Contagious footrot is a bacterial infection common in sheep and goats that is caused by bacteria that live in the soil. The most commonly associated bacteria with ovine/caprine footrot are *Fusobacterium necrophorum* and *Dichelobacter nodosus*.

With the support of the Alberta Lamb Producers, we conducted a national survey to assess the importance of footrot disease in the sheep and goat livestock industries. We also assessed producer, producer organizations, and veterinarian willingness to support research for a Canadian-based footrot bacterin vaccine that would incorporate recent Canadian *F. necrophorum* and *D. nodosus* isolates.

**PRODUCER SURVEY: 63 RESPONDENTS**

**What province in Canada do your sheep reside?**

<table>
<thead>
<tr>
<th>Province</th>
<th>% Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>British Columbia</td>
<td>45%</td>
</tr>
<tr>
<td>Alberta</td>
<td>20%</td>
</tr>
<tr>
<td>Saskatchewan</td>
<td>20%</td>
</tr>
<tr>
<td>Manitoba</td>
<td>5%</td>
</tr>
<tr>
<td>Ontario</td>
<td>5%</td>
</tr>
</tbody>
</table>

**Which type(s) of sheep do you raise?**

<table>
<thead>
<tr>
<th>Type</th>
<th>% Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>meat</td>
<td>90%</td>
</tr>
<tr>
<td>dairy (for milk production)</td>
<td>10%</td>
</tr>
<tr>
<td>dairy and meat</td>
<td>0%</td>
</tr>
</tbody>
</table>
TOP 3 DISEASES OF CONCERN TO SHEEP PRODUCERS:

Other = mastitis, injuries, metabolic diseases, mineral deficiencies, caseous lymphadenitis, Orf
TOP 3 DISEASES WHERE ANTIMICROBIALS MOST COMMONLY USED IN SHEEP FLOCKS:

- Pneumonia
- Diarrhea
- Parasites
- Reproductive issues
- Lameness
- Nervous disease
- Other

Other = mastitis, Orf, wounds

MOST COMMON CAUSE OF LAMENESS AS DIAGNOSED BY SHEEP PRODUCERS:

- Footrot
- Hairy Heel Warts
- Arthritis
- Injury
- Founder
- Do not know
- Other
MOST IMPORTANT RISK FACTORS FOR FOOTROT:

What season do you most commonly observe footrot issues in your sheep?

- Winter: 50%
- Spring: 40%
- Summer: 10%
- Fall: 0%
- Highly variable: 0%

When after weaning, is footrot most commonly observed in your feeder lambs?

- Few weeks after weaning: 0%
- Middle of the feeding period: 20%
- End of the feeding period: 10%
- Highly variable during feeding period: 40%
- Sell my feeder lambs at or shortly after weaning: 10%
- Do not know: 0%
What is the most effective treatment for footrot in your herd?

- Footbaths
- Injectable antimicrobials
- Antimicrobials in feed
- Antimicrobials in water
- Foot trimming
- Culling
- Other (anti-inflammatories, foot wrap, segregation, clean facilities, weather < 10C)
FOOTROT DISEASE INCIDENCE:
- Breeding ewes: 7% (max: 90%)
- Breeding rams: 7% (max: 100%)
- Pre-weaned lambs: 1% (max: 15%)
- Post-weaned lambs: 5% (max: 100%)
- 6% of producers did not know

AVERAGE CULLING RATE: 1%; although 8% of flocks culled 1% to 20% of ewes/rams for footrot; 14% of producers did not know

MORTALITY RATE (median): 0% (10% of producers did not know)
DURING THE LAST YEAR, WHAT ANTIMICROBIALS DID YOU USE TO TREAT FOOTROT IN YOUR SHEEP?:

- Penicillin e.g., Depocillin®, Procillin®
- Tetracycline e.g., Biomycin®, 200, Liquamycin LA-200®, Oxyvet® 100 LP
- Potentiated sulfonamides e.g., Borgal®, Trimido®
- Macrolides e.g., Draxxin®, Micotil®, Zacran®, Zuprevo®
- Fluoroquinolones e.g., Baytril®, Forcyl®, A180®
- Florfenicol e.g., Nuflor®, Florkem®, Resflor®, Fenicyl®
- Other (describe):

Other = hydrogen peroxide, copper spray, poultice clay wrap, didn’t treat any

MOST IMPORTANT ECONOMIC LOSSES FROM FOOTROT:

- Drug costs
- Labor costs
- Death losses
- Culling losses
- Growth performance losses
- Discarded milk due to drug withdrawals
- Other
VACCINE PRODUCTION:

What is the maximum annual price per head that would be cost-effective for you to pay for a footrot vaccine for your sheep?

What size of dosage vials of footrot vaccine would work best for your sheep operation based on the size of your flock?

4% of producers used the bovine footrot vaccine (Fusogard™) and thought it helped reduce footrot.
CANCER FACTORS:

- Don’t believe vaccines work
- Price of vaccine too high
- Frequency of vaccination too high
- Lack of labor to vaccinate
- Fear of negative effects of vaccine
- Don’t currently have footrot issue

If a footrot vaccine for sheep were available in Canada, would you use it?

- Yes
- No
- Not sure
- If no or not sure, why not? (describe):

REASONS IF NO OR NOT SURE:

- Don’t have a footrot issue
- Would use it if I got a footrot problem
- Would depend on the cost of the vaccine
- Would depend if literature indicates vaccine effective
- We cull heavily for footrot, so our flock has good feet
- Only have a few cases
CANADIAN FOOTROT VACCINE ATTRIBUTES VALUED BY SHEEP PRODUCERS:

![Bar chart showing vaccine attributes valued by sheep producers]

- Vaccine effective
- Vaccine safe for all animals
- Single dose
- Low Volume
- Subcutaneous route
- Long duration of immunity
- Short meat withdrawal period
- Short milk withdrawal period
- Cost effective

% responses

PROJECT TEAM:
- Dr. Jose Perez-Casal
- Dr. Joyce Van Donkersgoed
- Dr. Karen Schwartzkopf-Genswein

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- Alberta Lamb Producers
- Participating sheep producers
- Canadian Animal Health Surveillance System
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