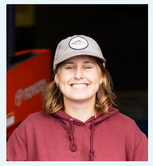
Trialing Edamame Varieties and Mulch in Richmond, B.C.



Naomi Waite
Department of Sustainable Agriculture, Kwantlen Polytechnic University

Introduction

- Edamame are soybeans harvested before fully mature and typically consumed in Asian cuisines.
- Growing popularity due to high protein content and low cost.
- Weed management is a key concern for growers, especially in organic systems; compost mulch may be an effective strategy.

Objectives

- What varieties of edamame are appropriate for cultivation in the Lower Mainland?
- Is compost mulch a viable option for weed control in edamame plantings?
- What varieties are the most palatable to consumers?

Methods

- Dates:
  - Seeds planted on July 5-6, 2024
  - Harvested September 13, 2024
- Split-plot design:
  - Main plots (*n*=3): unmulched or mulched with compost (10.4 m^2 X 1.5 m^2)
  - Subplots: 4 varieties (Envy, Chiba Green, Midori Giant, Tohya)
- Data collection:
  - Germination rate
  - Yield (g/plant and g/plot)
- Culinary evaluation
  - Flavour, texture, and pod feel
  - Scored on a 1-5 scale
  - Student volunteer panel (*n=7)*

Mulch enhances edamame survival and yield

Results

- Edamame survival and yield was higher in plots mulched with compost than in unmulched plots (Fig. 1, $p < 0.01$)
- Hand weeding was easier in mulched plots.
- No significant effects of variety on plant survival or yield. No significant interactions between mulch and variety.
- No significant effects of variety on palatability, but “Tohya” tended to have higher scores (Fig. 2)

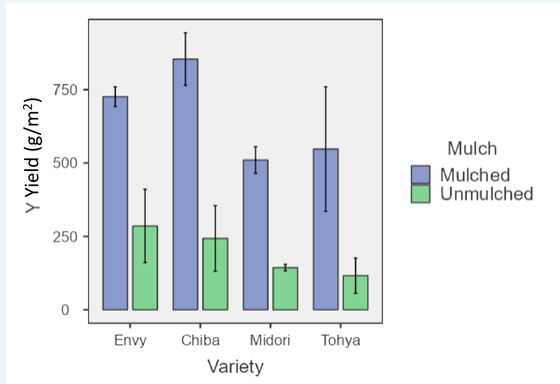


Figure 1. Edamame soybean yield for four varieties grown in mulched and unmulched plots. Bars denote standard error.

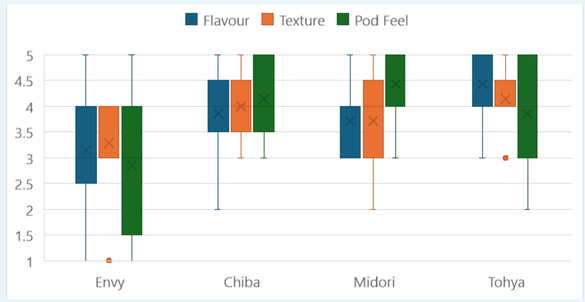


Figure 2. Palatability (flavour, texture, and pod feel) of four edamame varieties. Bars denote range of values, excluding outliers. Box tops and bottoms denote 25th and 75th percentile, respectively.

Conclusions

- Using compost as mulch increased survival and yield of edamame soybean.

Acknowledgements

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