

SUITABILITY OF VERMIWASH FOR HYDROPONICS FOR GROWING TEA [*CAMELLIA SINENSIS* (L.) O. KUNTZE] AND CITRUS (*CITRUS AURANTIFOLIA* L.)

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Vermiwash is a liquid extract and rich organic medium consisting of macro and micro nutrients, plant growth hormones and beneficial microorganisms. This is used as a nutrient supplement in the field for many crops, especially in organic cultivation. Nursery tea has been grown hydroponically using Albert's solution. In this work, a vermiwash unit was established and the changes in fresh and stored vermiwash were monitored at regular intervals. The suitability of vermiwash (1:9 dilution) was also evaluated as a hydroponics medium for tea [*Camellia sinensis* (L.) O. Kuntze] and citrus (*Citrus aurantifolia* L.). It was compared with Albert's solution (1 g/L) in hydroponics medium and half strength (0.5 g/L) Albert's solution + vermiwash foliar application (1:9 dilution). The results showed that pH, EC, total nitrogen and total potassium increased with time in the fresh vermiwash. The maximum values of these parameters were 8.1, 2.03 mS/cm, 157 mg/L and 172 mg/L, respectively. The available N content also increased gradually and maximum nitrate -N (199 mg/L) was recorded in the 4th week. Total phosphorus content showed the highest value in the 5th and 6th weeks (45 mg/L), and the potassium content appeared to be continuously increasing. The results indicated that the best time for collection of vermiwash is 3-4 weeks after establishment and it could be continued up to next 3 to 4 weeks. The nutrient contents of stored vermiwash did not significantly change with time indicating that it could be stored for about two months under proper conditions. Tea and citrus plants grown with Albert's solution showed better growth than half strength Albert's solution + vermiwash foliar application and vermiwash in hydroponic solution. Results indicated that use of vermiwash as an alternative to Albert's solution in hydroponics may impose limitations for its use in tea and citrus, hence need to be studied further.

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