## IV. Prune Dieback and Related Problems

### Prune Potash Project

R. M. Carlson

Analysis of survey samples for the 1974 season is incomplete. Data in hand from new orchards (those not sampled in 1973) indicate that the nitric acid extraction procedure for soil K is not as good as we had hoped.

Leaf analysis of Claron Hesse's Marianna seedling rootstock candidates show a wide range in K concentration (0.8 to 3.4%, samples taken 7/29/74) giving hope that it may be possible to select a better rootstock for K nutrition.

Rather than continue collecting samples this coming season we need to complete the laboratory and statistical analysis of the samples already collected before the data is irretrievably buried in the pile. Additional field work should be limited to situations that are suggested from the examination of samples in hand. I plan to start more intensive work on the rootstock possibility.

### Cytospora Canker

Harley English

Research on this project has been largely completed and the results are being prepared for publication. It has been found that the Cytospora fungus is a common invader of the sunburned branches but that it does not cause extensive damage unless the tree is in a weakened condition. Trees under moisture stress developed larger cankers than trees adequately irrigated. Canker severity also was correlated with soils that were high in clay content, shallow, and/or low in potassium. Some evidence was obtained that nematodes may predispose trees to the development of Cytospora canker. The sunburning that promoted Cytospora canker resulted from the bending over of heavily laden branches or from defoliation associated with prune dieback or lack of water. Pruning wounds and leaf scars were not important as sites of infection. The pathogen produces two types of spores, one of which (conidia) is spread largely by rain whereas the other (ascospores) may be either rain or wind disseminated. Conidia appear to be much more abundant than ascospores and are thought to be responsible for most of the infection.