

**EFFECT OF PROPAGATOR HEIGHT ON GROWTH AND
SURVIVAL RATE OF BLACK PEPPER (*Piper nigrum* L.) AT
NURSERY STAGE**

A dissertation submitted to the
Faculty of Animal Science and Export Agriculture
Uva Wellassa University
In partial fulfillment of the requirement for the award of
Bachelor of Science in Export Agriculture

by

ILMINI MADUSHA WIJERATHNE

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

2017

ABSTRACT

Black Pepper (*Piper nigrum* L.) is a spice belongs to family Piperaceae and known as the “King” of spices. Propagation through stem cuttings is the common practice. Before field planting, stem cuttings should keep about 1.5 months inside the propagators and another two months under hardening process at the nursery stage. There is a need to identify the proper height of propagator which gives the highest growth and survival rate. Objective of the study was to increase the growth rate of pepper cuttings to produce field-ready plants within a short period of time by changing the propagator height. The experiment was conducted at the Central Research Station, Matale, Sri Lanka, during August to November 2017 and six different propagator heights (30, 40, 50, 60, 70, and 80 cm) were used as the treatments with 3 replications. Growth parameters such as number of leaves, shoot length, root length, number of roots and root volume and survival percentage were evaluated using ANOVA technique. Propagator with 50 cm height produced plants with significantly highest performance in the above growth parameters except number of leaves compared to 60 cm propagator (current practice). Survival percentages in 50 cm and 60 cm propagators are 99.3% and 98.6% and root volumes were 0.85 cm³ and 0.73 cm³, respectively. Therefore, propagator with 50 cm height can be recommended to propagate pepper cuttings within shorter period of time in place of 60 cm propagator.

Keywords: Black pepper, Growth, Propagator height, Stem cuttings, Survival percentage