



Influence of soil and soil drainage on plant development

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Introduction

The Whitcomb pots are said to promote root development by dispersing the water equally throughout the container and allowing the roots to grow in a more natural way. Allowing the roots to grow outwards instead of in a circular growth pattern (pot bound). To prove this theory we tested two types of pots and two different soils. If a plant is planted in a permeable, well drained soil (Whitcomb pot), then the health and root biomass of a plant will be greater than that of a plant in dense low drained soil (Deco pot).

Results

- Dense Soil, High Drainage Pot-Avg. height 8.7cm
- Dense Soil, Low Drainage Pot-Avg. height 8.1cm
- Permeable Soil, High Drainage Pot-Avg. height 8.4cm
- Permeable Soil, Low Drainage Pot-Avg. height 19.1cm

Materials & Methods

To begin this test, we gathered materials. Materials include: two types of pots (black deco, Whitcomb's), two types of soil (sandy, pine bark media), Wisconsin fast plant seeds. After this had four groups of six pots: The groups are as follows,
G1-Blk pot, sandy soil.
G2-Blk pot, Bark media
G3-Whitcombs pot, Sandy soil
G4-Whitcombs pot, Bark media
Then we planted a Wisconsin fast plant in every pot. Over the course of the next four weeks we watered daily, fertilized in week #2, and took measurements throughout.

Data

Discussion

Our hypothesis for this experiment was that a permeable well drained soil would allow plants to best express their genes. However, during the testing our hypothesis was proven incorrect, and found that a permeable soil in a low drainage situation will allow the Wisconsin Fast Plant to best express its genes. The average height of the plants in permeable, low drainage soil was more than double the height of the closest competitor.

Literature Cited

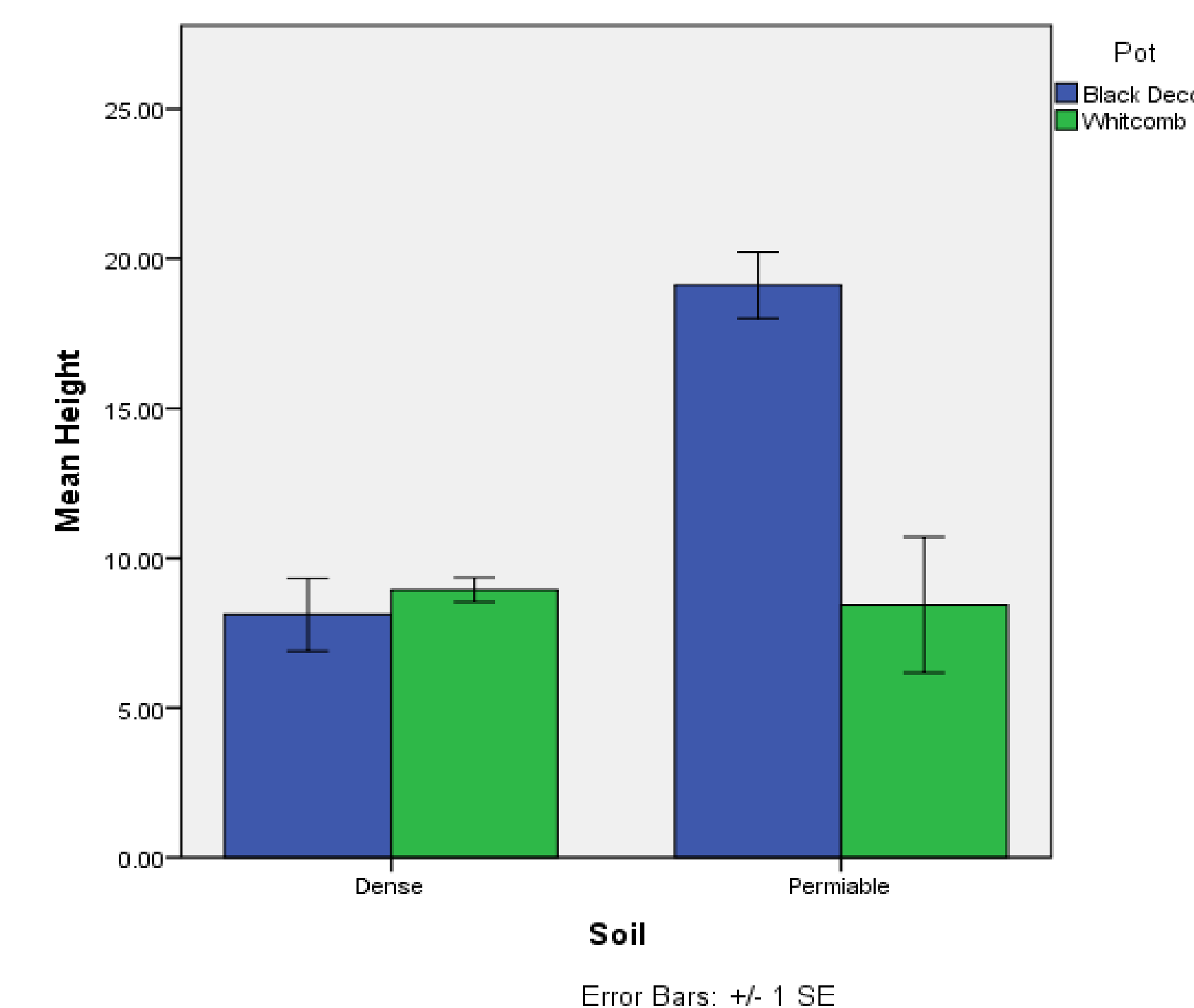
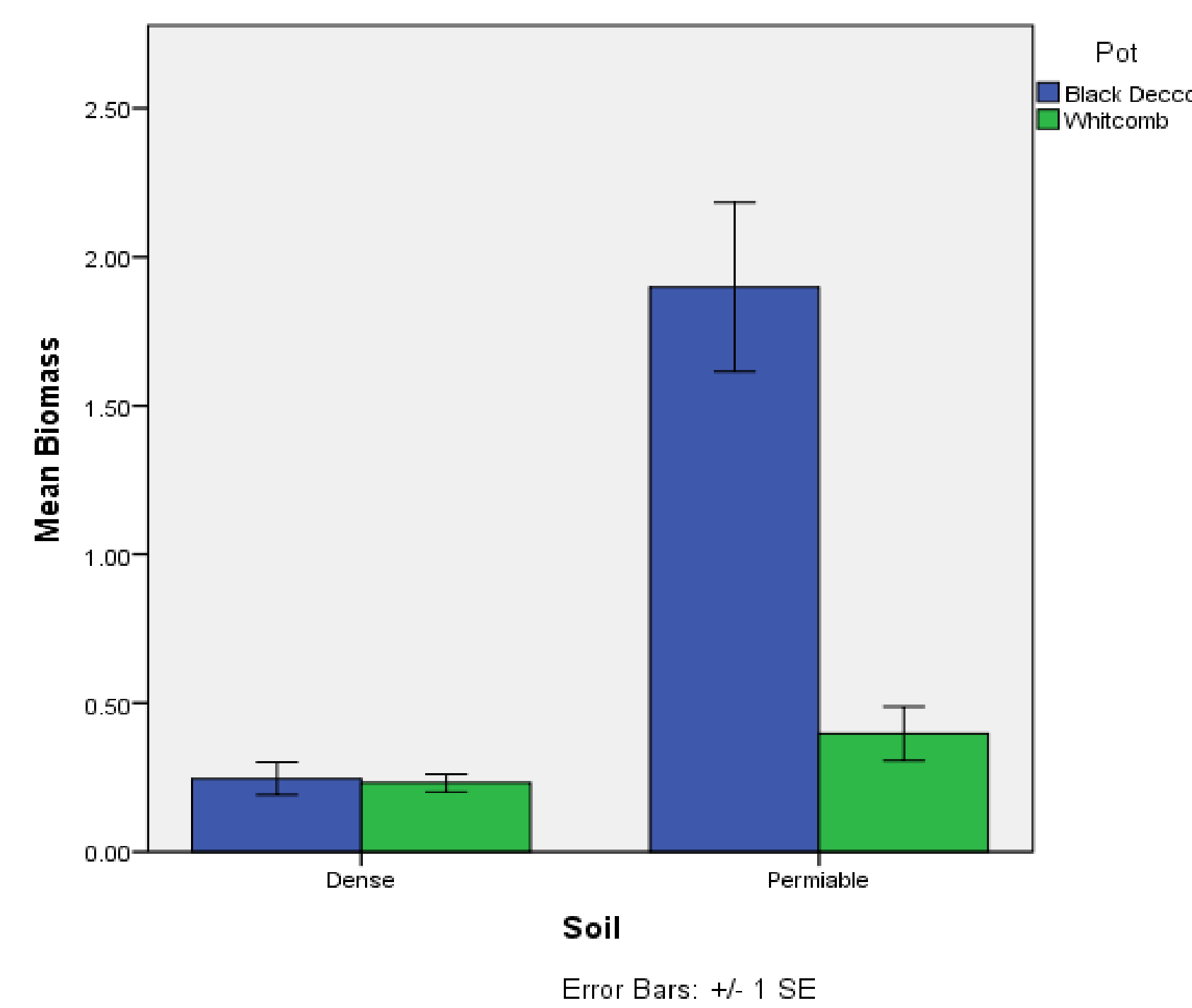
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This graph represents the effect soil type and pot type has on height of plants. This test resulted that plants grew highest in the low drainage pot with permeable soil.

The results show that plants grown in a low drainage pot with permeable soil grew the taller than other soil/pot mixtures.

Acknowledgements

We would like to acknowledge Dr. Carl Whitcomb, and Lacebark Inc. for their assistance with this experiment

