Surveillance of Ticks on Companion Animals in Alberta

2013 Summary

Alberta Government

2013 marked the 7th year for Alberta Agriculture and Rural Development'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 submitted to the program 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.

2013 Companion Animal Program Highlights:

- 750 ticks from 544 host companion animals were submitted by veterinarians, most in the months of May to July.
- Ticks were primarily recovered from dogs (94%), with cats (3%), horses (1%) and others (rabbits, snakes, and weasels) comprising the remainder of submissions.
- Of the 544 submissions*, 232 host animals had travelled outside of Alberta in the two weeks prior to the submission, 259 host animals had no associated travel, and 53 host animals were received with no travel history.
- 156 submissions had ticks identified as possible carriers of *Borrelia burgdorferi* (all *Ixodes* ticks, excluding *Ixodes kingi*). Of those, *2*6 tested positive for presence of *Borrelia burgdorferi*.

Distribution of Tick Species:

Tick species	# submissions*	% of total	# ticks	% of total	Submission with travel outside of Alberta 2 weeks prior?		
					Yes	No	Unknown
Dermacentor variabilis	187	34.38	269	35.87	149	31	7
Ixodes scapularis	**116**	**21.32**	**120**	**16.00**	**12**	**93**	**11**
Rhipicephalus sanguineus	67	12.32	111	14.80	35	28	4
Dermacentor andersoni	53	9.74	63	8.40	15	29	9
Ixodes kingi	37	6.80	46	6.13	3	26	8
Dermacentor albipictus	37	6.80	74	9.87	2	29	6
***Ixodes* spp.**	**30**	**5.51**	**31**	**4.13**	**6**	**21**	**3**
Ixodes pacificus	**9**	**1.65**	**12**	**1.60**	**9**	**-**	**-**
Haemaphysalis leporispalustris	4	0.74	16	2.13	-	1	3
Amblyomma americanum	2	0.37	2	0.27	1	-	1
Ixodes muris	**1**	**0.18**	**1**	**0.13**	**-**	**-**	**1**
Dermacentor spp.	1	0.18	5	0.67	-	1	-
TOTAL	**544**		**750**		**232**	**259**	**53**

*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	% of total	# ticks	% of total	Submission with travel outside of Alberta 2 weeks prior?		
					Yes	No	Unknown
Positive	26	16.88	26	16.05	2	20	4
Negative	128	83.11	136	83.95	24	93	11
TOTAL	**154‡**		**162**		**26**	**113**	**15**

†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.
‡2 out of the 156 submissions identified as *Ixodes* ticks (excluding *Ixodes kingi*) were unsuitable for analysis.

This report summarizes the results of all submissions of companion animal origin in 2013. Submissions are voluntary from provincial veterinarians, important partners in monitoring the risk of Lyme disease in Alberta.

Refer to Alberta Health's Tick Surveillance 2013 Summary for full results of the *Enhanced Tick Surveillance Program*.

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