The Efficacy of Catnip Oil as a Botanic Repellent
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BACKGROUND INFORMATION
- A vector can transmit a particular pathogen to different hosts
- I. scapularis can act as vectors for many different diseases such as babesiosis, anaplasmosis and Lyme Disease
- Many people have a fear of using DEET and seek out more natural remedies.
- Nepeta cataria contains nepetalactone, which is the chemical component responsible for repellency.
- Proven to repel different insects such as: cockroaches, house flies, and mosquitoes

HYPOTHESIS
Catnip oil is an effective repellent against the black-legged tick, Ixodes scapularis.

METHODS & MATERIALS

Field Work:
- Tick suits were worn at all times for safety precautions
- Ticks were collected by a dragging method (Left)
- A cloth would be dragged for 20 m
- The cloth would be examined for ticks
- Ticks would be transferred into a glass vial by using forceps

Lab Work:

Concentrations Used: (μL)

<table>
<thead>
<tr>
<th>Concentration</th>
<th>Sample</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>100</td>
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<tr>
<td>50</td>
<td>200</td>
</tr>
<tr>
<td>75</td>
<td>300</td>
</tr>
<tr>
<td>80</td>
<td>1000</td>
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RESULTS
- Horizontal assays were conducted in a plastic Petri dish
- A filter paper was cut into two parts: treated (contained catnip oil), and untreated (no catnip oil)
- The centermost line is the baseline
- An O-ring was placed on top of the filter paper
- 5 nymphs were used per assay
- 3 replicates per concentration
- Each assay was conducted for 20 minutes

Comparisons:
- 6 minutes vs. 20 minutes
- Compared data from the 6 minute mark and 20 minute mark
- Saw no significant differences in behavior between the two

Two Proportions Test:
- Compared data from the 6 minute mark and 20 minute mark
- Saw no significant differences in behavior between the two

Component: Treated: Untreated:
- C 4 11
- Berjé 3 10
- MG 2 9
- DEET 3 9

CONCLUSIONS
- Catnip oil is as effective as DEET at the 6 minute mark
- No differences found in repellency between three sources of catnip oil
- No increase in repellency as concentration increases.

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