

Attachment 1: Genetics Data Collection Instructions

Analysis of DNA to determine genetic diversity of wild horse and burro (WH&B) herds is now being done using hair samples rather than blood samples. Unless there is a previously recognized concern regarding low genetic diversity in a particular herd, it is not necessary to collect genetic information at every gather. Typical herds should be sampled every 10-15 years. A new baseline does not need to be established through hair analysis if blood analysis has already been completed. Please follow the instructions below for collecting the hair samples and call Alan Shepherd, WH&B Research Coordinator, if you have any questions.

While it is preferred to sample release horses you may also sample removed horses if necessary. In complexes or HMAs where separate breeding populations are thought to exist, each group of animals in a distinct population should be sampled separately. Do not mix samples from different horses or different breeding populations. Minimum sample size is 25 animals or 25% of the post-gather population, not to exceed 100 animals per population. Samples should be collected from males and females in the same approximate ratio as the population. Animals of any age class may be sampled. Burros should be sampled in the same manner as horses.

1) You will need one plain white paper envelope, a white #10 business envelop works best, for each horse. Do NOT routinely use plastic or zip-lock bags; do NOT use plastic coated envelopes or envelopes with windows in them.

2) Hair samples must be obtained by pulling the hair NOT cutting or shaving it off the horse. The DNA is in the root follicle not the hair itself. Mane hair will work, but on foals or young horses you may need to obtain tail hair. Please submit about 30 hairs per animal. A bundle of 30 hairs is about the diameter of a pencil.

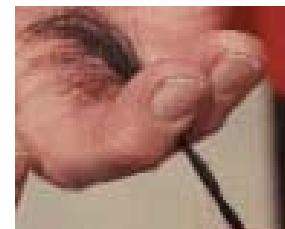


The easiest way to pull a good sample is to grasp a bundle of hair and wrap it around a clean mane comb or hoof pick. Holding the bundle close to the neck, pull *straight out* firmly. Foal hair is more brittle and tends to break off. If you are having trouble getting hair with the root attached try obtaining a tail hair sample instead.



3) Check that you have the hair roots or hair bulbs attached to the hair at the base. They feel like little bumps on the end of each hair.

Keep the hair in a loose bundle pointed in one direction or twist it together and place it in an envelope. You can cut off excess hair and leave only a few inches with the hair root attached to put in the envelop if that is easier.



(James Sturdivant – The Jockey Club, modified with permission)

4) Seal the envelope and *write the sample number on the envelope*. Write the sample number along with the horse's color, sex and age on the data collection sheet. If animals cannot be aged in years, at least record adult, yearling or foal. Keep stray hairs out of the comb and off your clothes so they don't contaminate the next sample.

Please NOTE: It is best to sample when the hair is dry. If you need to sample when it is raining or the horses are wet, then DO use zip-lock bags for each sample AND keep the samples cool not frozen (refrigerate then shipped with cold packs) until they arrive at the lab.

Please fill out the top of the form completely, including the HMA number and date the sample was collected. Within 3 days of the end of the gather *send a copy of the data collection form to Attn: Alan Shepherd c/o Wyoming State Office and FEDEX the samples, to arrive on a weekday not the weekend with the Data Collection Sheet to Dr. Gus Cothran, address below.*

Dr. E. Gus Cothran
VIBS, CVM
TAMU4458
Texas A&M University
College Station, TX 77843
Phone (979) 845-0229

For questions or comments, contact:
Alan Shepherd, WY BLM 307-775-6097
or
the National Program Office at 775-861-6583

**HAIR SAMPLE GENETICS DATA COLLECTION SHEET
WILD HORSE AND BURRO HERD GENETICS EVALUATION**

PAGE ____ OF ____

HMA: _____ HMA #: _____ DATE: _____

TRAP/SUBGROUP: _____ F/O: _____ STATE: _____

BLM CONTACT PERSON: _____ PHONE: _____

ADDRESS : _____

EMAIL: _____ SAMPLED HORSES WERE (circle) RELEASED or REMOVED

	SAMPLE #	COLOR	SEX	AGE	COMMENTS
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