Surveillance of Ticks on Companion Animals in Alberta

2015 Summary

Alberta Government

2015 marked the 9th 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 *Borrelia burgdorferi* are further tested for the presence of the bacteria to better understand the risk of Lyme disease in Alberta.

Program Highlights:

- 1,272 ticks from 871 host companion animals were submitted, most frequently in the months of May, June and July.
- Ticks were primarily recovered from dogs (86%), with horses (9%), cats (3%), and others (rabbits, cows, etc.) comprising the remainder of submissions.
- Of the 871 submissions*, 343 host animals had associated travel outside of Alberta in the two weeks prior of the submission, 467 host animals had no associated travel, and 61 submissions were received with no travel history.
- Of the 126 ticks identified as possible carriers of *Borrelia burgdorferi,* 17 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
Dermacentor variabilis	363	41.68	518	40.72	229	117	17
Dermacentor andersoni	122	14.01	156	12.26	32	79	11
Dermacentor albipictus	105	12.06	241	18.95	3	88	14
Rhipicephalus sanguineus	80	9.18	132	10.38	31	44	5
Ixodes scapularis	79	9.07	83	6.53	22	54	3
Ixodes kingi	68	7.81	78	6.13	5	57	6
Ixodes spp.	26	2.99	29	2.28	9	15	2
Amblyomma americanum	8	0.92	9	0.71	2	5	1
Ixodes pacificus	8	0.92	9	0.71	6	1	1
Ixodes ochotonae	5	0.57	5	0.39	3	1	1
Haemaphysalis leporispalustris	4	0.46	4	0.31	-	4	-
Dermacentor spp.	2	0.23	7	0.55	1	1	-
Amblyomma maculatum	1	0.11	1	0.08	-	1	-
TOTAL	**871**		**1,272**		**343**	**467**	**61**

*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$^{\sigma}$	# submissions	%	# ticks	%	Travel outside of Alberta 2 weeks prior to submission?		
					Yes	No	Unknown
Negative	103	87.29	109	86.51	36	61	6
Positive	15	12.71	17	13.49	4	10	1
TOTAL	118		126		40	71	7

$^{\sigma}$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.

This report summarizes the results of all submissions of companion animal origin in 2015. Submissions are voluntary from provincial veterinarians, who are important partners in monitoring the risk of Lyme disease in Alberta.

Refer to Alberta Health website for additional results of the *Enhanced Tick Surveillance Program*.

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