Exploring Softwood Compost as an Alternative to Peat Moss for Blueberry Agriculture

Background: Compost

At its core, composting is the breaking down of organic materials to be used as fertilizer. Depending on what organic matter is included in compost, it can be rich in nutrients and aid significantly in plant growth and production. The use of mulch, or compost made from wood, has been shown to increase the yield of produce from crops (Iqbal et al., 2020). Therefore, if done correctly, using softwood compost on the plants at Wilson's Fresh Blueberries Inc. could increase crop production and the benefits that would be reaped from that.

Background: Peat Moss

Peat moss is one of the most widely used compost substrates in agriculture and horticulture in Canada. It is costly and environmentally disruptive, and many farmers are looking for more sustainable and affordable options for keeping their crop healthy.

Purpose

To determine possible compost alternatives that meet the nutritional needs of the blueberry plants and are economically feasible and environmentally sustainable.

Research Questions

1. How can we make up for missing nutrients in blueberry plants by using a certain kind of compost? Particularly compost consisting of local soft wood debris.
2. Why is it important to be looking for alternatives to peat moss?
3. What are the conditions that will promote the most effective blueberry growth?
4. How do different types of blueberries differ in their needs?

Key Findings

Key findings thus far include the discovery that different types of blueberries can require vastly different treatments to grow to their full potential. Additionally, it was discovered that blueberries not receiving sufficient nutrients do not develop the striking blue color blueberries are known for, making identification of areas for improvement more noticeable.

Implications

In order to make this project financially viable, softwood debris will be obtained from local mills wherever possible. This method of obtaining material may be limited by the amount of material available at a given time, so a reliable source of large quantities of material should be identified. Strategies to speed composting should be identified in future projects to allow for complete composting during the off-season so it can be used at the start of the growing season. Research suggests that thermal composting may be a solution to this.

Next Steps

This research project will be concluded by the time blueberries are ready for propagation or harvest. However, research revealed several methods for monitoring blueberries. Additionally we recommend a plot be reserved for blueberries to be grown in peat moss in the coming season, so that comparisons can be made.

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