The Effects of Insecticides on Leptinotarsa decemlineata and Solanum tuberosum

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Purpose: To compare the effects of commercial and natural insecticides on the growth, density, sugar content, and percent solids of Red Norland Potatoes. Secondly, to determine the efficacy of the products on Colorado Potato Beetles. Procedure: 1. Collect one agricultural insecticide (Belay) along with three natural insecticides (Neem, Lemon Rind, and BT). 2. Prepare solutions by mixing according to field application rates. TEST PLOT STUDY: Observed the effects of commercial and natural insecticides on the growth of Dark Red Norland potato plants infested with Colorado Potato Beetles versus potato plants without. Also, determined the percentage of brix and solids, and overall potato density. DIP TEST: Ascertained the insecticidal attributes of the products through direct contact on CPB adults and larvae. INGESTION: Sought the products' insecticidal properties by observing the mortality rates over time of CPBs after feeding on treated potato leaves. PERCENT OF LEAF EATEN: Performed to determine the percent of an insecticide-treated potato leaf consumed by Colorado Potato Beetle larvae at timed intervals. Conclusion: For the overall test plot study, the results were consistent throughout the brix, density, and percent solids test. Lemon rind produced the highest yields and proved to be the superior product through the full test plot study. The commercial insecticide, Belay, was very consistent throughout every test in the overall insect study, and it proved to be the best product for the insect study. Overall, considering every aspect of this research, Lemon Rind was the superlative solution while BT was the most inferior.

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