

# Worm Tea: Environmentally-Friendly Alternative to Artificial Fertilisers

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The agricultural sector is an essential sector of the economy that is responsible for the production of food crops for sustenance and exports. To rectify the problem of poor crop quality, artificial fertilisers have been introduced. However, artificial fertilisers could have long-term negative effects on the natural environment. The hypothesis of this investigation was "Worm tea comprised of worm castings will stimulate crop growth and yield sufficiently to be an alternative to artificial fertilisers." An agricultural region in South Africa was visited to conduct experiments due to crop issues that had been experienced. A garden was divided into 4 groups (5.5m x4m each) where cabbage seedlings were grown in soil enriched with manure solution, worm tea, water and artificial fertiliser respectively. The effects of the liquids added were evaluated over a three-month period by assessing the growth rate, leaf surface area, root length, stem height monthly. The worm tea proved to be the most effective additive when the cabbages in worm tea grew to full growth for 80 days as opposed to the 106 day-period of the experiment. The cabbages also had the longest root length, which was fundamental to the absorption of nutrients. This indicated that worm tea was effective as a natural fertilizer, which stimulated the growth of cabbages the fastest therefore, it is an environmentally-friendly alternative to artificial fertilisers.