

**Nunoa Project ([www.nunoaproject.org](http://www.nunoaproject.org)) Collaboration with Chijnaya Foundation**

**([www.chijnayafoundation.org](http://www.chijnayafoundation.org)) and CONOPA ([www.conopa.org](http://www.conopa.org)) in the Department of Puno, Peru**

A Nunoa Project veterinary team worked with Chijnaya Foundation staff in Pucara and Lampa Districts in early July 2015. The team consisted of: Nunoa Project President Steve Purdy, Peruvian Veterinarian Gerardo Diaz, Australian veterinarian Jacqui Poldy, veterinary students Rebecca Remeika (Cornell) and Emma Schaffel (Tennessee), and prevet students Emily Foley and Darya Tourzani (UMass Amherst). This work was the initial stage of a program to help the four communities to improve all aspects of their alpaca production. The team spent 1-2 days of examinations and interviews in each of the communities. The four communities presented a portion of their animals for examination for pregnancy, determination of body condition score, and evaluation of breeding animal conformation and fiber. Active and future breeding males were evaluated for conformation, presence of disease, fiber, and testicular size and palpation. Wide variation was noted in the animals seen and the breeding management in these communities. A discussion of the problems encountered in the 2015 birthing season (January through April) was also completed. The table below represents the results of the pregnancy examinations in the communities conducted over 7 days. Farmers brought their herds to a central location in some cases. In others the team drove and hiked to the farms with their equipment for the examinations.

Community/Farmer	No. of farmers	No. of alpacas (total/breeding females)	No. of females examined	Pregnancy Rate (%)	No. of breeding males used
<b>Pucarayllu</b>	20	1000/505	203/505 (40.2%)	Average <b>75</b>	
Farmer 1			50	84	2
Farmer 2			11	<b>73</b>	2
Farmer 3			65	<b>74</b>	1
Farmer 4			9	89	1
Farmer 5			13	<b>77</b>	1
Farmer 6			16	<b>56</b>	1
Farmer 7			17	<b>71</b>	1
Farmer 8			22	<b>77</b>	1
<b>La Union</b>	14	2000/850	268/850 (31.5%)	Average 81	

Farmer 1			49	98	3
Farmer 2			41	88	3
Farmer 3			23	96	3
Farmer 4			31	81	2
Farmer 5			45	89	5
Farmer 6			10	70	1
Farmer 7			35	83	2
Farmer 8			15	40	1
Farmer 9			19	85	1
<b>Coarita</b>	24	2000/1295	252/1295 (19.4%)	Average 87	
Community Herd			190	84	8
Farmer 1			62	90	2
<b>Alto Pucarayllu</b>	14	Not known/300	184/300 (61.3%)	Average 67	
Farmers 1 and 2		80 females	26	73	1
Farmer 3			58	72	1
Farmer 4		120 females	100	57	1

Note: Pregnancy rates in red type are below the average of 80% usually attainable in similar conditions based on previous Nunoa Project work in Puno.

### General Comments and Future Work

The weather has particularly cold this dry season in Puno. The week before our visit Coarita was covered with snow. This is particularly hard on the animals, especially the crias born earlier in the year. Most farmers reported deaths of crias due to the cold weather and suspected pneumonia. We had the opportunity to perform a necropsy exam on a llama cria suspected of dying from pneumonia. What we found was a case of chronic malnutrition with a body condition score of 1 of 5 and no evidence of lung disease. The dam was not available for examination but this was most likely a cold weather/malnutrition related death over a prolonged period of time. Farmers did not report problems with suspected enterotoxemia this year. We started a vaccine program in the communities in January but found that they did not complete the program after our vet team left and that one community's members did not use any vaccine because they were fearful

that it would cause abortions or death of the females. Body condition scores of animals averaged 2 of 5 (thin) most likely because of the lack of rain this dry season and the extremely cold temperatures. One farmer's 15 animals were particularly thin with many BCS 1 animals and small crias with adequate BCS (2-3). He reported that the animals were normal weight at birth but did not grow well. This most likely resulted from poor lactation in the dams due to the cold and poor grass. Genetic influences cannot be ruled out as this was our first evaluation of his herd. He reported not having enough pasture for his animals because of sharing it with cattle and sheep. His alpaca breeding program is in dire straits at this point. His cows are his main source of income for cheese production and he uses his best pasture for them. Another farmer in a very remote location at high altitude explained the poor condition of his animals by a lack of adequate water where he had pastured them recently before moving them to their current location.

The males we examined in the communities were extremely variable in quality. Coarita had the best males with good size and dense fiber. They also use controlled breeding and have ear identification tags and records for their animals. A few males we examined in other communities were small in stature with poor wool density. These included some which were purchased specifically from another area to be used for upgrading the herds. In one small herd the two breeding males both had problems. The Suri male was very small with generalized skin disease and the Huacaya male had small and very soft testes. Some communities use both Suri and Huacaya males to breed their mostly Huacaya females. Most do not have ear tags or records and some do not know how many animals they have or how many crias were born in 2015. They also do not know how many crias were lost due to abortions or stillbirths or after birthing. They guess at cause of death as there is currently no veterinary support to confirm it.

Daily life for these farmers is very difficult. It is cold year round, especially during dry season when pasture is poor. The farmers and their families live in unheated houses with low nutritional quality food for themselves. Their clothing and health care is often inadequate but all of these hardships are taken in stride. Farmers seem happy and friendly when we interact with them. This is the life they know, quite different from that which we lead. Gaining trust and understanding takes time and consistency, and patience in approach. Many positive changes can be made if the farmers want them. It is clear that dedicated people need to be in place to conduct educational and continual support programs if improvements are to be made. Slow but steady progress is the key. We have applied for grants to place two CONOPA veterinarians in Pucara to work directly with farmers for 18 months as a start. Part of this project includes training local community technicians to take over the work.

The grants have not been awarded and we are in need to financial support. One of the important benefits of this work is exposing young people to the difficulties and benefits of working in international agriculture. Everyone who works there is changed by the experience. Two students showed young women on the farms how to interpret ultrasounds during the pregnancy exams. This was one of the highlights of the trip. They could also be future veterinarians in Peru. I believe we owe it to the Peruvian farmers to support them for their gift of alpacas to us. I ask the international alpaca owner community to help financially support this important program. Please contact me at any time.

Thank you,

Steve Purdy

President, Nunoa Project Peru

[srpurdy@nunoaproject.org](mailto:srpurdy@nunoaproject.org)

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