



STATE OF WASHINGTON

## DEPARTMENT OF AGRICULTURE

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# Small Ruminant Diseases of Concern at Fairs and Exhibitions

## From the State Veterinarian

### Fair Managers and Sheep, Goat, and Camelid Department Superintendents

Please read this important information about several diseases of concern and share with small ruminant and camelid exhibitors in advance of upcoming fairs and exhibitions. These diseases are highly contagious and can spread readily where animals congregate. Please closely check the health of animals at entry and during exhibition; encourage exhibitors to continue to monitor their animals for signs of illness after the event and contact you and their veterinarian if their animals become ill after returning home. Maintain records after your events so exhibitors can be contacted easily in the event of a disease outbreak. Thank you for doing your part to safeguard the health of sheep, goats, and camelids in Washington State!

### Introduction

Several contagious diseases can spread wherever small ruminants (sheep, goats, llamas, alpacas, and other camelids) gather. These include the four diseases included in Table 1 as well as ringworm, Johne's disease, mycoplasma, Q fever, keds, lice, scrapie, and more. Animals staying home alone or with established populations of other small ruminants are at little risk of these diseases. Those transported to shows, breeding farms, or other settings where animals from various areas have contact with each other are at increased risk for these and other diseases. A certificate of veterinary inspection (CVI) is required for sheep and goats traveling interstate for shows and exhibitions; a CVI indicates the animal has been examined and appears healthy, which helps reduce spread of highly contagious diseases. Table 1 lists the causes, means of transmission, signs of illness, prevention methods, zoonotic potential, and relevance to fairs for four of the diseases of most concern.

### Animal identification requirements

To assist with tracking the location of exposed animals in the event of a disease outbreak, sheep, goats and camelids moved interstate must be officially identified and accompanied by a CVI. For sheep and goats, official identification must comply with state and federal scrapie eradication requirements, which can be found at <https://tinyurl.com/y3wuhr9b>, <https://apps.leg.wa.gov/WAC/default.aspx?cite=16-89-022>, and <http://www.eradicatescrapie.org/State%20ID%20Requirements.html#Washington>. In summary, animals that must have official scrapie program identification include all sheep entering commerce; intact breeding animals leaving their home farm for sale or exhibition; and all elevated-risk goats (those commingled with or exposed to sheep, registered, shown, and/or used for milk production).

### **Biosecurity measures for fair managers**

1. Do not let animals with questionable health enter a fair or exhibition.
2. Whenever possible, use metal vs. wood for animal stalls to enable better disinfection.
3. Discourage exhibitors from going in and out of others' pens, sharing clippers or other equipment, or contacting others' animals.
4. Encourage appropriate pre-event vaccinations for diseases of concern.
5. Provide and encourage use of handwashing stations and hand sanitizers by exhibitors and the public.
6. Monitor animal health throughout the event.
7. Contact a veterinarian if animal health concerns arise.
8. Establish an isolation area for animal disease suspect cases.
9. Thoroughly clean and disinfect all surfaces before and after an event.
10. Do not house young weaned animals with adult animals.
11. Show exhibitors how to fill water buckets using communal hoses without contaminating each bucket.
12. Provide solid-sided pen partitions unless ventilation will be compromised.
13. Discourage nose-to-nose contact between animals from different farms.
14. Keep at least 10' between market and breeding animals.
15. Have exhibitors provide their own feed and water buckets for each pen.
16. Ensure effective amount and direction of ventilation.
17. Discourage the public from touching exhibited animals.
18. Do not allow eating, drinking, smoking, strollers, or pacifiers in barns.
19. Control wild birds, flies, and rodents as much as possible.
20. Maintain exhibitor records to be able to communicate post-event outbreaks to exhibitors.
21. If communal milking equipment is provided for dairy animals, ensure effective sanitization between animals.
22. Clean and disinfect communal wash racks and milking stands between animals.

### **Effective cleaning and disinfection steps**

Thorough cleaning and disinfection are important steps to reduce the risk of infectious diseases. A veterinarian can help select the most appropriate disinfectant. Follow these steps for effective disinfection:

1. Remove all visible debris (manure, bedding, dirt, feed, etc.).
2. Thoroughly clean all surfaces with soap and water.
3. Rinse well and let dry.
4. Apply an appropriate disinfectant at proper concentration for recommended contact time.
5. Rinse and let dry before using equipment or restocking premises with animals.

### **What to do if a small ruminant disease outbreak occurs at a show?**

- Contact your local veterinarian, or the state veterinarian at 360-902-1878. To protect animal health and control the outbreak, a decision may be made to isolate animals at the fairgrounds.
- After emptying infected barns, remove manure and bedding from stalls and compost on site if possible. Clean and disinfect all surfaces thoroughly.
- Notify all exhibitors who visited the premise in the 14 days before an outbreak that an outbreak has occurred and they should contact their veterinarian for guidance.

## Conclusion

The diseases mentioned in this publication are highly contagious and can cause severe illness and even death; some are even contagious to humans. Prevention steps include enacting effective biosecurity steps daily, monitoring animals closely for signs of illness, possible preventative vaccinations, and close contact with knowledgeable veterinarians. Show animals are at even greater risk of infection due to increased stress and pathogen exposure, so fair managers and superintendents must keep these and other contagious diseases in mind when managing exhibitions.

If you have questions about small ruminant and camelid health in Washington State, contact the state veterinarian at 360-902-1878 or [ahealth@agr.wa.gov](mailto:ahealth@agr.wa.gov) or your local veterinarian.

## Additional resources

<https://www.aphis.usda.gov/aphis/ourfocus/animalhealth/animal-disease-information/sheep-and-goat-health>

[https://www.aphis.usda.gov/aphis/ourfocus/animalhealth/sa\\_animal\\_disease\\_information/sheep-goat/biosecurity](https://www.aphis.usda.gov/aphis/ourfocus/animalhealth/sa_animal_disease_information/sheep-goat/biosecurity)

[www.sheepusa.org/ResearchEducation\\_AnimalHealth\\_Biosecurity](http://www.sheepusa.org/ResearchEducation_AnimalHealth_Biosecurity)

<https://agr.wa.gov/departments/animals-livestock-and-pets/animal-health>

[www.cfsph.iastate.edu/Disinfection/index.php](http://www.cfsph.iastate.edu/Disinfection/index.php)

[www.cfsph.iastate.edu/Species/small-ruminants.php](http://www.cfsph.iastate.edu/Species/small-ruminants.php)

**Revised Code of Washington (RCW) 16.36.082:  
Infected or exposed animals—Unlawful to  
transfer or expose other animals.**

It is unlawful for any person with an animal having any contagious, communicable, or infectious disease to knowingly stable the animal or allow the animal to be stabled in any barn with other animals without notifying the other owners.

**CRITICAL ADVICE FOR EXHIBITORS**

- Only take healthy animals to shows or fairs.
- Quarantine new or returning animals from home herd/flock for 30 days; take temperature twice daily and monitor for signs of illness.
- Perform home herd chores first. Use separate equipment, footwear, and clothing for quarantined animals. Wash hands after handling each animal.
- Isolate sick animals and contact a veterinarian about them.
- Clean and disinfect equipment.
- Vaccinate for relevant diseases.
- Minimize stress for animals at home or away.
- Provide excellent nutrition at all times.
- Emphasize sanitation and keep premises clean.

**Table 1.** Comparison of the disease characteristics of Caprine Arthritis Encephalitis (CAE) and Ovine Progressive Pneumonia (OPP), Caseous Lymphadenitis (CL), Sore mouth, and Foot Rot.

	<b>CAE and OPP</b>	<b>CL</b>	<b>Sore mouth</b>	<b>Foot Rot</b>
<b>Cause</b>	Lentivirus (similar but different between sheep and goats)	A bacterium, <i>Corynebacterium pseudotuberculosis</i>	Orf virus	Combined action of two bacteria: <i>Fusobacterium necrophorum</i> which is always in the environment and <i>Dichelobacter nodosus</i> which is only spread via infected carriers
<b>Transmission</b>	Through infected white blood cells, especially colostrum and milk; transmission to herdmates as well	Inoculation of skin or oral tissues with bacteria on contaminated hay, splinters, needles, tattoo gun, clippers, etc.	Direct contact with infected animals or contaminated surfaces, hands, or tools	Brought into a herd or flock by infected carriers or by contaminated tires, footwear, or equipment.
<b>Signs</b>	OPP (sheep): elevated respiratory rate and effort; weight loss; mastitis and nervous signs possible. CAE (goats): painful arthritis; hard udder	Abscessed lymph nodes typically in throat area; may be actively draining, or have scars from previous rupture and healing; internal abscesses possible with healthy-looking carriers or severely ill animals	Painful ulcers and sores on mouth, nose, and teats; difficulty eating; secondary mastitis; weight loss; rare death from starvation	Foul-smelling feet; lameness; inflammation between toes; +/- swelling above hoof
<b>Prevention</b>	Blood tests; cull positive animals. Disinfect equipment between uses. No vaccine exists. Genetic selection for resistant animals possible in future.	Keep a closed herd or quarantine additions. Do not purchase animals from infected herds; immediately cull any that develop abscesses; clean and disinfect surfaces and equipment; vaccine available. Do not lance and drain abscesses or treat infected animals.	Live vaccine available for use on infected premises; should be used with veterinary guidance.	Assume purchased animals carry <i>D. nodosus</i> ; quarantine and treat with zinc sulfate foot bath once weekly for a month. Cull persistently infected animals. Control mud. Trim hooves and provide good nutrition. Vaccine of questionable value available.

<b>Relevance to fairs</b>	Infected animals will have heightened stress from fair; goats with obvious arthritis should not be exhibited; sheep will have reduced heat tolerance from compromised respiratory system.	Bacterium can persist for prolonged periods in soil and on infected surfaces; lumps and abscesses are unsightly to public. Bacterium can spread through infected clippers. Zoonotic potential.	Affected animals and fallen scabs are highly contagious for prolonged periods; disease often contracted at fair grounds; sores and animal discomfort undesirable especially in public setting. Zoonotic potential.	A potential risk if affected animals overlap environments with unaffected animals at fairs. Prevent muddy areas. Have wash areas on concrete or gravel.
<b>Human health concern?</b>	No	Yes	Yes	No
<b>Notes</b>	Most U.S. goats are exposed to this virus; some become carriers. Nose-to-nose spread possible at fairs; solid pen partitions reduce risk.	Many wooden animal pens are contaminated with this bacterium as well as ringworm fungus, soremouth virus, wart virus, and others. Metal surfaces can be disinfected; wood cannot.	This is a high risk disease for show animals and their owners must acknowledge that risk. Exhibitors can reduce risk somewhat by opening their animals' mouths for judges, or judges use new disposable gloves for each animal.	More severe in sheep than goats. <i>D. nodosus</i> survives off host hooves for less than 3 weeks.