

Vegetative propagation of *Epipremnum aureum* by stems Cuttings

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Abstract

This research work has given a method for vegetative propagation by stem for *Epipremnum aureum* which is ornamental plant of high commercial value. Studies were conducted to investigate the effects of Plant growth regulator. Investigations were carried out on rooting of stem cuttings of *Epipremnum aureum*. The Cuttings were treated with different combinations of auxins. A long with distilled water. Stem cuttings of *Epipremnum aureum* treated with Indole-3-acetic acid (IAA) +Indole-3-butyric acid (IBA) at 300 ppm was proved significantly effective for percent rooting and more number of leaves.

KEYWORDS : Vegetative propagation, Stem cutting, *Epipremnum aureum*, Ornamental plant

INTRODUCTION:

Epipremnum aureum, locally known as Money plant is belongs to Araceae family consisting of herbs. The money plant is very interesting plant. It has long 5 shiny leaves per branch but luckiest. Plant has six or seven leaves per branch. It is used to various aspect that is social aspect, science aspect etc. Money plant is used in the practice of fengshui. It has five leaves that are believed to represent five of the most basic elements of fengshui; metals, wood, water, fire, and earth. A money plant that grows with six leaves is said to be even luckier than the trees with five leaves. However if you have a money tree with seven leaves it is considered to be extremely lucky. This is said to increase wealth and prosperity. The presence of money plant in the practice of fengshui is said to balance out any of the five elements that are weak or missing from the room. The money plant is an herbaceous plant and often is called C4 plant as it has mechanism of converting carbon dioxide to organic compounds during photosynthesis with the release of oxygen. With least consumption of oxygen by the photo respiration releasing carbon dioxide as other c3 plant do. It uses oxygen only during cellular respiration for photo respiration. So the net production of oxygen by photosynthesis is greater than the consumption of oxygen during respiration with the net increase in oxygen concentration in the atmosphere. Money plant can be used as indoor air filter. It filters air and may convert carbon dioxide to oxygen by its photosynthetic mechanism. quite faster than it can convert oxygen to carbon dioxide by respiration so it keeps the room sufficiently oxygenated. It is better to keep it near to the window in the northwest corner of the room. It is believed that a money plant brings your good luck, good fortune, wealth and prosperity for causing great things to happen. The present study was undertaken to standardize a protocol for vegetative propagation by stem cutting *Epipremnum aureum*.

MATERIALS AND METHODS

Collection of plant material

The stems were collected in the month of February 2012 from mature plant growing inside the garden of Shashi Engg.works plot no 148 in Govindpura Bhopal.

Selection of explants

Healthy stem were selected as explants for direct vegetative propagation. Segment of stem 20-30 c. m. length and 3-4 c. m. thick stem were excised properly.

Procedure

Present work healthy stem cutting from mature plant of *Epipremnum aureum* 20-30 cm and 3-4 cm stem cutting from the basal portion of branches with short internodes. The cuttings were planted in right season i.e. February to March and September to October. Polybags having size of 22.5 x 12.5 cm were used for planting (Heller, 1992). The drainage holes were provided at the bottom of the polybags. The treated as well as untreated cuttings were planted to a depth about 6 to 8 cm. various concentrations of growth regulators were prepared. The cuttings were washed in tap water and tied in bundles of 10 each. Cutting bundles were treated with 0.3 % Benomyl for 15 minutes. These cutting bundles were treated with 100–300 ppm concentrations of growth regulators for 12 hours by dilute solution soaking method described by Hartmann and Kester (2007), one lot served as control. The cuttings were dipped with basal 4–6 cm portion in solution.. The cuttings were planted in polybags. After 90 days of planting observations were recorded.

Results and Discussion

The effect of IAA+IBA in combination on rooting of stem cutting in *Epipremnum aureum* growth hormones for different concentrations 100, 200 and 300 were used. The cuttings of *Epipremnum aureum* treated IAA+IBA at 200 ppm were proved significantly effective for percent rooting as different hormones concentrations. Maximum number of leaves per cuttings was recorded IAA+IBA at 200 ppm (Table 1).

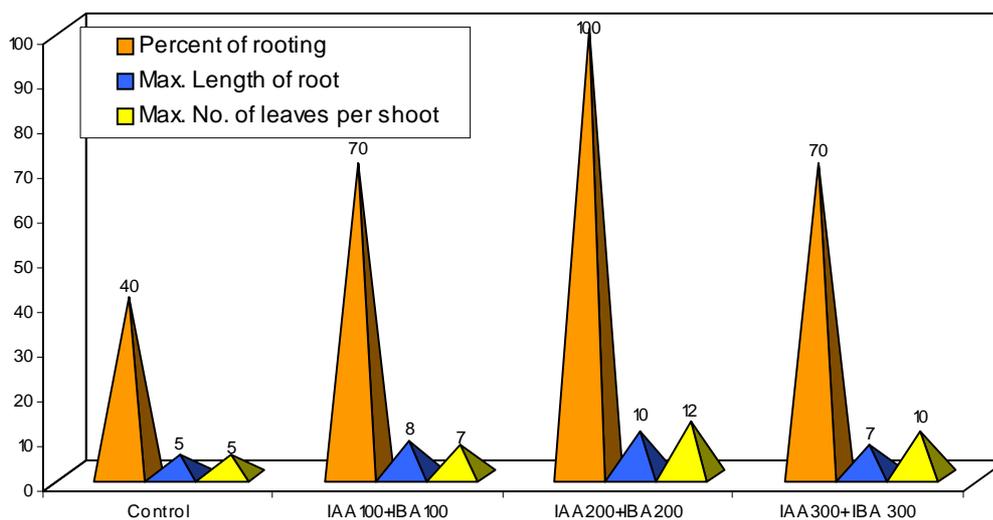
Use of vegetative stem cuttings for the propagation of plants has been found very effective method in number of plants like *ficus caria*, *Nerium indicum*(Nambison et.al, 1977), *Jatropha* species(Rajesh Shrirangrao Gaikwad, 2011)

Table 1: Effect of IAA+IBA on rooting of stem cuttings in *Epipremnum aureum*

Concentration (ppm)	Percent of rooting	Length of root (cm)	Number of leaves per shoot	Morphology of roots
Control	40	4-5	4-5	THIN
IAA100+IBA100	70	5-8	5-7	THIN, LONG
IAA200+IBA200	100	8-10	10-12	VERY HEALTHY
IAA300+ IBA 300	70	5-7	8-10	HEALTHY

Experiments each with three replicates per treatment..

Figure: Effect of root formation of various PGR concentrations.



Plates.



Mature plant

Cutting stem

Rooted stem

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Conclusion:

From the above facts its better to keep the *Epipremnum aureum* into a room to enhance attractive decoration having efficient release of oxygen rate bringing good lucks, fortune wealth etc. It also helps to reduce green house effect and global warming in some extent by lowering carbon dioxide concentration.

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