NURSERY EXPERIMENT INTERIM REPORT

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In 1970, experiments carried out by members showed that wounding improved rooting in conifer and other cuttings (see IPPS Combined Proceedings, *Vol. 21 p. 267)*. At least two factors appeared to be involved, one being that the effect of auxin applied to the wounded stem was enhanced.

At the 1971 Annual Conference it was decided to examine whether the mechanism of the wounding response could be attributed to the enhanced absorption of IBA and/or water. Seventeen members did an experiment in which cuttings of *X Cupressocyparis leylandii* clone 2, (supplied where necessary from the Glasshouse Crops Research Institute, by D. Whalley) were wounded and then treated with a readily absorbed solution of IBA in 50% alcohol, or a less readily absorbed powder formulation, both at 4,000 ppm. Cuttings treated by each method were inserted in relatively dry or wet rooting beds, the latter obtained by supplementary watering in addition to the normal mist. The purpose of this approach was to investigate whether wounded cuttings rooted better than normal cuttings where auxin and water were relatively less readily available.

The value of wounding was confirmed and similar responses to wounding and auxin treatment were frequently obtained in the dry and wet locations on each nursery. Results were too variable, however, to provide information on the mechanism of the wounding process, despite all practical steps being taken to standardise the conditions of each experiment.

The probable explanation of this is that in a wide range of nursery situations it is difficult to prescribe and maintain the necessary level of available auxin or water so that each is limiting for normal cuttings and a response to wounding obtained.

Wounding was beneficial, but in association with different auxin treatments and water regimes in different nurseries. This raises the question of whether these effects are likely to be consistent from year to year. Only if this were the case would the Society's Experimental Programme in its present form be of value to the participating members, and an opportunity exist for establishing the normal response in different nurseries and to investigate differences between nurseries which might contribute to their individual success or failure.

To this end it was agreed at the 1972 Annual Conference that members who have taken part in experiments to-date should be asked to repeat them during 1973 to afford a comparison between

two years' results as a measure of consistency. The 1972 experiment with X *Cupressocyparis leylandii* will form an essential part of this comparison and detailed results of this experiment are, therefore, not given in this interim report.

THE LONG ASHTON BUDWOOD DE-LEAFING MACHINE

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At the Long Ashton Research Station large quantities of budwood of virus-tested apples, pears, plums, cherries and ornamental *Malus* are distributed to the nursery industry each year. The preparation of this material takes considerable time and the leaves must be removed immediately to reduce water loss by transpiration. The need arose for a De-Leafing Machine which would reduce this time to a minimum.

Machines have been constructed before using razor-blades and a few are in use in Europe, particularly in Holland. It proved impossible to purchase a machine and it was decided that one should be designed and built to our own specifications by the Long Ashton Instrument Workshop (Fig. 1).

The machine is powered by a 12v motor which can be run off the electrical system of a Land Rover vehicle in the field or with the aid of a small transformer by mains electricity. A belt drive from the motor rotates a cylindrical stainless steel cutting blade mounted on a nylon core at a speed of approximately 3000 r.p.m. (Fig. 2). The nylon core acts as a guide to ensure the leaf is removed leaving a portion of petiole (for use as a 'handle' during budding) and the bud left undamaged. The notched blade is used to reduce the need of the frequent sharpening and replacement that many of the European machines require (Fig. 3).

The nylon core can be changed to deal with the variations in budwood thickness which occur; e.g. the ornamental *Malus* species require a much smaller diameter core than more vigorous apple