

R. THURLOW: Do you use chip or T budding?

D. CLARK: In the case of cherries, we chip.

S. HAINES: There are still cultivars in nurseries that are not virus-free, like 'Tai Haku', of which we do a large number. We had virus-free 'Kwanzan' and 'Avium Plena' on virus-free 'F12/1' which were a good crop, while 'Shidare Zakura', 'Tai Haku', 'Shirofugen' were nothing like as good.

A. CARTER: Cherry problems have cropped up from time to time. It was interesting to note that Nat said that Hadlow buds are better. We bud *Acers* at a certain time and we do not pay enough attention to the state of the stock or the budwood to make sure its right. I was pleased to hear David say that this year his budding may be done next week. If your nursery has been going 30 years, you have, in fact, been making a clonal selection because if it is purely a clonal problem then over the years you have been taking wood from the good ones.

H. SHEPHERD: We have been budding Bruce's Hadlow budwood for 10 years now, and normally with chip budding we get about 80% take. I would attribute most of the variance that we get to possibly *Verticillium* because this is a great problem, particularly with *Acer platanoides*. We are doing a study of sources of 'Crimson King'. Bruce's Hadlow clone has consistently given high takes. Some others have given 20%. Even though the clones look alike, there are differences in the budding take. One of the main problems in *Acer* is establishment of the stock. We irrigated our stock last year continuously; they grew actively and we found this gave us the highest bud take. We had stocks which were not irrigated; we root pruned them to slow the flow of sap but we found this was detrimental and lost about half because they were growing under stress.

### 1980 ROSE BOWL AWARD

The President of the G.B.&I. Region, P.A. Hutchinson, presented the Region's 1980 Rose Bowl Award to P.D.A. McMillan Browse. In outlining the recipient's outstanding contributions the President referred to his services as Hon. Treasurer (1969-72), Hon. Editor (1973-76), his terms as Vice President and Conference Organiser (1977), as President (1978) and as Past President and Committee Member (1979). As well as holder of the above offices he made contributions as Administrative Organiser for the 1969 Hadlow Conference, as lecturer in 1969, 1970, 1974, 1977, 1978 and as Discussion Group Leader in 1972 and 1979.

During the whole period since the formation of the G.B.&I. Region in 1968, P. McMillan Browse has been a regular attender

at Area and One-Day Meetings, almost without fail participating in the discussion sessions at these meetings. Recently he has written two books: "Hardy Woody Plants from Seed" (Grower Books) and "Plant Propagation" (Mitchell Beazley).

## THE APPLICATION OF MODERN INSTRUMENT TECHNIQUES TO HORTICULTURE

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An instrument is a device that is used in performing an action — a tool or an implement. It, therefore, follows that the term instrumentation refers to the operation or arrangement of one or more instruments. Instruments of an electronic or scientific nature when used in horticulture should be considered as tools or implements and are there as such to perform or assist with a wide range of actions. The question is whether we can identify those actions that can benefit from the use of modern instrumentation techniques. The actions being carried out daily within horticulture are no less frequent, diverse, or precise than those found in many other process industries. Indeed, it can be stated with some certainty that many actions related to plant growth continue for 24 hours of every day. Why should it be necessary to consider or seek new aids for the long established industry of horticulture? It is worth remembering that even the simplest tool such as the spade was evolved as a result of identifying those actions that could be assisted by the use of a suitable artifact. Are more sophisticated tools required, perhaps specifically designed for tasks found only in horticulture or, alternatively, is it possible to borrow existing techniques from other industries? Much of the instrumentation already in use within the horticultural industry has been developed primarily for other uses associated for example with medicine, meteorology and geology, whilst research and development has used every available technique. However, over the last 20 years there has been a growing need for the development of specialised equipment both for the grower and the research worker. Until fairly recently many instrument manufacturers considered that the potential sales for their products within horticulture was too small to be of great interest. Of those that did take an active interest there were some who considered that the engineering profession knew what was best for plant production and in some instances this resulted in disas-