classroom. The Conservancy, through staff member Jeannette Beranger, provided eight dozen Buckeye chicken eggs for the incubators. In addition, Conservancy member Dr. Julie Gauthier of Chickcharney Farm kindly supplied over three dozen Saxony and Magpie duck eggs for classrooms focusing on ducklings.

The embryology project emphasized a "hands-on" learning experience for the cycle of life requirement in the schools' science curriculum. The program involved incubating eggs for 21 days in a still-air incubator while learning about life cycles and proper care for animals. Students were tasked with caring for the fertilized eggs and then the chicks after they have hatched. At the conclusion of the project,



Hand written "thank you" cards from all the students made the hatching project even more rewarding to its leaders. Photo by Jeannette Beranger.

all chicks were returned to their respective breeders. It was a win-win for both the schools and the farmers!

For the first time, the program classrooms were able to expand the educational message to teach the kids about various rare breeds of chickens and ducks and the necessity to work to save these creatures. Caring for and learning about rare breed birds provided an extra special experience for both the youth and the teachers and was very well received by all.

Six schools and 16 classrooms within reached out to approximately 400 children to participate in the project this year. For

Julie and Jeannette it was an extremely touching experience, especially when they received hand written "thank you" cards from each and every student that included their personal thoughts on their experiences with the chicks and ducklings.

The Livestock Conservancy would like to expand and replicate this program nationally; we encourage any Conservancy members interested in developing a poultry program similar to that of the Chatham 4-H to contact us and learn how. •

Jeannette Beranger can be reached at jberanger@albc-usa.org.





The embryology program emphasized a "hands-on" learning experience for the cycle of life requirement in the schools' science curriculum.

Unique Gait Found in Shackleford Banker Horses

By Jeannette Beranger

In continuing collaboration between The Livestock Conservancy and Mississippi State University, new findings have emerged on the gaits of the Banker horses of Shackleford Island, North Carolina. As part of MSU's Gaited Locomotive Research Program, Dr. Molly Nicodemus has led the university's team to study the gaits of rare breed horses found on the Conservancy's Conservation Priority List. The initial focus has been on Colonial Spanish breeds, starting with the Marsh Tacky and the Wilbur-Cruce strains. Following these were the Banker horses of Shackleford Island. With the help of the Conservancy's Jeannette Beranger and Alison Martin, Carolyn Mason of the Foundation for Shackleford Horses, and Sue Stuska of the National Parks Service, a series of videos were col-

lected on the Bankers and were then sent to MSU for study. We thought it would be interesting to see if there were specific locomotive adaptations that help the horses move more efficiently for life on their sandy isle. Carolyn and Sue had always commented that the horses had a particular



One of Carolyn Mason's Shackleford fillies displaying her gait for the video camera. Photo by Jeannette Beranger.

"running walk" that they had not seen in other breeds, so there was good reason to investigate this trait.

Analysis of the videos was completed in late 2012. The results of the study were first presented at the 2013 Equine Science Symposium in Ruidoso, New Mexico, in August and then later published in the

> Journal of Equine Veterinary Science. In the findings Dr. Nicodemus's states "The team has found that similar to other Spanish Colonial Horses. the Shackleford Banker horse has the ability to perform a symmetrical, four-beat stepping intermediate gait similar to the Marsh Tacky's "Swamp Fox Trot" gait. However, the Banker's gait is limited to the

slower velocity and may be an example of a transitional gait walk to the trot. Nevertheless, the velocity and the limb support sequencing of this transitional gait is unique from other non-gaited horse breeds. In addition, the mechanism used for increasing velocity, limb pairing and increased stride rate instead of increased stride length, is distinctive from other horse breeds studied that exhibited a four-beat stepping intermediate gait, and thus, this gait characteristic can be applied specific to the breed."

This research can assist in preserving this and other feral horse populations unique to the United States. The uniqueness of these gaits may allow the Shackleford horses to successfully navigate through the sandy environment on their native sea island. In the big picture, selection of horses exhibiting gait characteristics specific to an environment may need to be a consideration for those managing feral horse populations.

Because of the uniqueness of the gait, Dr. Nicodemus has invited the Foundation for Shackleford Horses to give their horses' gait a specific name as the Carolina Marsh Tacky Association did for their breed.

The Livestock Conservancy continues to collect video for future gait studies. Most recently, we have completed the collection of videos for the Choctaw horse as part of the documentation of Colonial Spanish breeds. We have also expanded the studies to include some non-Spanish horses and have recently completed video documentation of the Akhal-Teke and the Irish Draught horse. •

For more information about the study, see "Temporal variables of the Shackleford Banker horse intermediate gaits" in the Journal of Equine Veterinary Science 33 (2013) 321-399.



Sue Stuska with Carolyn Mason and her Shackleford filly. Photo by Jeannette Beranger.



CRITICAL BREED Highlights

To highlight the most critically endangered breeds on the Conservancy's *Conservation Priority List*, over the next year we will be featuring the breeds in the "Critical" category (currently 61 total) in this four-part series. More information can be found on our website at www.livestockconservancy. org, or by contacting each breed's respective breed associations.



POITOU ASSES

Use: Produce excellent mules when bred

with draft horses

Adult Weight: 750 - 950 lbs **Temperament:** Docile **Experience Level:** Advanced

Breed Association(s): The American Donkey and Mule Society (www.lovelongears.

com)



KERRY CATTLE

Use: Dairy

sociation

Adult Weight: 800 - 1000 lbs

Temperament: Docile

Experience Level: Intermediate Notes: Small, rugged, 5000 - 7000 lbs milk per year, active and can be nervous Breed Association(s): American Kerry Cattle Society (www.kerrycattlesociety. org); North American Kerry Cattle As-



RANDALL OR RANDALL LINE-BACK CATTLE

Use: Dual Purpose

Adult Weight: 1600 - 1100 lbs Temperament: Docile, Assertive Experience Level: Advanced

Notes: Originally triple purpose: beef (rose veal), plowing, milk, few milk them

oday

Breed Association(s): Randall Cattle Registry, Inc. (www.randallcattleregistry. org); Randall Lineback Breed Association (www.randalllineback.com)



AMERICAN CREAM HORSES

Use: Light draft, Driving Adult Weight: 1600 - 2000 lbs

Temperament: Docile

Experience Level: Novice - Intermediate **Notes:** Calm, willing to work, unique coloring, light draft, cream colored body,

amber eyes

Breed Association(s): American Cream Draft Horse Association (www.acdha.org)



CLEVELAND BAY HORSES Use: Sport riding, Driving Adult Weight: 1200 - 1500 lbs

Temperament: Docile

Experience Level: Novice - Intermediate Notes: Always bay in color, intelligent, gentle, crosses make excellent sport horses Breed Association(s): Cleveland Bay Horse Society of North America (www. clevelandbay.org)



SHIRE HORSES

Use: Draft

Adult Weight: 1900 - 2200 lbs

Temperament: Docile

Experience Level: Intermediate
Notes: Strong, gentle, great endurance,
feathered legs; new-found popularity for
jousting and medieval tournaments
Breed Association(s): American Shire
Horse Association (www.shirehorse.org)



RED WATTLE HOGS

Use: Lean Meat

Adult Weight: 750 lbs (male), 550 lbs

(female)

Hanging Weight: 180 lbs Temperament: Docile Experience Level: Novice

Breed Association(s): Red Wattle Hog Association (www.redwattlehogassociation.

com)



SANTA CRUZ SHEEP

Use: Wool

Adult Weight: 80 -150 lbs Temperament: Alert, Docile Experience Level: Intermediate

Unique adaptations: Adapted to hot, dry

climate; unusually elastic wool

Breed Association(s): Santa Cruz Island Sheep Registry (www.livestockconser-

vancy.org)



CAMPINE CHICKENS

Use: Eggs

Egg Color: White

Egg Size: Medium to Large
Market Weight: 3.5 - 5 lbs
Temperament: Very Active
Characteristics: Vigorous forager
Breed Association(s): American Poultry
Association (www.amerpoultryassn.com)



HOLLAND CHICKENS

Use: Eggs, Meat Egg Color: White Egg Size: Large

Market Weight: 5.5 - 7.5 lbs

Temperament: Calm

Characteristics: Good forager, winter

hardy, likes to range

Breed Association(s): American Poultry Association (www.amerpoultryassn.com)



SUMATRA CHICKENS

Use: Ornamental

Egg Color: White to Tinted

Egg Size: Tiny

Market Weight: 3.5 - 4 lbs

Temperament: Flighty and jumpy **Characteristics:** Lustrous plumage **Breed Association(s):** American Sumatra Association (http://sumatraassociation.org); American Poultry Association (www.

amerpoultryassn.com)



SAXONY DUCKS

Use: Meat, Eggs

Egg Color: White, Blue-green

Egg Size: Extra Large Market Weight: 6 - 8 lbs Temperament: Docile

Breed Association(s): American Poultry Association (www.amerpoultryassn.com)



JERSEY BUFF TURKEYS

Use: Meat

Egg Color: Pale cream to medium brown

with spotting **Egg Size:** Large

Market Weight: 14 - 23 lbs

Temperament: Highly dependent on selection by breeder, Some select for aggres-

sive, others docile

Breed Association(s): American Poultry Association (www.amerpoultryassn.com); Society for the Preservation of Poultry Antiquities; The Exhibition Turkey Fanciers



COTTON PATCH GEESE

Use: Meat, Weeding Egg Color: White Egg Size: Large

Market Weight: 9 -12 lbs Temperament: Docile, Active

Breed Association(s): American Poultry Association (www.amerpoultryassn.com)



SHETLAND GEESE

Use: Meat, Weeding Egg Color: White Egg Size: Large

Market Weight: 10 - 12 lbs Temperament: Docile, Active

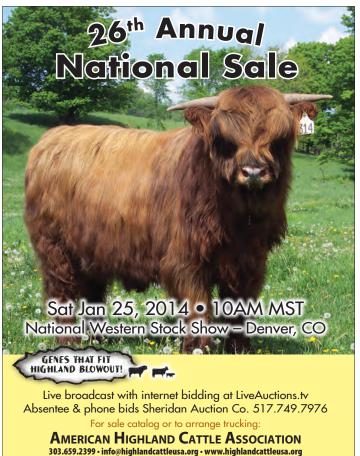
Breed Association(s): American Poultry Association (www.amerpoultryassn.com)

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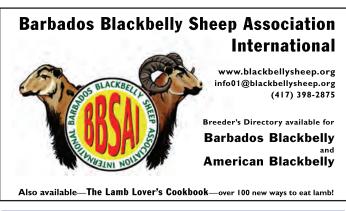
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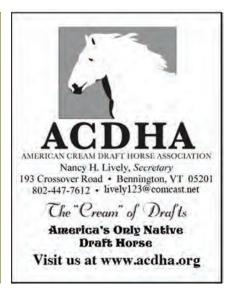
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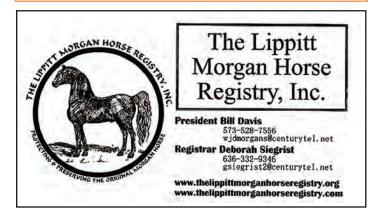
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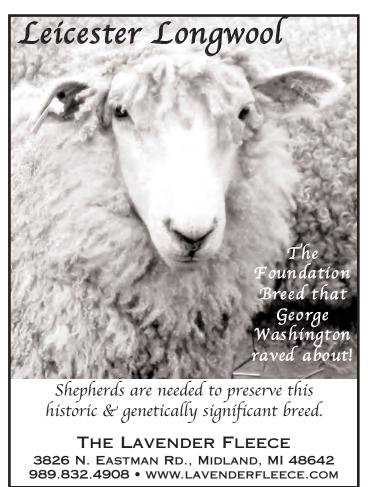


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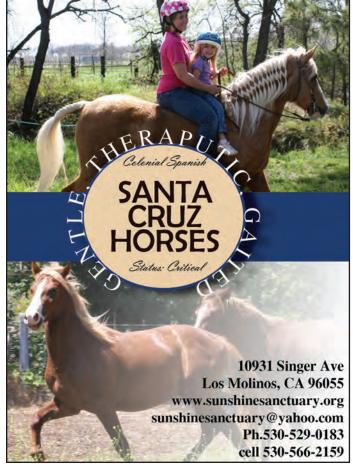
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DATED MATERIAL

CALENDAR

++++ denotes Livestock Conservancy event ++ denotes Conservancy participation See the Conservancy website for a more extensive list of events. The Livestock Conservancy encourages event organizers to submit events related to conservation, farming, sustainability, rare breeds, and more to the Conservancy's Calendar. Send your submission to rwalker@albc-usa.org or mail to PO Box 477, Pittsboro, NC 27312.

January, 2014

January 10-11 – The Minnesota Organic Conference will be held in St. Cloud, MN. Includes dozens of practical workshops, a large trade show, organic meals, and networking opportunities. For more information, call (651) 201-6012, email jessica.miles@state.mn.us or visit www.mda.state.mn.us/organic.

+++ January 15-18- The Practical Tools and Solutions for Sustaining Family Farms Conference will be held in Mobile, AL. Features pre-conference courses and field trips, eight tracks of practical conference sessions, networking, trade show, Taste of Alabama dinner and more. Schedule available at www.ssawg.org, or email media@ssawg.org to request a brochure.

January 17-February 8 – The 118th Annual Southwestern Exposition and Livestock Show will be held in Fort Worth, TX. The event features world-class livestock shows, kid-friendly exhibits, carnival/midway fun, live music, and nightly rodeos. Over 1 million visitors and 22,000 head of livestock participate each year. Visit www.fwssr.com for more information. January 21-25 – American Highland Cattle Association 26th Annual National Show & Sale will be held at the historic National Western Stock Show in Denver, CO. Absentee/phone bids are encouraged; contact Sheridan Auctions (517) 676-9800. Online bidding is available at LiveAuctions.tv. For trucking options contact AHCA prior to the week of the sale. For a sale catalog or more information, (303) 659-2399, info@highlandcattleusa.org or visit www.highlandcattleusa.org.

January 23-25 – The Northern Plains Sustainable Ag Winter Conference "Honoring our Roots – Celebrating 35 Years" will be held in Aberdeen, SD. Visit www.npsas.org or call (701) 883-4304 for more information.

February

February 5-8 – The Pennsylvania Association for Sustainable Agriculture (PASA) Annual Conference, Farming for the Future, will be held in State College, PA. For more information, call 814-349-9856 or visit www.pasafarming.org.

February 7-9 – Horse Expo Pomona will take place at the Fairplex in Pomona, CA. Come for demonstrations, shopping, lectures, competitions, breeds, saddles, horse sale, trailers, and trucks. For more information, visit www.horseexpoevents.com.

February 7-8 – The 31st Annual New Hampshire Farm & Forest Exposition will be held in Manchester, NH. Events include an industry trade show, educational workshops, demonstrations, food, and contests. Visit www.nhfarmandforestexpo.org for more information.

February 15-16 – The Ohio Ecological Food and Farm Association's annual conference, Affirming our Roots, Breaking New Ground, will take place in Granville, OH.

The event is Ohio's largest annual gathering of farmers, consumers, researchers, gardeners, and businesses committed to organic and sustainable agriculture. Visit www.oeffa.org or call (614) 421-2022 for more information.

Feb 27-Mar 1 – The Midwest Organic and Sustainable Education Service (MOSES) Organic Farming Conference will be held in La Crosse, WI. The largest organic and sustainable farming conference in the U.S. with more than 170 exhibitors and more than 3,000 attendees. Visit www.mosesorganic. org/conference.html for more information.

March

March 7-8 – The New England Meat Conference will be held in Concord, NH. The conference goal is to enhance the production, processing, and marketing of sustainable, nutritious, humanely-raised, and delicious meat from New England farms by providing educational and networking opportunities for meat producers, processors and consumers. Visit www.newenglandmeatconference.org for more information.

March 9-11 – The California Small Farm Conference will be held at the Doubletree Hotel in Rohnert Park, CA. The conference includes day-long short courses and farm tours, focused workshops, speakers, and networking opportunities. For more information call (916) 231-2141 or visit www.californiasmallfarmconference.com.

March 18-20 - The Midwest Poultry Federation Convention will be held at the Saint Paul RiverCentre in Saint Paul, MN, with the largest regional poultry show, exhibits, and networking opportunities. Visit www. midwestpoultry.com, call (763) 682-2171, or email info@midwestpoultry.com for more information.