

K. LAWRENCE: How did you recommend these particular growers get rid of their infected stock?

J. WARD: The plants had to be destroyed, best by fire, destroying the container and composts as well. We covered them with a polythene tent open at the end. It takes about three weeks to dry the material to a degree where we can then burn it. We put it into very large polythene bags that are to be taken away and burnt.

**DISCUSSION GROUP REPORTS**  
**GROUP A**  
**SUNFRAMES AND**  
**LOW POLYTHENE TUNNEL PROPAGATION**  
CHAIRMAN — S.J. HAINES

The numbers attending this session showed the great interest there is in low cost propagation techniques.

On our pre-conference visit to Boulton Brothers nursery we had seen a full frame of conifers rooted under double glass, cuttings inserted in August and now ready for moving on.

Several members were using combinations of polythene and lights on their frames. Lila Dick favoured the polythene over the frame lights, thus sealing the lights and preventing pools of water accumulating on the polythene laid over the cuttings.

It was agreed that cuttings were often inserted at too great a density, and that better results were achieved by giving more space, this being particularly true of larger-leaved species such as hydrangeas. Roger Platts favoured potting these on in later summer, but care must be taken with many subjects due to overwintering problems.

John Ward and others spoke of their experience in using large tunnels as cover protection over low "inner" tunnels in which were rooted a wide range of summer cuttings.

David Whalley of the Glasshouse Crops Research Institute quoted the work of Keith Loach on light intensity and relative humidity under polythene. In lay terms their work boils down to finding the balance between the light required for photosynthesis and the need to conserve water in the cutting during the period prior to root formation. Light levels are measured in the currently favoured international units known as megajoules per square metre. In July radiation can measure up to 20 megajoules per square metre (20 MJ/m<sup>2</sup>), but the desirable light level for rooting is between 1.5 MJ/m<sup>2</sup> and 3.0 MJ/m<sup>2</sup>, so 78% shading would be

required to reduce the daily radiation level. For those of us who rely on our judgment rather than sophisticated instruments 3 MJ/m<sup>2</sup> is about the same level of radiation as occurs on a dull October day.

Ray Evison reported that he uses about 80% shade each day over his clematis cuttings. Peter Elliott said that at Coles' they use about 60% shade over clematis and also 40% shade over milky polythene-covered low tunnels during the period directly after insertion of cuttings.

The use of such degrees of shading makes the use of polythene laid directly over cuttings a far less hazardous proposition, and our visitor from Denmark, Ole Larsen, showed us slides of cuttings directly inserted under a cover of white polythene (no hoops). Once covered, cuttings inserted June/July were left to root with very little further attention. Doubts over puddling on the polythene by rain and snow, pressure on the cuttings and disease control were raised but we were assured that results were excellent and costs of production very low.

Mention was made of a system used by Heinz Classen of low poly-tunnels under glass to root cotoneaster and junipers in May, water being sprayed over the tunnels to reduce air temperature. Also observed in Germany, in November, rooting of conifers in white poly-tunnels inside glasshouses without heat or hormones.

We were reminded of the double glass frame system at Boulton Bros. and wondered whether we tended to forget a well proven and inexpensive system.

Shading of polythene was discussed, use of varishade and another material tried at the Glasshouse Crops Research Institute but never manufactured.

Use of thermal screens for shading was recommended by Margaret Scott, as was a leaflet No. 24 issued by Lea Valley on the subject.

We have certainly come a long way since this subject was first discussed at our Conference in 1972, but perhaps not so far as one would have expected. It will be interesting to see what further progress can be made in these low cost propagation techniques.