Care and Maintenance of Young Pepper Vines

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Pepper Supports

As pepper is a climber, provision must be made for supports. Belian, also known as Borneo ironwood, is most widely used as it is resistant to termite attack and can last more than twenty years, well beyond the life span of pepper vines. However, belian post is expensive and its acquisition would be the most expensive item in the establishment of a garden.

Use of hardwood support for pepper

Currently, two living supports, *Gliricidia sepium* and Simpuh (*Dillenia suffruticosa*) are used as alternatives to belian post. Dedap (*Erythrina indica*) is no longer recommended due to severe infestation by the insect pest, erythrina gall wasp (*Quadrastichus erythrinae*). For gliricidia, stakes used for planting should preferrably be about 2 m in length and about 4-5 cm in diameter. However, stakes of 1.2-1.5 m in length can also be used if there is shortage of planting material. For shorter stakes, a terminal shoot arising from the upper portion of the stake is allowed to grow until it reaches a height of about 2.2-2.4 m. Other shoots that sprout on the stake are pruned. The terminal shoot is then pruned regularly to a height of 2.3 m with the pepper growing on the support maintained at 2.0 m in height.

Pepper vines on gliricidia living support

Pepper vines trained on Simpuh support

Managing Young Pepper Plants

Pruning of Vines – Pruning of vines is aimed at the formation of a thick and uniform canopy of leaves which covers almost the whole length of the support within 20-24 months after planting.

Formation pruning – Three rounds of pruning are recommended during the immature phase of vine growth. In the first pruning at about 6-8 months after planting, the terminal shoot is pruned back to about 30 cm from the ground. Three new terminal shoots, originating from the axillary buds, are allowed to develop. The second pruning is at 12-14 months after planting when the vines have reached half post. This involves the removal of 6-7 nodes from the top of each terminal so as to encourage lateral growth of the lower leaf canopy. Only 3 vigorous shoots, one from each of the original terminals, are allowed to grow up the post. A third pruning is done when the terminal shoots have reached the top of the post. It is similar in details to the second pruning and is carried out just before the vines are brought into production.

Pruning of unwanted shoots and branches – This includes pruning side branches close to or lying on the ground so that the mound is not heavily shaded. Whenever, there are three or more consecutive blank nodes on the terminal shoots, pruning is necessary to prevent the occurrence of unsightly gap in the canopy. All unwanted terminal shoots, including hanging branches near the top of the vine should be pruned periodically. Any water shoots or stolons arising from the three main stems should also be removed.

Training of Pepper Vine on Support – As the vine grows, it should be trained up the support. When the adventitious roots arise from each node, they should be made to cling to the support by tying with raffia string. If living support is used, the attachment of the adventitious roots to the support may be weak. Therefore each node should be carefully tied to the support.

After the vine has reached full post, the terminal shoots near the top should be tied firmly to the support by using galvanized wire. This is to prevent lodging particularly if living support is used.

Managing Pepper Living Support

If vines are trained on living supports, a reduced height of 2 m is recommended. This is necessary to prevent leaning of supports, facilitate pruning of the support and allow more light to reach the vine canopy. Living supports are trained to ensure single trunk formation with a leafy crown at the top.

A young vine maintained at 2.0m height on living support

Fertilising

For immature vines (1-2 years old), compound fertiliser of formulation 12:12:17:2 + TE or 14:14:21:2 + TE (Nitrogen: Phosphorus: Potassium: Magnesium + Trace Elements incorporated) is applied in two narrow bands. This is done by racking a shallow trench just below the outer canopy of the vine. The fertiliser is then placed in the trench and covered over with a thin layer of soil. Fertiliser should not be placed above the underground stem as this may cause severe scorching and possible death of vine. The frequency and rate of fertiliser application is as follows:

Months after planting	Fertiliser	Quantity per vine
On planting mound, 2-3 weeks before planting	Dolomite	1.0 kg
1 month	N:P:K:Mg + TE (12:12:17:2 + TE or 14:14:21:2 + TE)	80g
3 months	12:12:17:2 + TE or 14:14:21:2 + TE	100g
5 months	12:12:17:2 + TE or 14:14:21:2 + TE	100g
7 months	12:12:17:2 + TE or 14:14:21:2 + TE	100g
9 months	12:12:17:2 + TE or 14:14:21:2 + TE	100g
11 months	12:12:17:2 + TE or 14:14:21:2 + TE	120g
13 months	12:12:17:2 + TE or 14:14:21:2 + TE	120g
15 months	12:12:17:2 + TE or 14:14:21:2 + TE	120g
17 months	12:12:17:2 + TE or 14:14:21:2 + TE	160g
19 months	12:12:17:2 + TE or 14:14:21:2 + TE	160g

N – Nitrogen, P – Phosphorus, K – Potassium, Mg - Magnesium, TE – Trace Elements

Besides compound fertiliser, dried chicken dung or pelleted chicken manure is usually applied 2-3 times per year during the immature period to boost the vegetative growth of the young vines.

Weed Control and Managing the Ground Cover

Circle weeding around the pepper vines needs to be done so that the cover crop does not compete to any great extent with the vines at any stage. This can be done manually or using contact herbicides but in the case of the latter, care must be taken to prevent drift from affecting the lower canopy of the vines.

Circle weeding of pepper mounds

Flower spike removal during immaturity period

All flower spikes produced within the first 12 months after planting are removed. Thereafter, the vines are allowed to bear the crop.