ALBERTA PRECISION LABORATORIES
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Laboratory Bulletin

DATE:	2021 July 12
TO:	All APL Laboratories
FROM:	Alberta Precision Laboratories (APL)
RE:	**Passive Tick Surveillance at ProvLab: identification of ticks from companion animals and environmental sources and detection of *Borrelia burgdorferi* by PCR in *Ixodes spp***

Key Message

- Lyme disease is a serious disease caused by *B. burgdorferi,* a spirochete carried by hard-bodied Ixodes ticks.
- As these ticks have been found in Alberta, it is important to continue surveillance for infected *Ixodes* ticks from human and animal sources.
- Until recently, Alberta Agriculture provided tick Identification and *Borrelia* PCR testing for the Alberta Health Tick surveillance program, that will now be assumed by the APL Public Health Laboratory.

Background

- Lyme disease, a multisystemic multiorgan disease, is transmitted by ticks belonging to the Ixodes genus, and are the only permissive tick host. In Canada and the USA, *B.burgdorferi* is the endemic genospecies associated with Lyme disease (LD).
- The distribution of human LD cases in North America is associated with the prevalence of infected Ixodes ticks, hence the relative risk of infection varies by geographic areas (https://www.canada.ca/en/public-health/services/diseases/lyme-disease.html).
- *Ixodes* ticks are not yet shown to be endemic in Alberta, and those detected appear to be imported. However, changes in the climate, land use and tick hosts may result in habitats where infected ticks can establish and pose a risk for humans.
- Ticks in the environment and tick-borne diseases in companion animals can provide important spatial information on the potential for human disease. Companion animals are therefore a useful source of surveillance data for tick-borne diseases for both public and veterinary health surveillance.
- Alberta Health is currently directing all environmental and companion animal tick submissions to the Alberta Submit-a-Tick Program, to be first be screened through **eTick program,** an initiative funded by the Public Health Agency of Canada and run through Bishop's University in Quebec (see eTick website for details). This occurs by submitting a photograph of the tick using the eTick app or through the e-Tick website. The tick is then identified using the photograph, and results are provided to submitters (vet offices and the public) within one business day.
- Selected ticks (Ixodes spp and/or ticks unidentifiable by image analysis) will be forwarded by veterinary offices and by general public to the APL Public Health Laboratory for tick identification and Borrelia PCR testing.

How this will impact you

- Ticks will be submitted for testing by Alberta veterinary offices via courier directly to the APL Public Health Laboratory, and by general public either by mail or by drop off in person at APL Public Health Laboratory North and South locations, as well as any of the **non-acute care hospital** laboratory services locations (see https://informalberta.ca/public/service/serviceProfileStyled.do?serviceQueryId=4245 .)

- Each tick MUST be submitted in a sealed plastic bag with labelled container and the completed Tick Testing Request form, available from https://www.albertahealthservices.ca/frm-21813.pdf.
- The specimens dropped off at province-wide lab services locations will need to be forwarded directly to APL Public Health Laboratory.

Action Required

- Since this is a provincial surveillance program, all work is carried out at the APL Public Health Laboratory, as is communication of results to all submitters. The only involvement of other designated laboratories and of Patient Service Centres is to facilitate specimen transport to APL Public Health Laboratory for specimens dropped off by members of the public. Specimens do not require data entry in the Laboratory Information System and can be stored and couriered at room temperature. There are no special shipping requirements.

Effective

- **July 19, 2021**

Questions/Concerns may be directed to

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Approved by

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