



Surveillance of Ticks on Companion Animals in Alberta

2018 Summary



2018 marked the 12th 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:

- 2,208 ticks from 1,465 host companion animals were submitted, 88% of ticks submitted between April and August.
- Ticks were primarily recovered from dogs (89%), with horses (5%), cats (3%), and others (rabbits, cows, etc.) comprising the remainder of submissions.
- Of the 1,465 submissions*, 439 host animals had associated travel outside of Alberta in the two weeks prior to the submission, 933 host animals had no associated travel, and 93 submissions were received with no travel history.
- Of the 161 ticks identified as possible carriers of *B. burgdorferi*, 23 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>	715	49	1117	51	301	365	49
<i>Dermacentor andersoni</i>	213	15	277	13	64	135	14
<i>Dermacentor albipictus</i>	141	10	312	14	3	130	8
<i>Ixodes scapularis</i>	128	9	135	6	20	104	4
<i>Ixodes kingi</i>	123	8	154	7	11	104	8
<i>Rhipicephalus sanguineus</i>	80	5	125	6	21	56	3
<i>Haemaphysalis leporispalustris</i>	18	1	33	1	1	12	5
<i>Ixodes</i> spp.	18	1	18	1	2	16	
<i>Amblyomma americanum</i>	9	1	12	1	4	4	1
<i>Ixodes ochotona</i>	7	<1	8	<1	3	4	
<i>Ixodes pacificus</i>	4	<1	4	<1	4		
<i>Amblyomma maculatum</i>	2	<1	2	<1	1	1	
<i>Dermacentor</i> spp	2	<1	6	<1	1		1
<i>Ixodes muris</i>	2	<1	2	<1		2	
<i>Ixodes ricinus</i>	2	<1	2	<1	2		
<i>Amblyomma</i> spp.	1	<1	1	<1	1		
TOTAL	1465		2208		439	933	93

*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 [□]	# submissions	%	# ticks	%	Travel outside of Alberta 2 weeks prior to submission?		
					Yes	No	Unknown
Negative	131	85	138	86	26	101	4
Positive	23	15	23	14	2	21	
TOTAL	154		161		28	122	4

[□]A 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 2018 that tested positive for the *B. burgdorferi* bacteria and were from host animals that had not left Alberta

Hometown	# submissions
Barrhead	1
Bezanson	1
Boyle	1
Calgary	1
Edmonton	2
Leduc	1
Red Deer	1
Sherwood Park	2
Spruce Grove	1
St. Albert	2
Valleyview	1
Westlock	1
Host animal travelled within Alberta (i.e. not sure exactly where they acquired the tick)	6
Total	21

This report summarizes the results of all submissions of companion animal origin in 2018. Submissions are voluntary from provincial veterinarians, who are important partners in monitoring the risk of Lyme disease in Alberta.

Search for Lyme disease at Alberta.ca for further information on the tick surveillance.