The Effects of Rhizobia Inoculation on Moringa oleifera Growth, a Fourth Year Study

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The purpose of my experiment is to investigate a method to increase the growth rate and yield of Moringa oleifera to help alleviate malnourishment and related diseases worldwide. I continued into my 4th year of research by applying the nitrogen-fixing bacteria (Rhizobia) to Moringa oleifera during the production of the tree. My main goal was to determine the relationship of Rhizobia inoculation as an affective method to increase the growth rate and yield of Moringa oleifera. Moringa oleifera is a significant source of nutrients. In 25 grams of Moringa oleifera powder a child will receive the following recommended daily allowances: Protein 42%, Calcium 125%, Magnesium 61%, Potassium 41%, Iron 71%, Vitamin A 27%, and Vitamin C 22%. The tests were successful and demonstrated Rhizobia will potentiate growth in the production of Moringa oleifera. In two months, the 100 plants that were inoculated with Rhizobia had an average increased rate of growth of 16% and a 157% increase in biomass compared to the untreated plants. Therefore if the process of inoculation is put into place then Moringa oleifera will have an increased yield, a larger biomass, and positively affecting world nutrition, medical prevention, and economics.

Awards Won:

Fourth Award of $500