FLOWER INDUCTION IN CONTAINER GROWN JAPANESE PEAR

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Introduction

Previous workers have shown that fruit trees can be induced to flower by drought stress, root pruning, manipulation of tree architecture and branch drooping. The physiological processes that controls flowering involves a balance of various hormone such as Auxin, Cytokinin, ABA as well as Ethylene which is still not well understood. The abstaining of oxygen by flooding has been done in Carambola to induce flowering. The objectives of this study were induce flowering of container-grown Japanese Pear in the tropics, to study the genetics of segregation from seedlings, and to investigate whether mass selection can be carried out from seeds. Through local selection, it is hoped that a rootstock or stock plant can be produced from this study.

Materials and Methods

Seeds from Japanese Pear were germinated and transferred to containers filled with suitable media. The plants were pruned to suitable height and then subjected to various treatment to induce flowering. The treatment included root restriction, branch drooping, terminal pruning, root pruning, left defoliation and grigling of stem stress. Treatment will also be given to induce flowering.

Results and Discussion

Twenty Japanese Pear seeds were germinated under room temperature (25°C), only two seeds germinated. Also, 10 seeds that were germinated under chilled condition (0-5°C) for 34 days, gave 100% germination. All the seedlings were transferred either into tissue culture or polybags. Those seeds under tissue culture did not germinate only four of the 20 seedlings that were transferred into polybags survived. These seedlings were transplanted into polybags filled with Jiffy peat pot media. Another 19 newly germinated Japanese Pear seedlings were transferred into polybags under shade house. Meanwhile, stem cuttings of Chinese Pear from Cameron Highlands were rooted in sand under moist condition. The successfully rooted cuttings were transferred to pots using vermiculite media. From 52 stem cuttings of Chinese Pear, only 21 started to root under moist condition. In the pots only 15 out of the 21 rooted cuttings survived, six rooted cuttings died due to root scorching.

Conclusions

From the mass selection of seedlings from seeds, it is expected that a superior or many superior rootstocks or stockplants can be produced. Good scion of Japanese Pear can thus be grafted to these stock plants.

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