

Jackson County 4-H

Large Animal DNA Collection

Sheep

1. Clean (use comb if possible) by removing all loose hair and foreign matter.
2. Use fingers or pliers to grasp approximately 8-10 hairs close to the skin and pull. **Pull** (do NOT cut) hair strands. Examine the end of hair strands for the presence of root bulbs. **Hair roots are necessary for DNA testing.** If the majority of hair strands lack root bulbs, discard hair and start again. Wool is not acceptable.
3. Repeat until you have approximately 20-30 hairs with root follicles attached.
4. Place the 20-30 hairs with root follicles attached in a zip lock bag and seal with the animal's ID and exhibitor's name written on the bag.
5. Repeat steps 1-4 for each additional animal being sampled.



Sampling coarse hair from hoof area

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Beef

1. Clean (use comb if possible) **tail switch**, **poll**, or **neck** by removing all loose hair and foreign matter.
2. Use fingers or pliers to grasp approximately 8-10 hairs close to the skin and pull. **Pull** (do NOT cut) hair strands. Examine the end of hair strands for the presence of root bulbs. **Hair roots are necessary for DNA testing.** If the majority of hair strands lack root bulbs, discard hair and start again.
3. Repeat until you have approximately 20-30 hairs with root follicles attached.
4. Place the 20-30 hairs with root follicles attached in a zip lock bag and seal with the animal's ID and exhibitor's name written on the bag.
5. Repeat steps 1-4 for each additional animal being sampled.



Sampling from the tail switch (left); Sampling from the poll (right)

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Swine

1. Clean (use comb if possible) by removing all loose hair and foreign matter.
2. Use fingers or pliers to grasp approximately 8-10 hairs close to the skin and pull. **Pull** (do NOT cut) hair strands. Examine the end of hair strands for the presence of root bulbs. **Hair roots are necessary for DNA testing.** If the majority of hair strands lack the root bulbs, discard hair and start again.
3. Repeat until you have approximately 20-30 hairs with root follicles attached.
4. Place the 20-30 hairs with root follicles attached in the envelope and seal with the animal's ID written on the envelope.
5. Repeat steps 1-4 for each additional animal being sampled.



Sampling coarse body hair on a pig using fingers (left) or pliers (right)

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DNA Collection for Exhibitors

- Exhibitors are required to submit DNA based on given guidelines for all large animal market projects at pre-fair check-in.
- Superintendents are required to make sure that all DNA is properly sealed and secured in a box kept at MSU Extension Office after pre fair check in.

Processing DNA

- DNA that needs to be processed will be collected by superintendents for that species and delivered to MSU Jackson County 4-H Program Coordinator.
- All DNA samples that need to be processed will be sent to UC Davis Veterinary Genetics Laboratory.
- The exhibitor will be responsible for all costs to process DNA, this includes shipping.
- All shipping and handling of DNA that needs to be sent to the UC Davis Veterinary Laboratory will be handled by the MSU Jackson County 4-H Program Coordinator.
- Results from UC Davis Veterinary Laboratory will be sent to MSU Jackson County 4-H Program Coordinator. Exhibitor and Superintendent(s) will be notified of results.
- The Large Animal Executive board will determine the consequence in which results come back not as a match.

Why Process DNA?

DNA is a very helpful tool, and it can be an advantage to an exhibitor in many ways. One example can be when a tag is lost and there is no other way to identify the animal. It is very crucial that you have communication with your species superintendent about any tags that have been lost. Please make sure to replace the tag with the same premise number.