

## Effect of Different Initial Pruning and Training Practices on Canopy Development of Black Pepper (*Piper nigrum* L.) using Planting Material Originated from Ground Runners

H.W. Rosayuru<sup>a</sup>, H.M.P.A. Subasingha<sup>b</sup> and W.G.C. Wekumbura<sup>a</sup>

<sup>a</sup> Department of Export Agriculture, Faculty of Agricultural Sciences, Sabaragamuwa University of Sri Lanka, Belihuloya, Sri Lanka

<sup>b</sup> Agronomy Division, Central Research Station, Department of Export Agriculture  
warunirosayuru1122@gmail.com

Black pepper (*Piper nigrum* L.) is the most used spice in the world because it has more uses while it is the most economically important spice that is cultivated in Sri Lanka due to premium price in the international spice trade. Intercropping with tea and coconut and monocrop cultivations are practised by Sri Lankan farmers. However, initial pruning on black pepper vines is not a common practice among farmers which resulted in incomplete canopy filling and low plagiotropic branches at the lower part of canopy causing lower yield. Therefore, the present study was conducted with the objective of evaluating the effectiveness of initial pruning and training practices on increasing the number of orthotropic and plagiotropic branches in the canopy. Planting material originated from ground runners were used in Randomized Complete Block Design with five replicates and four treatments as Ground runner (without pruning or training as control), Pruned only, Trained only and Trained and Pruned pepper plants. Pruning of pepper vines was done at the 70 cm height level and training of pepper vines was done using coiling and burying around the supports. After a two and half month period the number of plagiotropic branches from Trained and Pruned ( $12 \pm 1.68$ ) followed by Trained only ( $11 \pm 0.76$ ), Ground runner ( $7 \pm 0.39$ ) and Pruned only ( $5 \pm 0.44$ ) pepper plants respectively was reported. The reported orthotropic branches for Trained and Pruned, Pruned only, Trained only and Ground runner pepper plants were  $4 \pm 0.31$ ,  $4 \pm 0.38$ ,  $2 \pm 0.17$  and  $2 \pm 0.24$ , respectively. The highest number of leaves ( $95 \pm 12.51$ ) and total orthotropic shoot length ( $98.14 \text{cm} \pm 14.91$ ) were also reported from Trained and Pruned pepper plants. According to the results, it was clear that Trained and Pruned pepper plants showed better performance for all growth parameters as compared to other treatments. Therefore, it can be concluded that training and pruning of ground runner pepper plants at the initial stages is more beneficial for having more number of orthotropic and plagiotropic branches.

**Keywords;** ground runner, orthotropic branches, plagiotropic branches, pruned, trained