



Fig. 4. Soil temperature at one inch depth recorded on 8, 9 August, 1971.

little soil warming under white polythene and temperatures at rooting level were generally sub-optimal for rooting even on the first (warm) day. Soil temperatures under clear polythene were considerably higher and there was a reservoir of soil warmth which maintained a temperature of more than 20° C. (68° F.) throughout the night. It is likely that the soil temperatures of more than 30° C. (86° F.) recorded on the first day, would be too high for satisfactory rooting of most cuttings.

The figures presented indicate that the types of polythene film available at the moment and used in these trials are not ideal as a covering for propagating tunnels. A less opaque white polythene which allows a greater degree of soil warming while still not allowing excessively high air temperatures, may be more desirable.

PROPAGATION OF MINIATURE ROSES BY CUTTINGS

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The method about to be described was developed where a few hundred plants could be produced from a few stock plants, and where facilities are limited to cold frame protection, with a slightly heated house to grow on the rooted cuttings. It was inspired by a few unsold and unpruned plants left to overwinter in a cold house. These developed dwarf shoots in March and April, which were removed, rooted and produced excellent plants by autumn.

Propagation and Production. Well grown stock plants are covered by a frame light in March to protect the breaking buds on last

year's growth. When several little shoots have two fully expanded leaves, the upper portion of the stem carrying them is removed to force the lower buds to break and be given similar treatment subsequently.

The shoots are pulled off and the remnant of last year's wood trimmed away; then, having dipped them in rooting powder and boxed up for the mist unit, rooting occurs quickly and potting-on may begin in 17 days. Rooting medium may be peat and grit, sand and grit or just washed sand, but not coarse vermiculite on its own. The harder the growth the easier the operation becomes; our success rate in rooting is 95%.

After potting into containers, the rooted cuttings are grown under glass with slight heat, and given a weekly liquid feed. Six to ten weeks after propagation (in late May and June) they can be sold as small plants in flower. Stopping growth helps to develop branched plants. Disease control is only occasionally necessary.

For quality plants potting-on is essential at this stage and, from a June potting, they grow rapidly outside and are saleable by late July. Disease control now becomes essential and Black Spot is countered by a weekly spray of Captan.

Conventional cuttings can usually be taken twice by mid-summer from the stock plants, after which subsequent growth is left to provide the dwarf shoots the following spring. Summer propagation can be intensified by reducing the shoots to leaf-buds, which grow rapidly after rooting, and produce plants ready to sell in spring. Not unnaturally, to meet the heavy demands for propagation material, the stock plants require heavy feeding and these have to be replaced every two or three years.

Cultivars. No varietal differences are apparent in their ability to root, or in the time taken, but the following comments can be made about the plants so far tried.

'Little Buckaroo', 'Yellow Bantam' and 'Cinderella' may all be grown into bushy plants without stopping.

'Fresh Pink' is vigorous but, even with stopping, produces a one-sided plant of few shoots. It is more disease resistant than any other.

'Tinkerbell', 'Oakington Ruby', 'Baby Masquerade' and 'Easter Morning' require stopping, but form good plants.

'Baby Ophelia', 'Little Flirt', 'New Penny' and 'Perle d'Or', though rooting readily, have not the vigour of the other cultivars, and need to be grown on for a further year.