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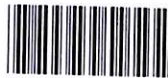
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ROOTING AND GROWTH RESPONSES OF VINE CUTTINGS
OF YAM (*Dioscorea alata* Linn.) TO DIFFERENT
PROPAGATING MEDIA AND
TYPES OF CUTTINGS

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ROOTING AND GROWTH RESPONSES OF VINE CUTTINGS
OF YAM (*Dioscorea alata* Linn.) TO DIFFERENT
PROPAGATING MEDIA AND
TYPES OF CUTTINGS

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ABSTRACT

Bayot, Ariel J., Cavite State University, Office of the Graduate School, March, 1998. Rooting and Growth Responses of Vine Cuttings of Yam (*Dioscorea alata* Linn.) to Different Propagating Media and Types of Cuttings. Major Adviser: Dr. Julio G. Alava.

The study was conducted primarily to evaluate the possibility of using yam vine cuttings as planting materials as substitute source for the traditional tuber setts, and to investigate the effect of the different propagating media on the rooting and growth performance of yam vine cuttings.

It was observed that cuttings obtained from the middle (C_2) and basal (C_3) portions of the lateral vine performed significantly better than those representing the tip (C_1) section. The basal vine cutting produced the highest in terms of survival percentage with 78.60%, the earliest in terms of root initiation with 7.58 days, the longest root length with 61.95 cm and likewise with the highest number of photosynthetically active leaves with 1.99. While the middle vine cuttings produced the highest number of roots formed with 3.32 and the longest shoot length with 21.13 cm. The base and middle vine cuttings revealed no significant difference from each other.

On the other hand, significant differences were also noted from the different propagating media. It was observed that garden soil (P_1) led the other propagating media used in this experiment. It was followed by the combination of $P_1 + P_2 + P_3$ (P_4), then river sand (P_3) and the last was the coconut sawdust (P_2). This pattern of observation was noted in all the parameters evaluated.

The results of this study proved the possibility of using the non-edible vine yam for cutting as a source of propagating or planting materials aside from the traditional tuber setts. Furthermore, the study also indicated that the middle and basal portions (apparently the mature parts) of the lateral vine are best to use as cutting rather than the tip or softwood section. Moreso, the yam vine cuttings could root readily in any propagating medium provided that proper care and management is given due consideration. In the same manner, careful and close supervision is suggested if the cuttings are maintained under controlled condition.

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INTRODUCTION

Yam (Dioscorea alata Linn.), locally known as ubi, is the most popular among the members of the Dioscorea family. It has heart-shaped leaves, winged petioles and vines that twine to the right. Ubi is a climbing plant, thus, support trellis is needed for better exposure of its dense foliage. Under Philippine condition, ubi is planted from March to June and is ready for harvest on the months of November to January. Yellowing of foliage followed by leaf senescence on the latter growth stage is an indication of crop maturity. Some ubi varieties produce bulbils that could be utilized normally as planting setts. Yam is primarily cultivated for its edible tubers which vary in flesh color, shape and number of tubers produced per plant depending on the variety and soil type.

Recent surveys show that the demand for ubi tubers is constantly increasing. Bakeshops and processing companies engaged in the manufacture of different ubi by-products are in great need of this important tuber. Demands in the local market alone is very high. At present, there is insufficient supply of ubi tubers in the local market. This scenario in the supply and demand of ubi tubers in our local market is foreseen to adversely affect the promising future of this particular tuber crop if not given due attention.

Due to the high market demand both in the local and foreign trades for ubi, intensified production of this economically important crop is now given attention by the national government. It has been tapped as one of the key commercial crops of the