

**EVALUATION OF GROWING MEDIA COMPOSITIONS;
DIFFERENT COMBINATIONS OF PEAT AND COCO
PITH**

A dissertation submitted to the
Faculty of Animal Science and Export Agriculture
Uva Wellassa University

In partial fulfilment of the requirements for the award of
Bachelor of Science in Palm & Latex Technology and Value Addition

by
Karunathilaka D.M.N.U.

**Department of Export Agriculture
Faculty of Animal Science and Export Agriculture
Uva Wellassa University of Sri Lanka**

2021

ABSTRACT

Coconut coir is an excellent soil conditioner similar to peat moss and exhibit similar performances as growing substrates. The evaluation of growing media composition in terms of different compositions of peat and coco pith, enables an evaluation of performance of different combinations of peat and coco pith as a growing medium as substrates. Selected seven peat types and coir pith were mixed with three ratios as (30%:70%), (20%:80%) and (10%:90%). Then physical properties were evaluated such as moisture content, electrical conductivity and pH value. Tomato (*Lycopersicon esculentum*) was used to evaluate the growing parameters. The plant growth parameters such as plant height, number of leaves, root dry weight were measured from the first week to seventh week of planting. Based on the results of the present study, the moisture content of the blends were observed between 70-80%, pH were between 4.8-7.5 and electrical conductivity were found between 80-180 (μScm^{-1}). The highest plant height was observed in the blend type P2C80 Blend. The highest root dry weight was recorded in P2C80 blend type among all the custers. The highest number of leaves, highest plant height and highest root dry weight found in P2C80% and it was recorded as eleven numbers of leaves, 23.12 cm, and 88.2g. All plant parameters were significantly affected by the blend type according to the statistical analysis. However, results of the present study revealed that **P2C80** blend is the best performing grow bag substrate (Peat type - Baltic fraction A 3-5 mm Latvia peat) for tomato.

Keywords: Coir pith, Peat, Growing media ratios, pH value, Electrical conductivity, Moisture content, Tomato