

NUNOA PROJECT 2017

Education and support for farmers, students, and veterinarians in the US and Peru



Background

Nunoa Project is a US nonprofit organization which has been active in Peru and the US for 11 years. It was started by veterinarians, anthropologists, and others interested in South American camelids (alpacas and llamas) and the people whose livelihood depends on them. The basis for the work in both countries is providing hands on educational programs for farmers, students, and veterinarians. The programs in both countries support each other and are integral to the success of both. Knowledge derived from both is shared with the other. The emphasis is on problem solving to identify practical solutions to problems of animal health and human needs.

NUNOA PROJECT'S PERUVIAN WORK

The Nunoa Project model is to work hands on with alpaca and llama farmers to evaluate their animals, respond to their concerns, educate farmers in methods to improve production, and spread knowledge via local farmers.

Our 2017 llama work included visits to work with 20 llama farmers in Huacahuasi, CanchaCancha, and Cuncani about 3 hours' drive into the mountains from Urubamba in the Department of Cusco. We are working with **Llama Pack Project (www.llamapackproject.com)** from Urubamba to make initial veterinary contacts with llama farmers along the Inca Trail. The overall goal of the llama project is to assist the farm families there to increase their family income by using their llamas for packing.

The **herd evaluations** we perform included assessing animal stature and body condition score (BCS) for suitability for packing and overall nutritional status. Approximately 25% of animals are males with good enough body condition and size to be used as pack animals now. Most herds do not have enough food and/or water exposure for the animals they have based on low BCS. This is particularly evident during the dry season in June and July each year. The farmers receive training on this so they can perform their own BCS evaluations and react accordingly.

In addition we perform **ultrasound pregnancy exams** on female llamas and alpacas in the herds to assess fertility of both breeding males and females and the efficacy of the breeding management plans of individual farmers. Overall the fertility of the llama herds we see is good (70 to 80% pregnancy rate). Some herds have low pregnancy rates which usually is related to the males they are using, or breeding management strategies which can be improved. We also **evaluate breeding males** for farmers. The incidence of **infectious diseases** in llamas was low based on comments of the farmers. Problems of significance in some herds included diarrhea in crias, liver flukes, and lice.

Our 2017 alpaca work involved a return to Pucara and Lampa in the Department of Puno in the southern Andes for the sixth and seventh times since starting our work there in December 2014. There are five communities with which we work on each trip, and we see new and repeat farmers each trip. Overall we have worked with 60 different farmers including new ones in Picotani in July 2017. We perform the same type of herd evaluations as we do for llamas. Some of the farmers with whom we work have been **borrowing Nunoa Project's superior males** to improve their herds. Use of superior males

and limiting the number of females they are exposed to have resulted in increased pregnancy rates in most herds. We provide training in breeding male selection and evaluation of nutritional status through body condition scoring during each herd evaluation. We work with the farmers to **address any production problems** they may have. These include malnutrition, infectious diseases, poor fertility in males and females, abortion, and cria and adult deaths. Our goal is to identify potential causative factors and offer possible solutions. As always we share information with the farmers and without fail learn new things from them on each trip.



Llamas in a corral in the Sacred Valley near Cusco Peru.



The November 2017 Nunoa Project veterinary team with alpaca farmers near Pucara Peru.

Slow but steady progress continues with the farmers with whom we work. Farmers are very enthusiastic about continuing to work with us to improve their herds. **Our veterinary team will visit new alpaca and llama farmers in June 2018 in response to requests for herd evaluations and farmer educational programs.**

NUNOA PROJECT'S US WORK- THE NORTH AMERICAN CAMELID STUDIES PROGRAM

Our US and Peruvian work both emphasize **education as the key to improvement of animal health and veterinary skills**. The goals of the program are to train future and current veterinarians and animal scientists and alpaca farmers in practical subjects related to animal health, husbandry, and reproduction. This is accomplished with our teaching herd of 30 alpacas and 10 donkeys and visits to local producers. Pre-veterinary students are exposed to the alpaca industry at local shows. Dr. Purdy provides consultation services to veterinarians and alpaca owners. He also speaks at regional and international conferences on a wide variety of subjects and frequently provides training to veterinary students at their home universities. Over 50% of our 100 Peruvian veterinary team volunteers have completed one or more courses. Clearly we are making a positive impact on these excellent young people.

Undergraduate Animal Science/Prevet Courses: Camelid Management; Alpaca and Donkey Reproduction.

Both courses are offered each semester and emphasize hands on interactive learning in small groups. Students gain confidence while being challenged to think on their feet leading to development of problem solving skills.

More than 60 students who have taken these courses have been admitted to and/or graduated from veterinary or another graduate school. These are the camelid vets and researchers for our alpacas

and llamas in the US and internationally. 8 former students applied for admission to veterinary schools for 2018. All have been accepted.

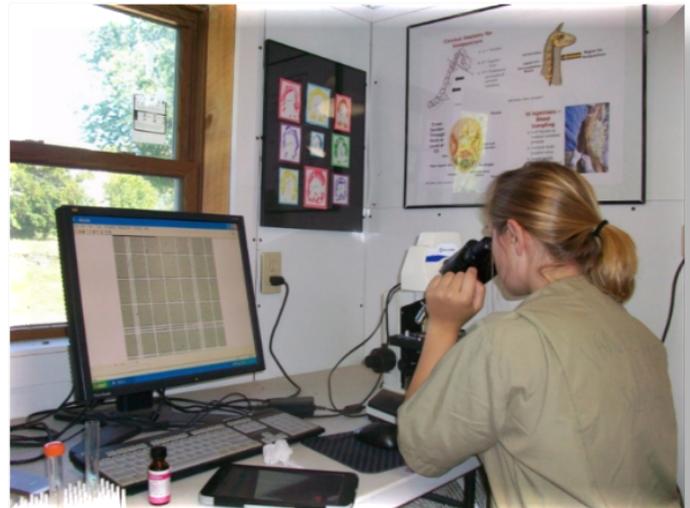
Practical, Humane Research with Alpacas and Donkeys: breeding behavior, semen collection and evaluation, and reproductive ultrasound during breeding and pregnancy. This work emphasizes problem solving skills and students gain confidence while learning new techniques. Examples of ongoing research projects: twin pregnancies, the effect of age of females and males on fertility, semen characteristics during breeding periods and as animals increase in age, and early pregnancy diagnosis.

Education for Veterinarians, Owners, and Students:

1. **6 day Intensive Camelid Practice Courses** are offered in June each year covering practical topics.
2. **Producer seminars** at alpaca shows and farms.



North American Camelid Studies Program students
Preveterinary student and Peruvian veterinary team
member Vanessa Sylvia analyses a semen sample in the
reproduction lab.



discuss reproduction while breeding alpacas.

SUMMARY

We continue to make a difference with our educational and hands on programs in both the US and Peru. We have the expertise and motivation to continue this important work. Fundraising for educational projects in the US and international agricultural work is very challenging at best. . Our budget is available on request and I am happy to discuss any aspect of our work or ideas you may have at any time.
Thank you for your consideration!

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