Team Number: CHS33
School Name: Capital High School
Area of Science: Invertebrate Biology
Project Title: The Spread of Red Imported Fire Ants

Problem Definition:

This project will look at how fast a Red Imported Fire Ant (RIFA) population will spread in a controlled environment and what precautions we can take to prevent the issue of their spreading. RIFA, (Solenopsis invicta) are a very invasive and destructive species of ants that dominate the areas they inhabit due to the overwhelming population and aggressiveness. As such this project has real-life importance, and is a relevant part of the currently changing Southern United States ecosystem.

Problem Solution:

We plan on using 3 simulations in netlogo to represent growth, destruction, and pathing of the ants. We also plan on creating graphs the represent the cost of containing or killing these ants as they spread.

Progress to Date:

Through extensive research on the nature of RIFA and their influence on their environment, we have created the backbone of a netlogo code that

Expected Results:

We expect the ants to grow at an alarming rate, and that the effect of their growth will negatively affect the surrounding ecosystem, and the possible relocation/extinction of other life in said areas of inhibition. This is assumed because when these ants sting they release a necrotising alkaloid venom and they do not only sting once. In fact many of the workers attack at once and sting at any slight movement from their victim, attacking in almost perfect unison.

Citations:

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