



BARTLETT TREE

RESEARCH LABORATORIES

U.K. AND IRELAND



# Plant Health Care Program



## EPICORMIC SHOOTS

Glynn C. Percival

### INTRODUCTION:

Nearly all epicormic shoots arise from dormant buds in the bark, laid down when the young leading shoot first begins to grow. After formation these buds grow sufficiently each year to maintain their position occasionally dividing into two or more buds which in some species i.e. *Quercus robur*, can produce an pad of epicormic bud tissue which in older trees takes the shape of a 'cats claw'. These buds remain dormant for most or all of the trees life.

Epicormic buds are stimulated to grow and produce shoots as a result of stress i.e. sudden environmental change, thinning, crown die-back, heavy pruning, root death, cold, change in the water table etc (Fig 1).



Fig 1. Epicormic shoots on *Sorbus aucuparia*

In temperate regions such as the UK the problem of epicormic branching is largely

confined to oak (*Quercus*), elm (*Ulmus*), lime (*Tilia*), poplar (*Populus*) and willow (*Salix*). Within the genera and between different seed origins of one species the ability to produce epicormic shoots varies i.e. *Q.rubra* and *Q.cerris* generally produce far fewer epicormics than *Q.robur*, while among species of lime, (*Tilia x europea*) will produce epicormics and basal suckers profusely while the small leaved lime (*Tilia cordata*) is often free of them.

### CONTROL:

Pruning: provides an instant result however later on in the season or next season more epicormics are produced.

Stem wrapping: such as black polythene or painting the stem with black bitumastic paint. Paint proved ineffective, expensive and unpleasant to apply. Wrapping reduces numbers while on the tree but once removed new epicormics are produced in greater numbers. Wrapping is also expensive and unsightly.

Growth regulators (1-naphtylacetic acid, daminozide); Defoliant such as Copper EDTA, contact/systemic herbicides (Glufosinate/Glyphosate) and growth retardants (Maleic hydrazide) have all been tested. Only Maleic Hydrazide (trade name Mazide 25) provided 2 year control. Mazide 25 will also reduce overall tree growth.