



Surveillance of Ticks on Companion Animals in Alberta

2016 Summary



2016 marked the 10th year for Alberta Agriculture and Forestry's *Surveillance of Ticks on Companion Animals* program. The program originated in 2007 in collaboration with veterinarians in Alberta, and expanded in 2013 through a partnership with Alberta Health and Alberta Health Services. The *Enhanced Tick Surveillance Program* now monitors the types of ticks that attach to companion animals, livestock, and humans, as well as those found in the environment.

Certain species of tick, such as *Ixodes scapularis* and *Ixodes pacificus*, are considered to be possible carriers of *Borrelia burgdorferi*, the bacteria that causes Lyme disease. All ticks received that are possible carriers of *B. burgdorferi* are further tested for the presence of the bacteria to better understand the risk of Lyme disease in Alberta.

Program Highlights:

- 1,930 ticks from 1,323 host companion animals were submitted, 75% of ticks submitted between April, May, June and July.
- Ticks were primarily recovered from dogs (90%), with horses (3%), cats (4%), and others (rabbits, cows, etc.) comprising the remainder of submissions.
- Of the 1,323 submissions*, 473 host animals had associated travel outside of Alberta in the two weeks prior of the submission, 764 host animals had no associated travel, and 86 submissions were received with no travel history.
- Of the 224 ticks identified as possible carriers of *B. burgdorferi*, 40 tested positive for presence of the bacteria.

Distribution of Tick Species:

Tick species	# submissions [†]	%	# ticks	%	Travel outside of Alberta 2 weeks prior to submission?		
					Yes	No	Unknown
<i>Dermacentor variabilis</i>	617	47	946	49	365	216	36
<i>Ixodes scapularis</i>	168	13	169	9	15	144	9
<i>Dermacentor andersoni</i>	160	12	202	10	40	108	12
<i>Dermacentor albipictus</i>	146	11	297	15	5	132	9
<i>Ixodes kingi</i>	102	8	124	6	2	96	4
<i>Rhipicephalus sanguineus</i>	55	4	101	5	21	25	9
<i>Ixodes spp.</i>	36	3	36	2	7	28	1
<i>Haemaphysalis leporispalustris</i>	14	1	24	1	2	6	6
<i>Ixodes pacificus</i>	11	<1	13	<1	11	-	-
<i>Amblyomma americanum</i>	7	<1	7	<1	2	5	-
<i>Ixodes ochotona</i>	5	<1	5	<1	2	3	-
<i>Haemaphysalis spp.</i>	1	<0.1	5	<1	1	-	-
<i>Ixodes muris</i>	1	<0.1	1	<0.1	-	1	-
TOTAL	1323		1930		473	764	86

[†]A single submission includes all ticks recovered from an individual host animal

Results of Testing for the Presence of *Borrelia burgdorferi*:

Real-Time PCR Result ^σ	# submissions	%	# ticks	%	Travel outside of Alberta 2 weeks prior to submission?		
					Yes	No	Unknown
Negative	181	82	184	82	31	141	9
Positive	40	18	40	18	4	35	1
TOTAL	221		224		35	176	10

^σA positive *Borrelia burgdorferi* result by Real-Time PCR indicates the presence of bacterial DNA. The presence of bacterial DNA does not indicate whether the bacterium is viable or whether the bacterium has caused an infection.

Locations of ticks submitted by veterinarians in 2016 that tested positive for the *B. burgdorferi* bacteria and were from host animals that had not left Alberta

Hometown	# submissions
Brooks	1
Calgary	3
Donnelly	1
Edmonton	2
Fort McMurray	1
Fort Saskatchewan	1
Lloydminster	1
Penhold	1
Ponoka	1
Provost	1
Sherwood Park	2
Slave Lake	1
Spruce Grove	1
St. Albert	2
Stettler	1
Westlock	1
Host animal travelled within Alberta (i.e. not sure exactly where they acquired the tick)	14
Total	35

This report summarizes the results of all submissions of companion animal origin in 2016. Submissions are voluntary from provincial veterinarians, who are important partners in monitoring the risk of Lyme disease in Alberta.

Refer to [Alberta Health website](http://albertahealthservices.ca) for additional results of the *Enhanced Tick Surveillance Program*.

For more information, visit www.agriculture.alberta.ca/ticks.