

Summer Issue
Feature Photo!!



Meet Yose!

Heritage Yaks, LLC
Redwing, Minnesota

What's in this issue?

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- Yak Show: *Higher Ground Fair*
- Updates and Reminders

A note from the president...

What IS a Science-Based Registry and Why Do We Want One?

USYAKS is three years old! it's time for a bit of reflection. Almost four years ago, four IYAK Board members (including the IYAK President, Vice President, and Treasurer) found themselves at odds with the rest of the nine-member IYAK Board of Directors on several issues but especially: the importance of science in a registry, and the importance of transparency in governance. Ultimately the rift became irreconcilable and they (we) resigned.

Shortly afterward, the four formed a new Association with a Science-Based Registry and Transparency of Governance as sort of a Bill-of-Rights. We created USYAKS in an attempt to have a "better" yak association. We have grown to have more than 70 active member ranches, and we will register our 700th yak at about the time this newsletter is published. Our new association registered more calves born in 2019 than IYAK. USYAKS has become a permanent fixture in the yak world, perhaps the dominant one.

I said that we wanted to create a "better" yak association. The heart of any breed association is its registry. We felt we could make this better. I've already said that USYAKS has an entirely science-based registry. I'd like to explain why we have it, and what it is. To do that, I think we need a little history.

Yaks were the last bovine domesticated. That

domestication is believed to have begun during the Yin Dynasty about three thousand years ago. Domestication involved hybridization with the local Himalayan cattle varieties. In Tibet, domestic yak populations now have around 2% cattle genes. This 2% cattle gene introgression is roughly equivalent to having one non-yak ancestor five or six generations ago. Cattle genes exist, at about this level, in all of the world's domestic yaks. Wild yaks are a solid brownish color with a gray nose; all of the yak color variations are a consequence of hybridization. The black nose color in yaks is the result of hybridization. The white patterning of "trims" and "royals" is a consequence of Asian hybridization. Certainly, the calm personalities exhibited by domestic yaks is a consequence of hybridization. Domestic yak breeders owe a lot to the ancient hybridizers.

It is believed that all North American yaks are descended from fewer than 100 yaks that were brought into this country, primarily from zoological parks, beginning a little over one-hundred years ago. These yaks arrived in multiple small shipments. It is believed that some of these shipments originated from the same UK resident herd. It follows that the North American yak gene pool is quite small.

Fast forward about one hundred years. In 1992 about 15 ranches banded together to form an association. Owners were

expected to report calf parentage, and the association starting keeping track of pedigrees. Shortly afterward many of the original ranches dropped out of the association, leaving only a few of the founding members. The few remaining members owned yaks that were almost all traceable back to either Dreadlock or Queen Allante.

Hence, almost every yak pedigree dating to earlier than the year 2010 traces back to both Dreadlock and Queen Allante, generally on both sides of the family tree. Examining a lengthy yak pedigree seems to really amount to counting the number of generations back to the first instance of Dreadlock, the first instance of Queen Allante, and counting the number of instances. The North American yak gene pool is not only narrow because we only imported only a few yaks. It's also been further narrowed by focusing on the few yaks that have a pedigree reaching back more than ten years.

With North American cattle, dogs, sheep, and horses, it is reasonable to monitor in-breeding by tracking pedigrees. Yaks are different. The founders of USYAKS believed that these unusual circumstances made it very important to have a registry that was science-based.

Here are the main elements of our science-based registry:
(Cont. on last page)

Transferring Ownership of a Yak

“Have you sold some yaks? Don't forget to start the process for transferring ownership!”

Transferring ownership of a yak between USYAKS members is free of charge, but the transferring owner has to do the work.

In order to transfer ownership, the transferring owner and the new owner must be members of the Association. The current owner must know the official USYAKS Ranch Name of the new owner, and the name and USYAKSID of the yak being transferred.

This is how you do it:

1. Go to the USYAKS website, and get logged in to your account.

Currently there is a login window in the upper right of every page, but before the fall newsletter comes out logging in will be done under the Membership tab.

2. After you are logged in, hover over the login window until a pull-down menu appears, select <Dashboard>. All of the yaks that the Association thinks you own will appear in a list arranged alphabetically. 3. Find the yak that you wish to transfer in the given list. You have the option to select or <View> or select <Edit>, choose <Edit>. A new window opens.

4. Scroll down to the bottom of the page and select <Begin Yak Transfer>. A blue window will appear with your ranch name in it. 5. Hover over the window, it will turn purple. When you right click on the window a list of member ranches will appear. 6. Choose the ranch of the new owner, and select <Complete Transfer>. 7. You still have an opportunity to change your mind, double check the USYAKS ID for the yak you wish to transfer. If the USYAKS ID is correct, select <Yes>. The transfer is complete.

Fiber Study Update by Kat Tylee



Raw Yak Fiber



Yak/Silk Blend Roving

I have almost 100 fiber samples! Thank you everyone for submitting fiber! It's like getting a birthday present whenever fiber shows up in the mail.

Just a note about collecting fiber - keep in mind the following: the more work the fiber is to clean, the more costly it will be to process; if there is a lot of vegetation, matted fiber, and large amounts of guard hair, yield will be adversely affected. Also, don't forget that general good health of the animals improves fiber quality.

Hair is one of the biggest indicators of good health and well-being in any animal.

In terms of test results of all the fiber samples sent in, as I look at the numbers coming back from the lab, the averages in diameter vary wildly even within one animal. Across the board, the fiber is averaging about 26 microns, which is very comparable to sheep wool. There are a lot of variables at play here though, and I am simply getting a baseline at this point.

While the micron count may seem somewhat high, remember that this average includes any guard hair and mid-coat that comes with the sample. The average micron count will be reassessed once guard hairs are removed.

My family and I have been in the process of moving to Oregon, so if you would like to send samples, please contact me via email – littlehawkyarns@gmail.com or text/call – 308-225-0822.

“Just for Fun” Yak Show!!

“Show your yaks at the Higher Ground Fair!”

- **When:** Sept. 18-19, 2021 (set up available on Fri. Sept. 17)
- **Where:** Territorial Prison State Park, 975 Snowy Range Road, Laramie, WY
- **Why:** To raise awareness about yaks and to educate people about yaks and yak products

Contact Info:

Brenda Winter, 307-399-8715 or 307-703-1205, email: wintergoats@gmail.com

*Let's make this happen!
What a great
opportunity for us to
promote everything
yak!*

The **Higher Ground Fair** has graciously agreed to host an **USYAKS** show at their annual fair in September. Brenda Winter, **USYAKS** board member, has been working with them to make this happen.

In order for us to take advantage of this opportunity and bring this idea to fruition, we need a commitment from yak owners to attend and show their yaks and/or their yak products. Additional information will be forthcoming once the level of interest in participating has been determined.

Please contact Brenda to discuss pen and set up needs, if you would like to show your yaks or sell yak products.

Showing your yaks:

An area will be set aside just for **USYAKS** participants to set up both pens and booths. Panels will be available to those who apply online for a booth, although it might be prudent to bring some extra panels.

Participants will be expected to pay the entrance fee (\$7.50) to the State Park unless you are a veteran or have a state park pass. You may bring your own bedding for your animals or it can be purchased at the show. Water will be available.

Selling yak products:

Apply online for a booth and forward a copy of your completed contract to Brenda Winter. If you have a food vendor license you may prepare and sell yak meat from your booth.

Interested?

Here's the scoop:

- Apply as a vendor or participant on the *Higher Ground Fair* website.* <https://www.highergroundfair.org>
- If you apply by mid-July, you will get a 50% early bird discount per booth!

**A note about the Higher Ground website: if you click on any of the application for participation forms, you will probably need to open it in a new window or it won't open. Be patient because the forms load very slowly.*

Events:

Plans for events include: Pen Show, Halter Show, Masquerade Parade, Obstacle Course, and Yak Fiber Arts Show. Fiber Arts submitted for show must contain at least 50% yak fiber.

Updates and Reminders!

- Send your fiber samples to Kat! See fiber study update above.
- Show off your yaks! Send your photo submissions for inclusion in the newsletter to unadtaylor@gmail.com
- Do you have yaks or yak products to sell? Post them on the **USYAKS** website!
- Do your part! Join a committee! Contact information below.
 - Fiber: Una at: unadtaylor@gmail.com
 - Marketing: Greg at nct1108@yahoo.com
 - Meat: Tim at tim@hayspringisyaks.com
 - Science: Peter at hackett@hypoxia.net
 - Exhibitions and Shows: Brad at 970-302-0889 or 970-590-0955
- Elections will take place on July 6th, 2021; biographical sketches will be emailed shortly – please do your due diligence in making an informed decision.
- The association is still collecting information to track the birth of abnormal calves. Please continue to report any incidences of abnormalities to USYAKS via this link: [Tracking Abnormal Calves \(usyaks.org\)](https://www.usyaks.org)
- Revision of the USYAKS website continues – updates forthcoming...

Board of Directors

The Board of Directors meets the first Wednesday of each month at 7pm Mountain time.
All Association members are welcome to attend these video conference meetings.

The membership elects the Board of Directors, each of whom serve for a term of three years.
The Board of Directors selects its own officers annually.

You can view the list and bios of the Board of Directors here: <https://www.usyaks.org/board>

YAK GALLERY! We love yaks!

Caption suggestions, anyone? Let's have a contest! 😊

(Submit candidate photos and captions to unadtaylor@gmail.com)

1.



3.



2.



4.



A note from the president...cont.

1) Yaks are admitted to the registry if they pass the DNA test. The registry tracks cattle gene introgression.

We know that all yaks have a few cattle genes, recent hybridization is reflected by a greater proportion of cattle genes. USYAKS sought input from some of the world's leading yak geneticists to establish a purity standard that excludes recent hybrids and still accommodates the reality of three-thousand-year-old cattle gene introgression.

2) The registry uses DNA to calculate Coefficient of Inbreeding.

Traditionally Coefficient of Inbreeding (COI) has been calculated by examining pedigrees and tracking ancestors that make multiple appearances. For the reasons just discussed, pedigrees are not adequate for COI calculations for North American yaks. Our DNA test can help out. Inbreeding causes patterns to develop in DNA, those patterns can be monitored and used to estimate COI. As the Association learns to monitor a greater portion of the yak genome the strength of this technique will increase.

3) The Association is initiating a match-a-yak service so that members can forecast the Coefficient of inbreeding that will likely result from a particular breeding pair.

A computer program behind the membership wall on the USYAKS website will soon be available. USYAKS members will be able to forecast the COI of any calf produced by the pairing of any two yaks in the Registry. Some USYAKS members are already using hand calculations and this technique to make breeding decisions for their own herds, and offer suitably out-crossed starter herds to their buyers. These tools will soon be automated and available to all members. When you are in the market for a new bull, this resource will be valuable to you. We think that Match-A-Yak will be functioning on the website sometime next month.

4) The Association tracks pedigrees.

Pedigrees can be used to track specific traits. As our Association's fiber study develops, we hope to be able to use pedigrees to quantify Expected Progeny Difference (EPD) in yak fiber production. Pedigrees are invaluable in tracking genetic abnormalities; the Association has a program in place to use pedigrees in this way.

5) The Association is invested in a robust scientific study of yaks.

Members of USYAKS have maintained personal relationships with geneticists exploring yak related science questions at institutions such as University of Nebraska-Lincoln, University of Kentucky, USDA's Meat Animal Research Center (USMARC).

Several of these geneticists have affiliated themselves with USYAKS as professional members. The relationship is symbiotic: we offer some yak expertise, and an extensive yak database; the scientists offer cutting-edge solutions to our vexing problems. This partnership has paid off handsomely, and offers great promise. Here are some of the highlights:

- The original research publication that led to the DNA test used by USYAKS includes three USYAKS affiliated authors namely, Professional Members Dr. Ted Kalbfleisch, and Dr. Jessica Petersen, and USYAKS Science Committee Chair Dr. Peter Hackett. <https://f1000research.com/articles/9-1096>
- Research leading to the publication of new worldwide yak reference genome included four USYAKS affiliated authors: Kalbfleisch, Petersen, Hackett, Hardy. <https://academic.oup.com/gigascience/article/9/4/giaa029/5815405>
- A Research publication clarifying the genetics and genetic history behind North American yak coat color patterns and nose colors includes two USYAKS affiliated authors: Petersen and Kalbfleisch. <https://academic.oup.com/jhered/article/111/2/182/5622985>
- At the request of USYAKS, the USDA's Meat Animal Research Center has generated ten more whole genome yak sequences. These sequences together with a handful of others is being used to facilitate the development of an improved DNA test for registrations.
- USYAKS does its best to support the science community in all of its cutting-edge explorations. In the most recent notable instance, USYAKS professional member Dr. Ted Kalbfleisch is using samples from the USYAKS database to explore changing the laboratory techniques used to obtain DNA results from samples. This technique called "low-pass" or "skim" sequencing could possibly be a real game-changer – stay tuned to this station.

Final note:

Our innovative broad-spectrum DNA test, used for parentage, quantification of cattle introgression, and measurement of inbreeding, naturally stresses the capacity of our partner laboratory from time to time. We've had a few recent problems getting prompt and reliable DNA results, but we believe that these issues have been ironed out. As problems have arisen, we've always managed to reach solutions via our personal contacts within the genetics laboratory, sometimes relying on our scientific partners to be our ambassadors. Our dedication to the principles of a science-based registry, our allegiance with scientists who have a similar vision, and our partnership with laboratory scientists who make it all work, means that our science-based registry is here to stay.