A CHEAP AND SUCCESSFUL METHOD OF GRAFTING ROBINIA PSEUDOACACIA 'FRISIA'

D KNUCKEY
Southdown Nurseries, Redruth, Cornwall

The title might suggest that the economic gain of this method is in the grafting of *Robinia pseudoacacia* 'Frisia'; however, from the start may I say that the cost reduction lies in the treatment of the grafts

We usually begin our bench grafting at the end of January onto stocks of *Robinia pseudoacacia* of pencil thickness and upwards. These are drawn from outside where they have been heeled in for the winter, and are then headed back to approximately 6 inches. The scion wood taken from the previous years growth is also chopped into 6 to 9 inch lengths

The graft itself is a shallow, simple side veneer about 2 to 3 in long, bound with grafting cotton, and sealed with paraffin wax The grafts when completed are bundled in 25 or 50 with damp moss between and around their roots. These bundles are then placed in polythene bags with their tops left open.

Although different nurseries seem to use different methods for after-treatment of bench grafts, some store their grafts in damp peat and keep them cool. We find that if the grafts are put into a temperature of 65° -70° F we get very quick callusing within 8 to 10 days.

We use no heated glass in the winter, apart from bench heating in our mist house, so to overcome this problem I first tried a few bags of grafts in our domestic drying cupboard, where there was a constant temperature of 65°—70° F There was an obvious necessity for cleanliness hence the use of clean damp moss and polythene bags. Naturally as I piled more in my wife became more annoyed so another method had to be found! This came quite unexpectedly one day when visiting a friend's Battery Poultry House; here again there was a fairly constant temperature of 65° -70° F. There was plenty of room at the end of the shed so our problem was solved, and the bundles of grafts stacked on their sides.

As stated previously the grafts were left in this warm 'chamber' for 8 to 10 days until well callused and the buds on the scions just beginning to break. They were then removed, the moss in the bags checked for moisture, and stood upright in a cold greenhouse where they were left until early April. Then they were planted directly into field rows and have since grown on successfully.

Having tried this method for two seasons, we found one slight improvement; we attained better and quicker callusing when the stocks were given the "heat treatment" and just brought to the 'bud-

break' stage prior to grafting; then dried before actually grafting.

We have also used this method successfully with bench grafting *Prunus*, *Crataeagus*, top fruit, *Malus*, *Magnolia* and *Hamamellis*.

THE ROLE OF AUXIN IN ROOT INITIATION IN CUTTINGS[1]

ARIE ALTMAN
Department of Horticulture,
The Hebrew University of Jerusalem
Rehovot, P.O. Box 12, Israel

(Dedicated to Prof. Kurt Mendel, Rehovot, Israel, on his 70th anniversary)

Abstract. Root formation in bean cuttings was investigated in terms of its pattern in various tissues, the presence of leaves, and accumulation and transport of sugars with regard to auxin treatments It was found that root-forming ability of various types of cuttings was different, and that the presence of leaves was of prime importance in the expression of the auxin effect IAA enhanced sugar accumulation at the base of the cutting concurrently with root formation, and increased the transport of ^{14}C-labelled assimilates from the leaves in a basipetal direction. A general scheme for root formation is discussed and it is suggested that one of the roles of IAA in promoting rooting of bean cuttings is to increase sugar availability at the site of root formation

INTRODUCTION

Since 1934, when the identity of the "root forming hormone" and endogenous auxin was first established by Went and Thimann, IAA and other synthetic auxins have been extensively used in promoting rooting of cuttings The universality of auxin action is evident from Audus's analysis of 1240 sets of experiments with various stem cuttings (1): in most cases applied auxin improved rooting, 8.5% of the total did not respond to auxin, and only 5.5% were inhibited. On the other hand, it is generally found that plants which normally root with ease will usually respond readily to auxins, whereas poor rooters are much less responsive This, together with the fact that there is a definite relationship between the presence of leaves and buds on a cutting and its capacity to root (10, 15), suggests that the

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