

Table S4. Questionnaire to collect information about the flocks, animals, and risks factors related to ewes' abortion.

This form lists a few questions about infectious diseases and some risk factors which be associated with abortion. We place a mark only one in the appropriate box.

1. SHEEP FLOCK DATA:

Owner's name: _____

Municipality: ☐ Calpulhuac ☐ Ocoyoacac ☐ Texcalyacac ☐ Chapultepec ☐ Santiago-Tianguistenco ☐ Xalatlaco.

Sheep breed: ☐ Peligüey ☐ Hampshire ☐ Suffolk ☐ Suffolk-Peligüey crossbreed ☐ Hampshire-Pelibuey crossbreed.

What do you raise sheep for? ☐ Market ☐ Breeding program

Did you make additions to the sheep flock in the last 6 months? ☐ No ☐ Yes.

Where was this sheep purchased? ☐ Rural market ☐ Imported animals ☐ Born in flock.

Place of lambing: ☐ Pasture lambing ☐ Shed lambing.

Grazing time: ☐ Permanent ☐ Occasional.

What type of pasture does sheep eat when they are mobilized from one place to another?

☐ Alpine herbage ☐ Stalks of maize ☐ Stalks of oats.

How many animals do you move? _____

The water supply for the animals is: ☐ Drinking water ☐ Lake ☐ Irrigation canals.

2. SHEEP YARD DESIGN AND CONSTRUCTION:

Geographic location of the animal groups: Coordinates of longitude _____, and altitude _____ of the position. Time _____ Satellites _____

Holding area (m²): _____ Number of animals in paddock: _____

Number of animals housed at night: _____

What are the materials you use to build your sheep pen? ☐ Bricks ☐ Metal sheets and untreated wood.

Sheep pen flooring: ☐ Dirt pen flooring only ☐ Dirt and concrete pen flooring

Drainage in sheep pen: ☐ No ☐ Yes.

3. HEALTH AND MANAGEMENT:

Ewe gave birth on a bed of straw? ☐ No ☐ Yes

Where was born the lamb of this ewe? ☐ Birthing pen ☐ Meadow.

Cleaning of bedding: ☐ No ☐ Yes.

What is the cleaning frequency of sheep housing? ☐ Never ☐ Twice a week.

What handling of excreta do you carry out in the housing pen? ☐ The excreta stay spread out on the meadow ☐ Agglomeration of excreta near the housing pen.

Removal of aborted fetuses and fetal membranes from meadows: ☐ No ☐ Yes.

Do you use wear gloves or masks to prevent the transmission of microorganisms?

☐ No ☐ Yes.

When a storm comes, what do you do to avoid animals from panicking? ☐ Congregate in a place, only. ☐ Congregate to avoid panic and give forage with vitamin and mineral supplements.

Do you set traps to capture rodents or other wildlife? ☐ No ☐ Yes.

4. CLINICAL FEATURES

This checklist is designed for use in each one selected animal. Please, mark with "0= No" or "1=Yes" in the appropriate box.

No.	Abortion/Stillbirth, jaundiced/Haemorrhagic fetus	Haemoglobinuria	Jaundice	Haemorrhages	Anaemia	Conjunctivitis	Mastitis (Black udder)	Panic	Depression or sleepy sickness

5.OTHERS DISEASES AND CONDITIONS

Please tell us, how serious you consider each of problems that there are in your animals.

Diseases/syndromes	Serious problem	Moderate problem	Present but no problem	Non-existent
Infertility				
Bearing troubles (Prolapse of vagina)				
Lambing difficulties				
Mastitis (Black udder)				
Diarrhea in lambs				
Arthritis in lambs				
Lamb deaths during first two weeks of life				
Facial eczema				
Pneumonia				
Salmonellosis (Diarrhea)				
Pinkeye				
Pregnancy toxemia				