Zooprophylaxis: Using Livestock As Trap Crops For Disease Vectors

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Malaria and *Anopheles* Vectors

- Malaria
  - *Anopheles* Mosquitoes
  - Complex Efforts for Control
Symptoms of Malaria

Central
- Headache

Systemic
- Fever

Muscular
- Fatigue
- Pain

Skin
- Chills
- Sweating

Respiratory
- Dry cough

Spleen
- Enlargement

Stomach
- Nausea
- Vomiting

Back
- Pain
<table>
<thead>
<tr>
<th>Species</th>
<th>Major features</th>
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| *P. falciparum* | • The most important species as it is responsible for 50% of all malaria cases worldwide and nearly all morbidity and mortality from severe malaria  
• Found in the tropics & sub-tropics |
| *P. vivax*    | • The malaria parasite with the widest geographical distribution  
• Seen in tropical and sub-tropical areas but rare in Africa  
• Estimated to cause 43% of all malaria cases in the world |
| *P. ovale*    | • This species is relatively rarely encountered  
• Primarily seen in tropical Africa, especially, the west coast, but has been reported in South America and Asia |
| *P. malariae* | • Responsible for only 7% of malaria cases  
• Occurs mainly in sub-tropical climates |
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Malaria and *Anopheles* Vectors

- Malaria
- *Anopheles* Mosquitoes
- Complex Efforts for Control
• Insecticide treated bed nets
• Preventative drugs
• Medical volunteers/treatment
• Pesticide treatment and
• other mosquito control
Zooprophylaxis

• What is it?
  • Passive vs. Pesticide
  • Zoophilic Mosquitoes
    • Past Studies
Zooprophylaxis

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Anthropophilic Mosquitoes

Anopheles gambiae

Zoophilic Mosquitoes

Anopheles arabiensis
Zooprophylaxis

• What is it?
• Passive vs. Pesticide
• Zoophilic Mosquitoes
  • Past Studies
Research

My Research:
• What: LongRange – Why is it so special?
  • How: Preparation and Methods
Does it kill mosquitoes?

PLGA Polymer
My Research:

• What: LongRange – Why is it so special?
  • How: Preparation and Methods
Summary

• Zooprophylaxis, when done effectively, may reduce the number of human bites and of mosquitoes that transmit malaria – currently being studied.

• New longer lasting veterinary drugs on the market may have an impact on agricultural communities where malaria is prevalent.
Sources

- CDC.gov