The prevalence of canine leptospirosis has been reported to be on the rise. Autumnalis and Grippotyphosa were the most common serovars detected in one large serological survey reported in dogs. Serological surveys estimate leptospire exposure, but do not confirm active infection and do not identify animals actively shedding leptospires.

Results of Leptospira sp. serological assays submitted to Marshfield Labs in 2009 are summarized below. Serological studies were performed at an outside laboratory by the microscopic agglutination test. Duplicate tests on the same animal could not be determined in this review. Many samples were positive for more than one serovar. Samples with titers > 1/400 were enumerated.

Of 2399 animals tested, 31.3% were positive for one or more serovars, representing 31.4% of dogs (745/2367), 26.3% of horses (5/19) and 15% of cats (2/13) tested. Maps depicting the location of the positive animals (by location of veterinary practice) are below.

In seropositive dogs, L. autumnalis was the most commonly positive serovar [90.1% (671/745)]; followed by L. icterohemorrhagica [28.6% (213/745)], L. grippotyphosa [22.8% (170/745)], L. canicola [13% (97/745)], L. bratislava [(9.5% (71/745)] and L. pomona [8.7% (65/745)].

In seropositive horses, L. bratislava, L. icterohemorrhagica and L. pomona were found with equal frequency [66.7% (4/5)] with L. canicola in 33.3% (2/5) and L. grippotyphosa in 16.7% (1/5). None of the seropositive horses had a titer to L. hardjo.

All of the seropositive cats (2/2) had titers to L. autumnalis with no titers to the other serovars tested.

(Continued on page 2)
Number of Leptospira Seropositive Horses by Serovar

autumn = L. autumnalis; brat = L. bratislava; can = L. canicola; grippo = L. grippotyphosa; ictero = L. icterohemorrhagica; pom = L. pomona

Total Number of Horses Tested = 19

brat = L. bratislava; can = L. canicola; grippo = L. grippotyphosa; hardjo = L. hardjo; ictero = L. icterohemorrhagica; pom = L. pomona

Number of Seropositive Dogs by Serovar

Total Number of Dogs Tested = 2,367

autumn = L. autumnalis; brat = L. bratislava; can = L. canicola; grippo = L. grippotyphosa; ictero = L. icterohemorrhagica; pom = L. pomona
Compared to 2008, there is slightly greater prevalence of Leptospira seropositivity in tested animals (2008: 23%; 2009: 31.4%). Similar to 2008, L. autumnalis was the most common positive serovar in animals tested for autumnalis (i.e., cats and dogs).

### Leptospira Serovar Prevalence Among Seropositive Animals, 2008 and 2009

<table>
<thead>
<tr>
<th>Serovar</th>
<th>% Pos Dogs 2008</th>
<th>% Pos Dogs 2009</th>
<th>% Pos Horses 2008</th>
<th>% Pos Horses 2009</th>
<th>% Pos Cats 2008</th>
<th>% Pos Cats 2009</th>
</tr>
</thead>
<tbody>
<tr>
<td>Autumnalis</td>
<td>78.8</td>
<td>90.1</td>
<td>NT</td>
<td>NT</td>
<td>NP</td>
<td>100.0</td>
</tr>
<tr>
<td>Icterohemorrhagica</td>
<td>34.3</td>
<td>28.6</td>
<td>100.0</td>
<td>66.7</td>
<td>NP</td>
<td>0.0</td>
</tr>
<tr>
<td>Grippotyphosa</td>
<td>34.0</td>
<td>22.8</td>
<td>0.0</td>
<td>33.3</td>
<td>NP</td>
<td>0.0</td>
</tr>
<tr>
<td>Canicola</td>
<td>11.3</td>
<td>13.0</td>
<td>0.0</td>
<td>33.3</td>
<td>NP</td>
<td>0.0</td>
</tr>
<tr>
<td>Bratislava</td>
<td>11.2</td>
<td>9.5</td>
<td>100.0</td>
<td>66.7</td>
<td>NP</td>
<td>0.0</td>
</tr>
<tr>
<td>Pomona</td>
<td>9.9</td>
<td>8.7</td>
<td>100.0</td>
<td>66.7</td>
<td>NP</td>
<td>0.0</td>
</tr>
<tr>
<td>Hardjo</td>
<td>NT</td>
<td>NT</td>
<td>0.0</td>
<td>0.0</td>
<td>NP</td>
<td>0.0</td>
</tr>
</tbody>
</table>

The relative frequency of L. autumnalis serological positivity is similar to previous serological surveys in dogs. Raccoons and rodents have been suggested as possible natural hosts of this serovar. Although currently available canine Leptospira vaccines do not include the autumnalis serovar, a study of dogs vaccinated for Leptospira pomona and grippotyphosa developed titers to L. autumnalis, as well as to the serovars included in the vaccine.

*Leptospira serology performed at Wisconsin Veterinary Diagnostic Laboratory; Madison, Wisconsin*

(Continued on page 4)
Alaska, Census Areas are used for statistical purposes, while the principal jurisdiction of any county is functioning as a governmental unit. There are 3071 counties in the United States of most states and generally are known as "parishes" in Louisiana. In Maryland, Missouri, Nevada, and Ohio, governmental units are boroughs.

Minnesota has 87 counties. There are 3071 counties in the United States. Counties are the primary legal divisions functioning as a governmental unit. They are known as "parishes" in Louisiana. In Maryland, Missouri, Nevada, and Ohio, governmental units are boroughs.

Michigan has 83 counties. There are 3071 counties in the United States. Counties are the primary legal divisions functioning as a governmental unit. They are known as "parishes" in Louisiana. In Maryland, Missouri, Nevada, and Ohio, governmental units are boroughs.

(Continued on page 5)
Leptospira Seropositive Animals: Pennsylvania 2009
(Animals Positive for at Least One Serovar >1:400)

Canine =
Equine =
Feline =

Leptospira Seropositive Animals: Wisconsin 2009
(Animals Positive for at Least One Serovar >1:400)

Canine =
Equine =
Feline =

(Continued on page 6)
References:


