Safari 20SG Insecticide inhibits the growth of the fungal pathogen *Neodothiora populina*

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**Goal**

Determine if Safari 20SG insecticide inhibits growth of *Neodothiora populina*.

**Introduction**

- *N. populina* is a fungal pathogen that infects trembling aspen and causes mortality throughout Interior Alaska. (Ruess et al. 2021). *N. populina* infects the inner bark.
- Most aspen in Interior Alaska have damage from aspen leaf miner (ALM), which is a moth. The ALM larva eats the contents of the leaf epidermal cell layer on both sides of the leaf, which ultimately limits photosynthesis.
- If we want to see how the fungal pathogen inflicts damage alone, an insecticide treatment is needed to prevent ALM, which is sprayed on the trunk of the tree. (Wagner et al. 2020)

**Methods**

- Age of liquid culture (2, 4, 7, & 9 days)
- 3x of each treatment
- Spread out liquid culture
- Place 2 filter papers soaked in Insecticide or water on plate
- Measured inhibition zone around filter

**Results**

**Example of Inhibition Zone on *N. populina* based on liquid culture of different ages**

**Figure 3. Example of treatment set up and comparison of inhibition zones. Day 2 on the left and day 4 on the right. Days 7 and 9 showed similar results.**

**Insecticide + *N. Populina***

**Water + *N. Populina***

**N. Populina only**

**Conclusion**

- The Safari 20SG insecticide inhibits the growth of the fungal pathogen *N. populina* but the strength of the effect needs further investigation.
- This suggests that the canker development may be reduced when aspen trees are treated with the insecticide.

**Future Directions**

- Determine how strong of an effect the Safari 20SG Insecticide has on the growth of the fungal pathogen *N. populina* on aspen trees.
- Test the effects of different concentrations of the insecticide on the growth of *N. populina* in liquid culture to determine the minimal inhibitory concentration.

**References**


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