Habitat Characteristics of Japanese Barberry (*Berberis thunbergii*) Infestations

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Introduction

Invasive Species

- Non-native
- Outcompete native species
- No natural predators
- #2 cause of decrease in biodiversity

Japanese Barberry

- Introduced in the late 1800s as an ornamental plant (sold for gardens- now illegal in NY)
- Inhibits native plant growth due to dense thicket cover
- Spreads by berries
- Can regrow after being cut
- Earthworms more likely to be found by the invasive plant (Study by: Victoria Nuzzo, John Maerz, Bernd Blossey)

Objective

Study the habitat characteristics of Japanese barberry infestations

Methods

Study Site: Upland Forest on the Teatown Lake Reservation

2 Study Areas: Japanese barberry and Control

Data Collected: Canopy Cover, Ground Cover, Different Species, Woody Species, Leaf Litter Layer, Worm Castings, Soil Temperature, Soil pH, Nutrient Levels, Soil Moisture

Equipment: $1m^2$ quadrat, densiometer, soil thermometer, pH meter, scale, soil nutrient testing kit

Methods

Data Collection:

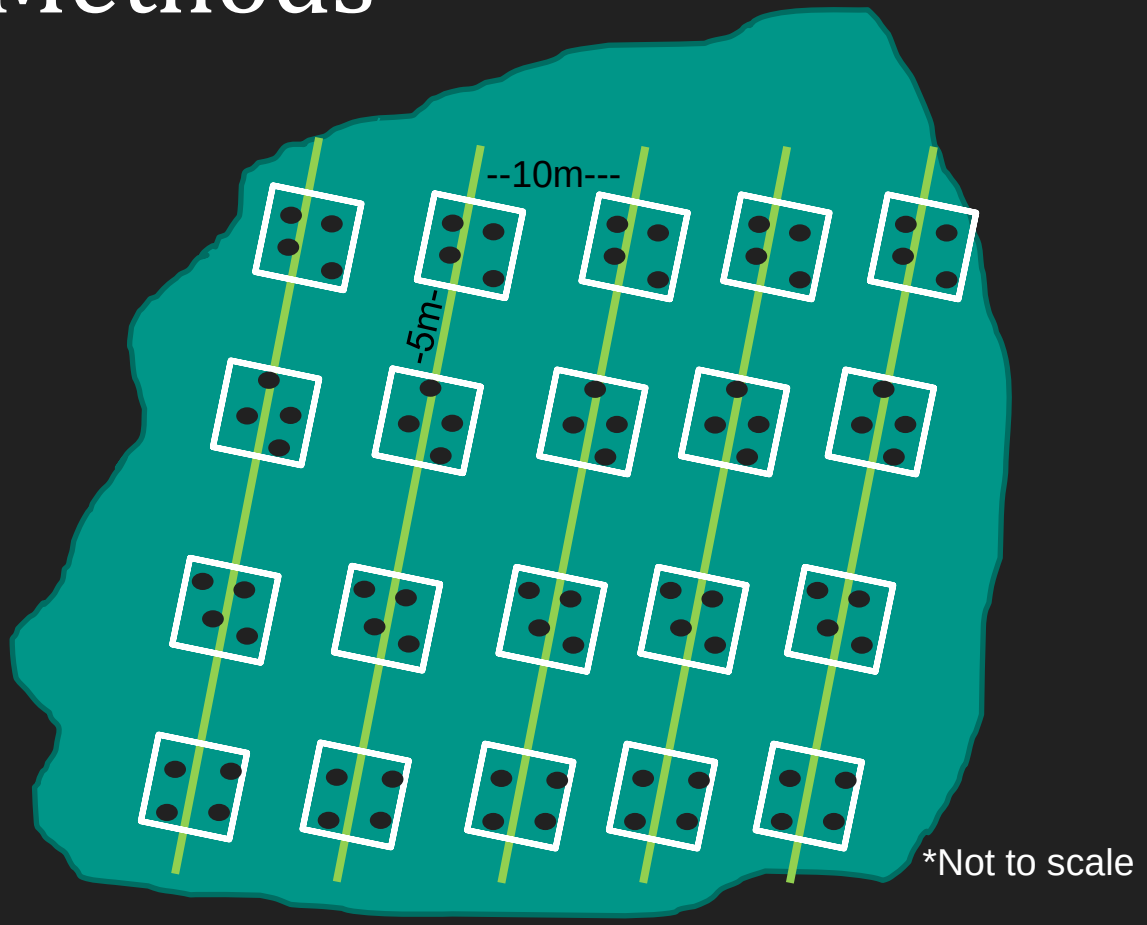
- 20 Plots with Barberry
- 20 Plots Control

- $1m^2$ quadrat = 1 plot

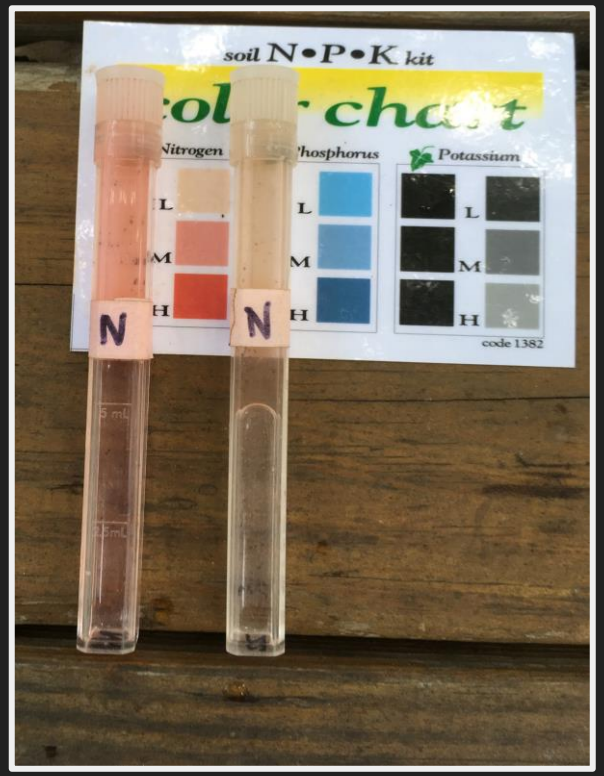
- Plots 5m apart on transect

- Transects 10m apart

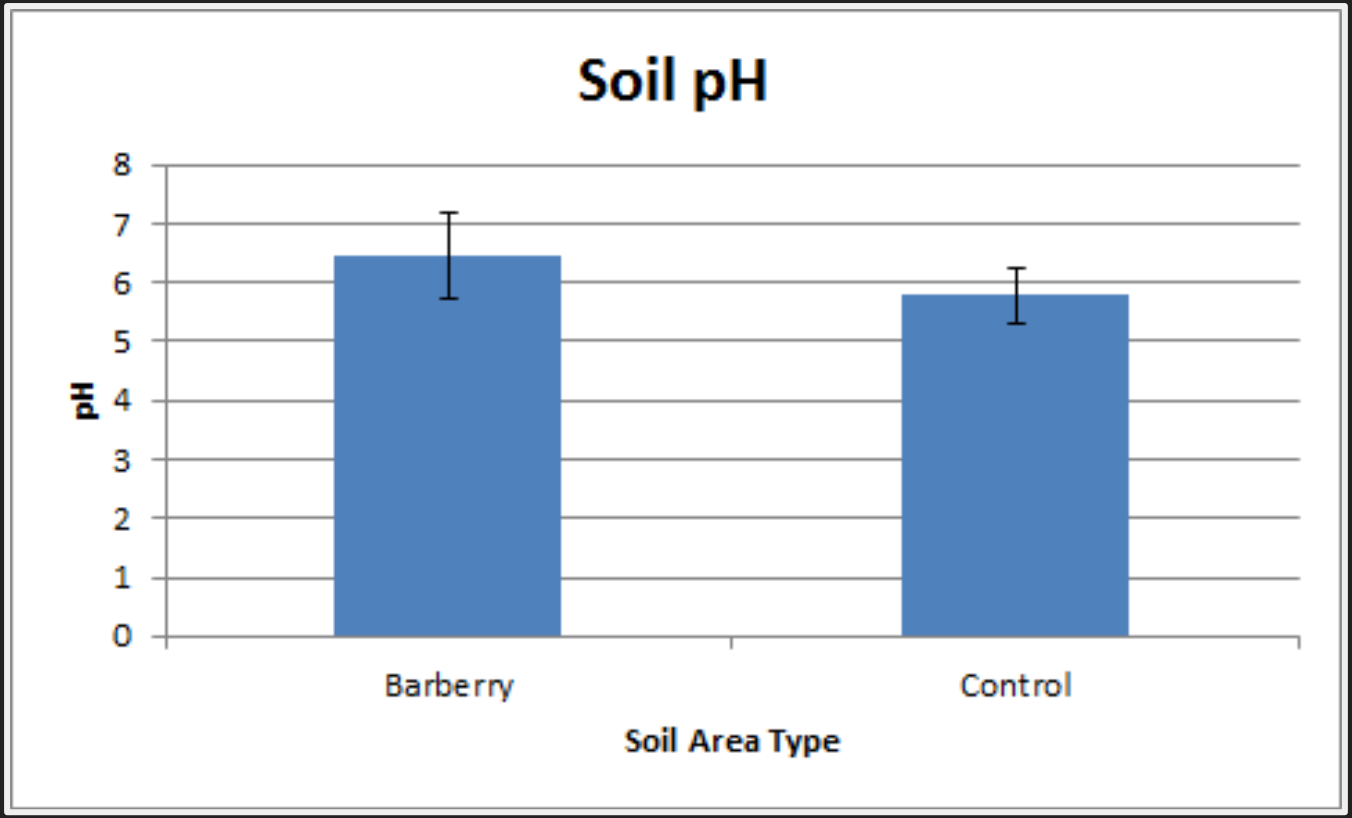
- Soil samples from 4 random points in plot



Data Collection



Results



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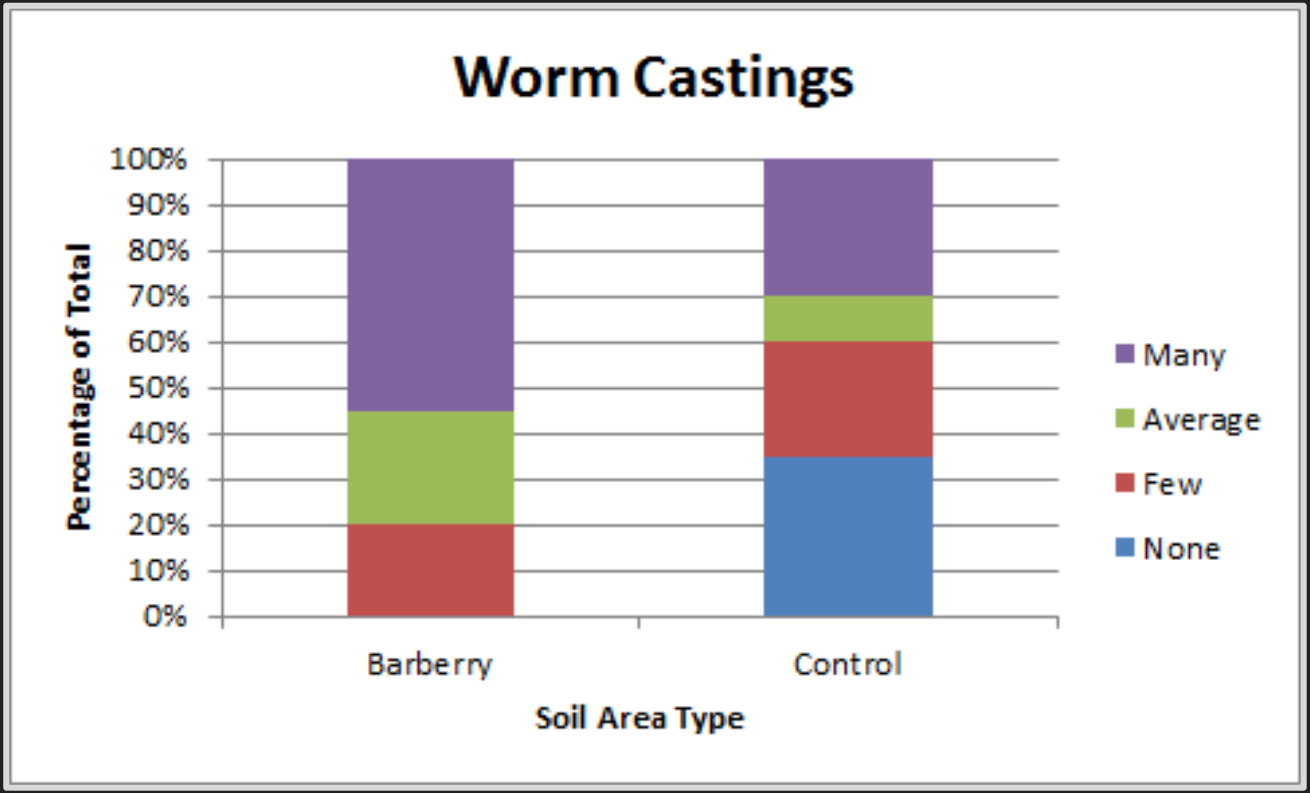
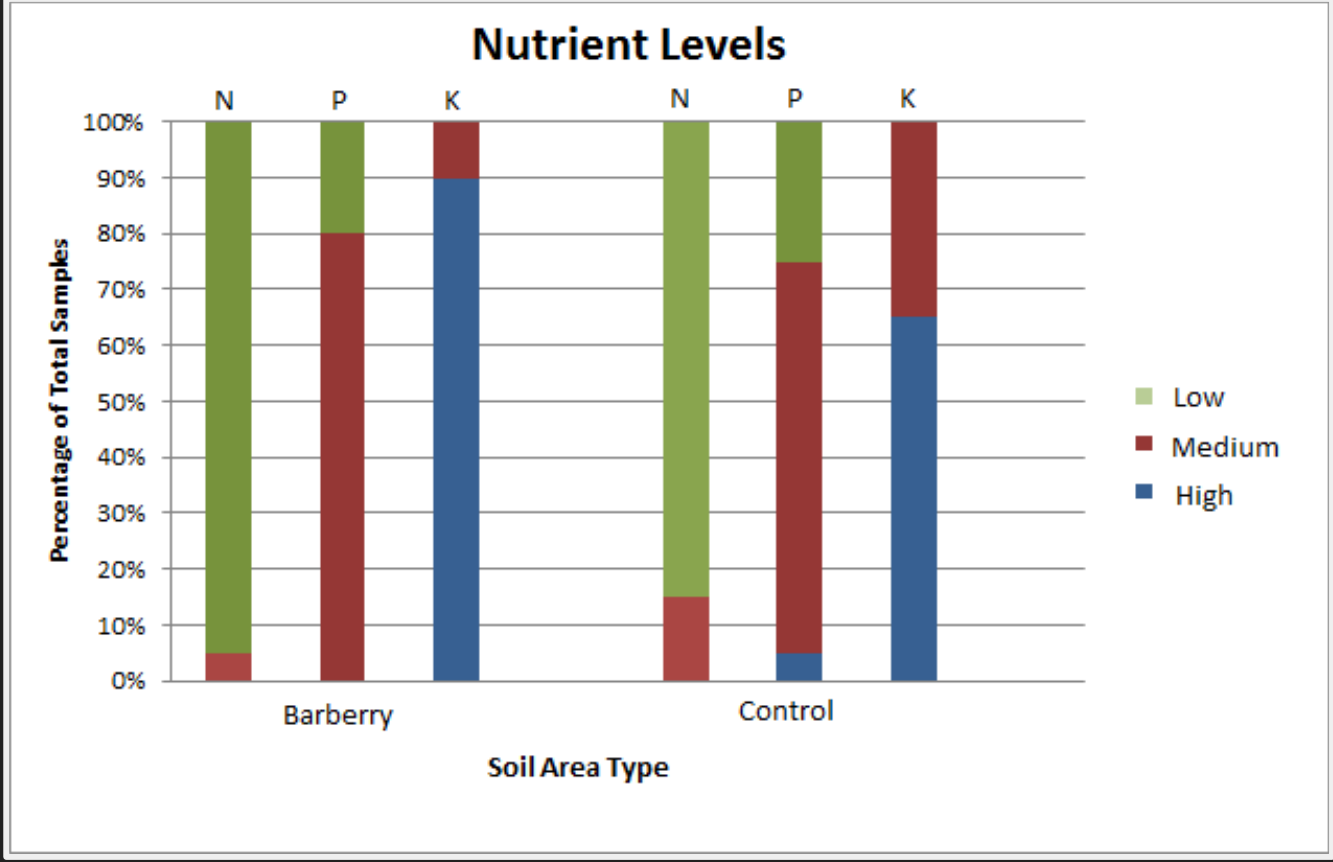
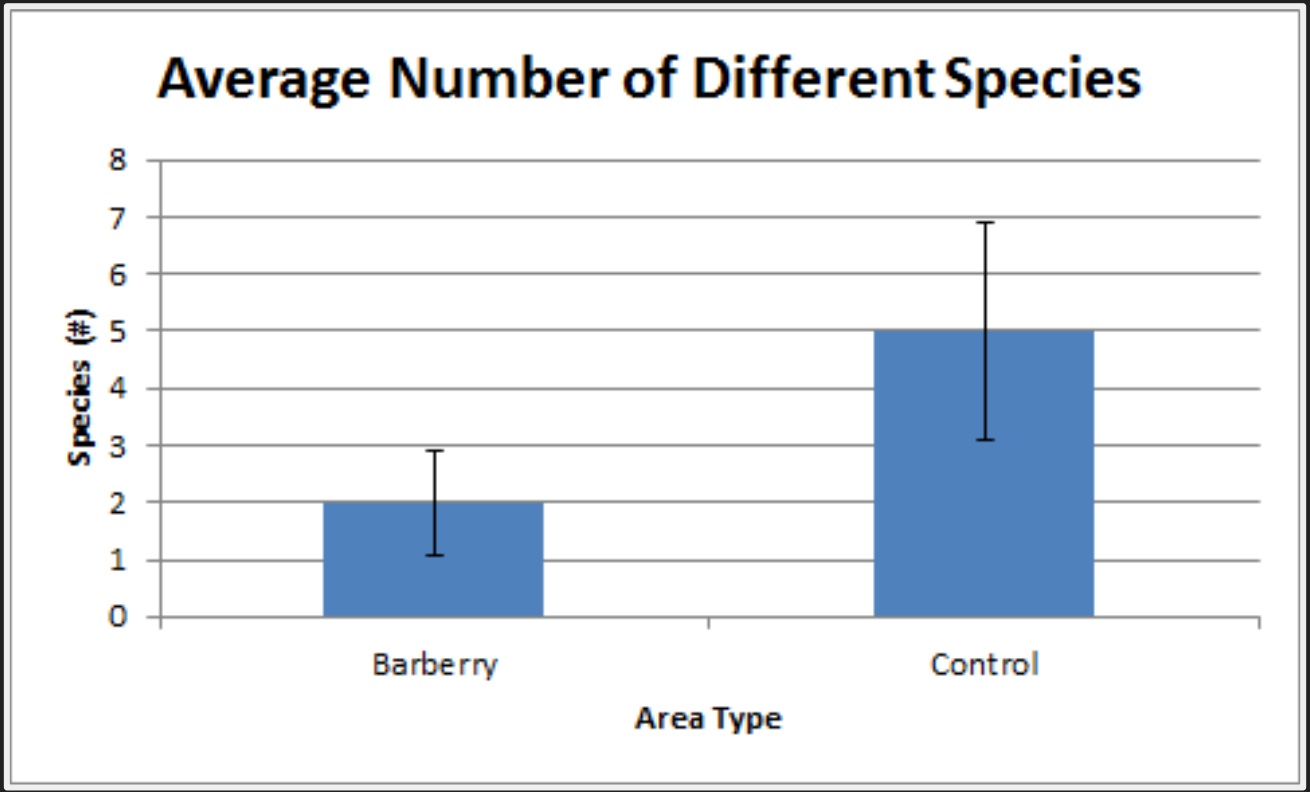

Worm Castings
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
Percentage of Total
Barberry
Control
Soil Area Type
Many
Average
Few
None

Results


Nutrient Levels
N
P
K
N
P
K
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
Percentage of Total Samples
Barberry
Control
Soil Area Type
Low
Medium
High

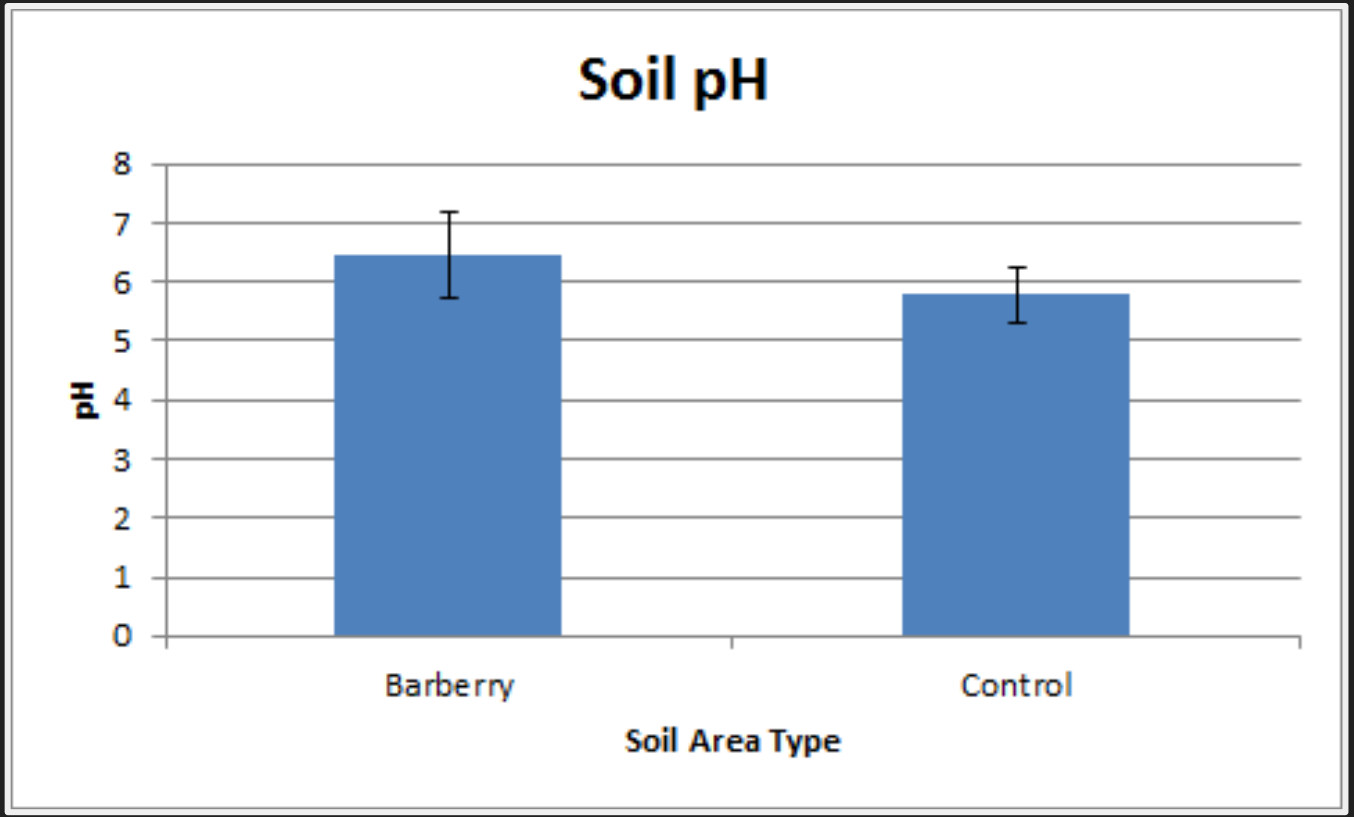
Results


Average Number of Different Species
Species (#)
8
7
6
5
4
3
2
1
0
Barberry
Control
Area Type

Discussion

Findings

- Soil pH
- Worm castings
- Nutrient levels
- Leaf Litter Layer
- Different Species



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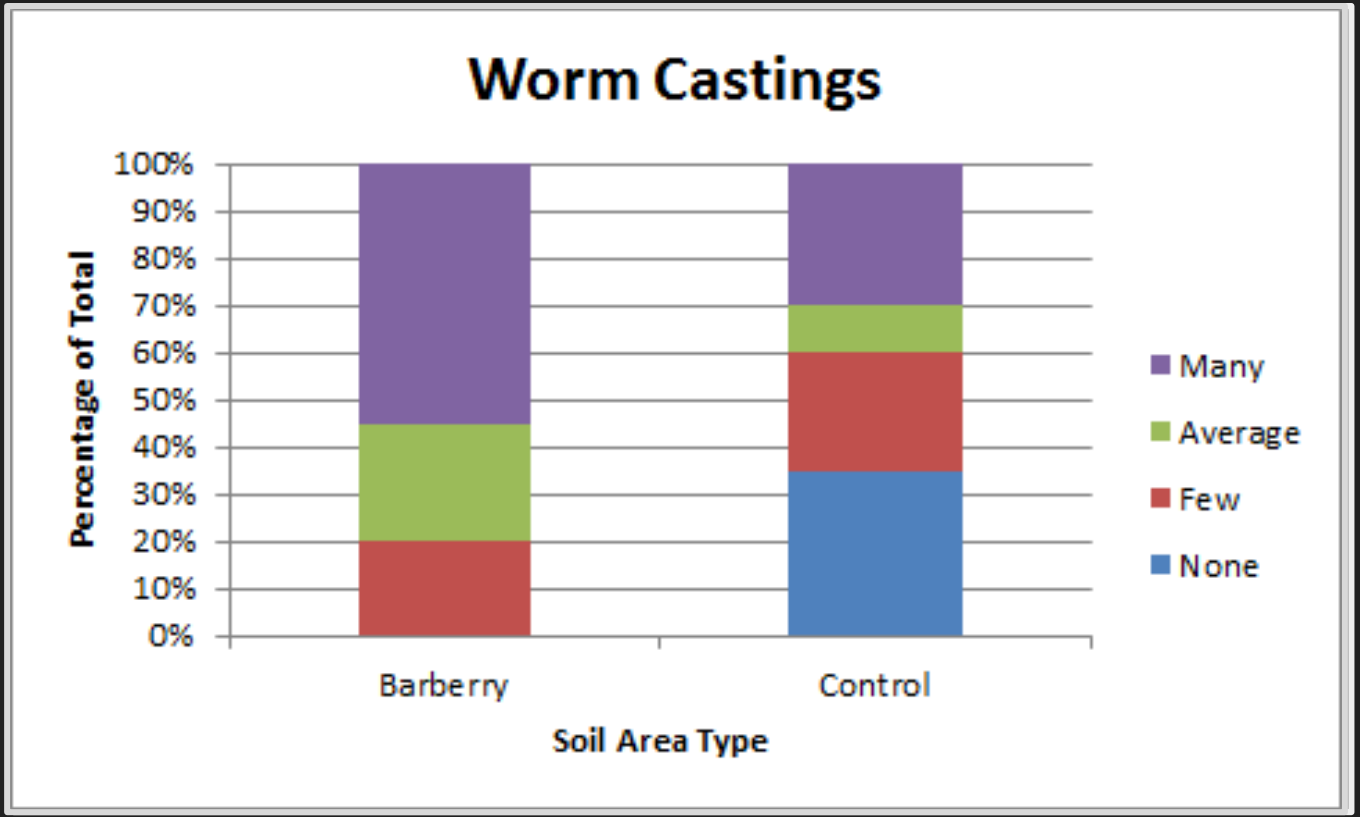

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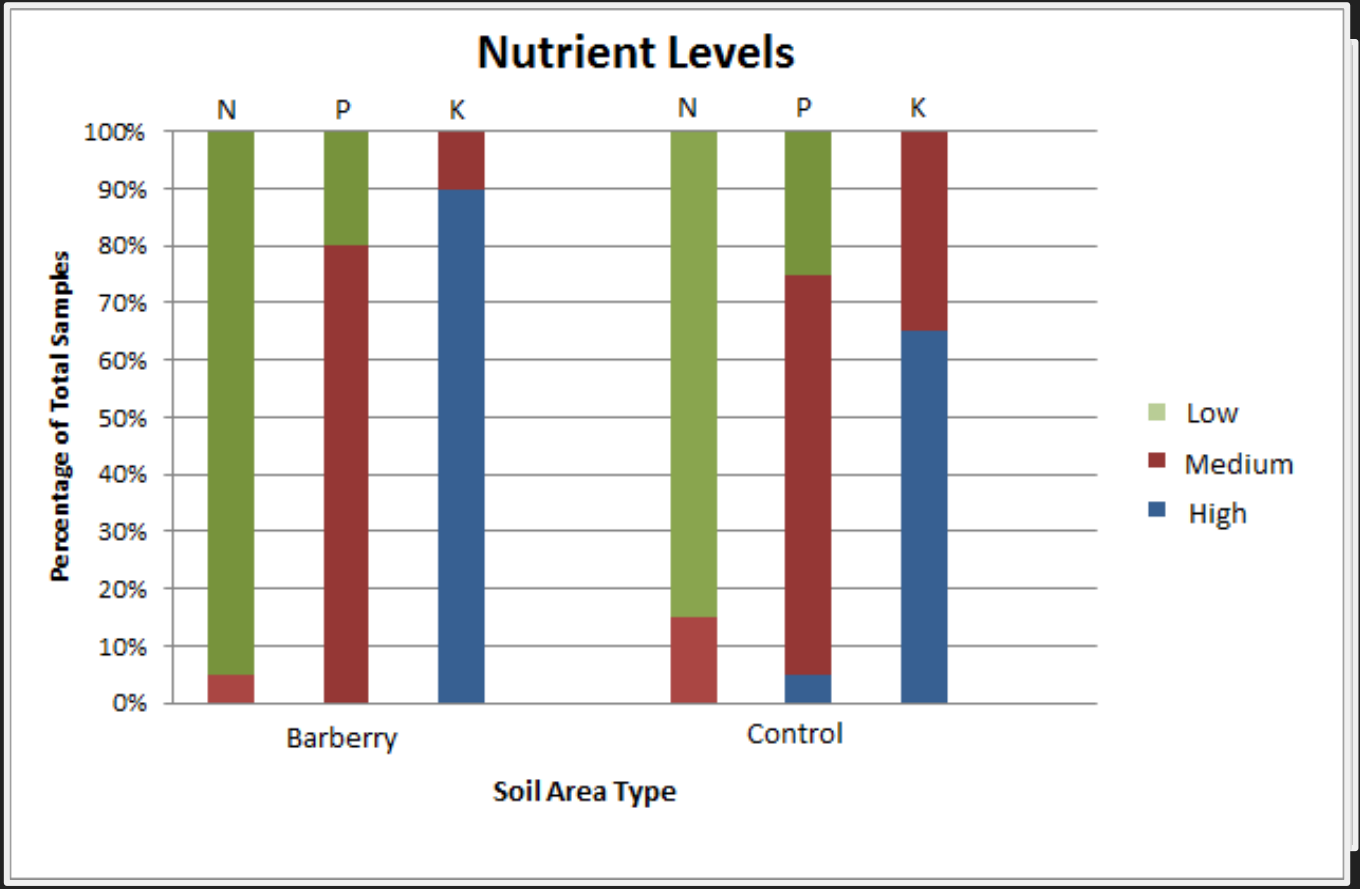

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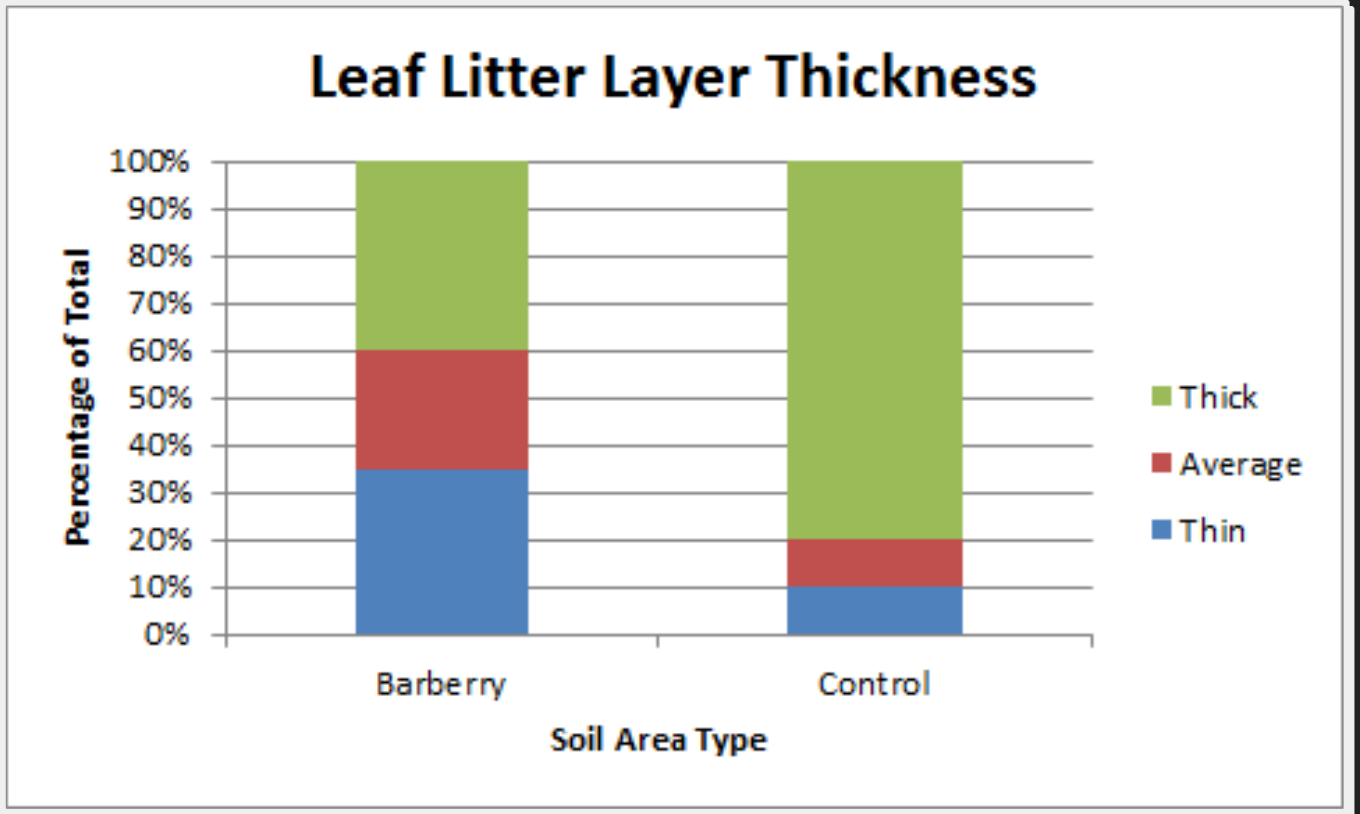

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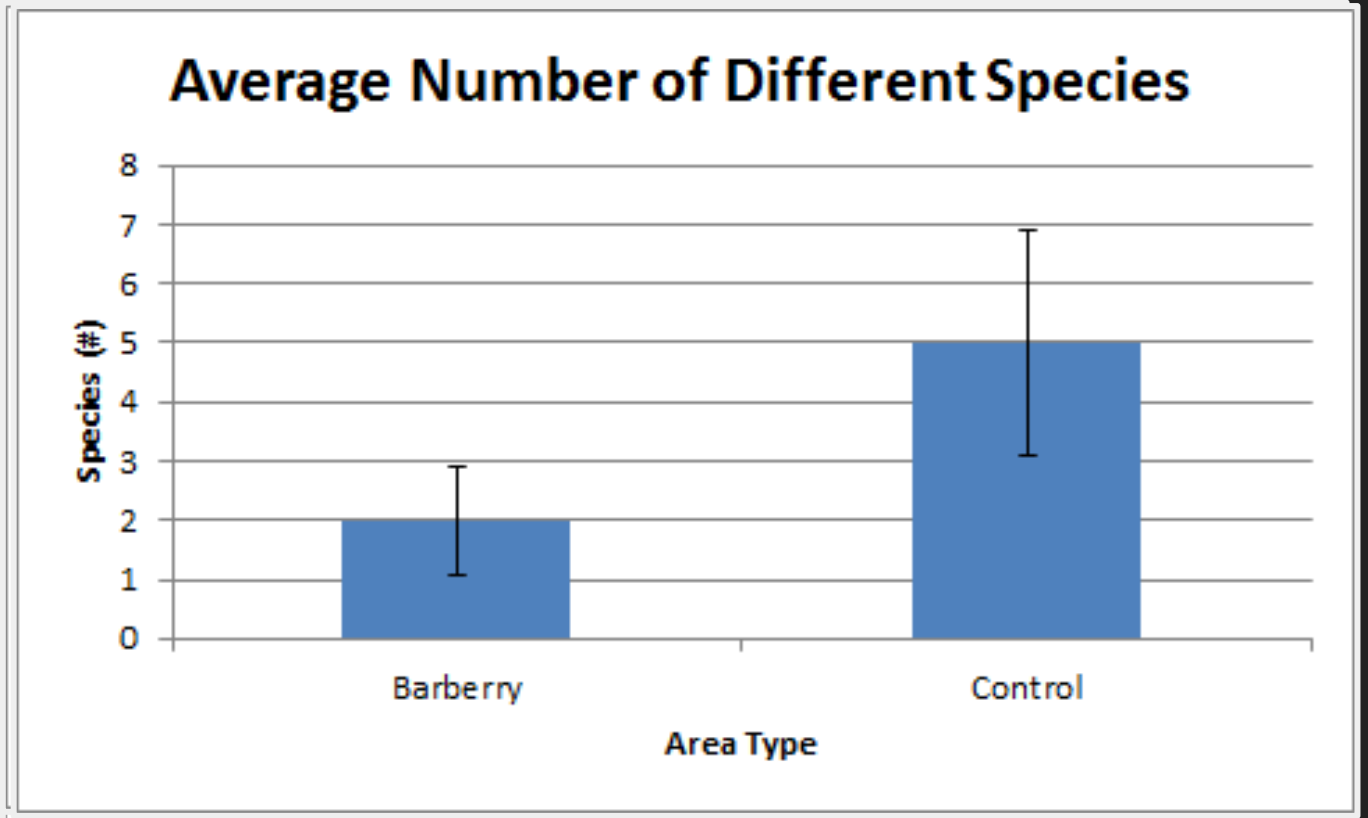

Future Research

What are ways that Japanese barberry invasions can be prevented?

Is there any plant or animal that resists Japanese barberry invasions?

What effects does Japanese barberry have on the land around it?

What is the best way to eradicate Japanese barberry from infected areas?

Acknowledgements

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TESA 2016 Students

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