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Guided By

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Project Title

AUTOMATIC AEROPONIC SYSTEM

Abstract:

The water culture aeroponic system refers type of system that can be used in growing plants as well as in agriculture fields. This system includes automatic guided nozzles to spray a mist of fertilizers water to the each plant roots. Also including a servo motors to operate it.

An aeroponic system was developed for the production of root crops used in the herbal and python pharmaceutical industries. The variability in the physiochemical quality of botanical products precludes the ability to administer uniform dosing in clinical studies. Aeroponic systems allow the producer to precisely control root zone nutrient and water regimes and environmental conditions, as well as have complete access to the roots throughout the life of the crop. This control promises a more uniform harvest

The plants were harvested and the dry weights of aerial parts and roots were determined, as well as the chlorogenic acid concentration in the dried roots. Chlorogenic acid is a caffeoylquinic acid derivative known to have antioxidant activity. The biomass yields of the aerial parts were significantly higher in the aeroponically grown plants compared to the controls. The root biomass yields showed no significant difference between treatments. The chlorogenic acid concentrations were also not significantly different; however the plant-to-plant variability was significantly lower in the aeroponically grown plants, suggesting the potential for more consistent physiochemical yields using this production technique.

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