

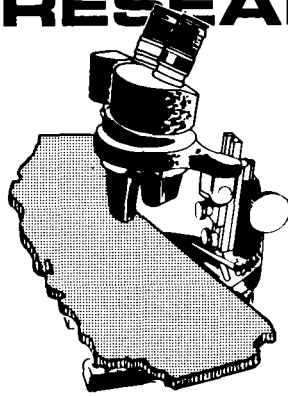
RESEARCH PREVIEW

that could be interpreted as pear decline symptoms. These trees were found infrequently in most orchards but were numerous in a few plantings. The results presented here do not represent a survey of any specific area or orchard.

It seems clear that pear decline is affecting some trees planted within the past 8 years. However, the disease was not diagnosed for all trees having external appearances of decline. It is also apparent that most of the decline-affected trees were on some kind of *P. communis* rootstock. No differentiation is made here among types or seedlings within this species since present methods do not allow varietal identification. Most were said to be "domestic" *P. communis*. Because some plantings had unusually high numbers of decline-affected trees, certain seed or seedling lots may be suspected as being susceptible rather than an occasional unsatisfactory seedling. It would seem that *P. communis* rootstocks, even excepting the "old" French type, cannot be referred to as being an immune, tolerant, or resistant species to pear decline although this may be true of certain types within the species. The presence of decline-susceptible *P. communis* rootstocks in certain plantings emphasizes the need for more specific knowledge of rootstock identity as well as susceptibility within this species.

The detection of a few hybrids between *P. communis* and the decline-susceptible *P. serotina*, points to further uncertainties in rootstock identity. The presence of even a few such seedling rootstocks suggests that inadequate knowledge exists about seed sources and control of seedling parentage. Pear rootstocks may be variously referred to as *P. communis*, "domestic" *P. communis*, or seedlings of a commercial variety. Except for own-rooted varietal cuttings, considerable uncertainty may exist about the parentage of seedlings. If flowers of an apparently tolerant variety were pollinated by a less tolerant or susceptible variety or seedling, then susceptibility could be imparted to the seedlings. A recent report of pear pollen being transported by wind over distances up to one-half mile suggests that caution be taken in naming both parents of seedlings because of the proximity of pollinator varieties.

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STORING CITRUS

Riverside plant physiologists are conducting storage experiments on naval orange fruits grown in central California in an attempt to prolong storage life. Field treatment with gibberellin and storage at different temperatures are being explored.

AERIAL CENSUS-TAKING

Several projects by foresters are aimed at determining the value of aerial photography for identifying forest species and delineating major timber types; evaluating wildland resources; and making an inventory of crops and livestock over wide areas.

CONTAINER-GROWN PLANTS

Landscape horticulturists at Davis are studying the effects of container size, root pruning, and transplanting time on the growth of ornamental plants. The information obtained may help nurserymen develop better growing methods.

TOMATO VARIETIES

The search for better varieties of both canning and fresh-market tomatoes is continuing at Davis and in plots as far away as Puerto Rico. A by-product of this research is further knowledge about genetics that may, in time, help in the whole science of plant breeding.

WINE-GRAPE VARIETY TRIALS

Over 70 different new wine-grape hybrids are now being tested by viticulturists at the Kearney Horticultural Field Station. These include grapes for red table wines, port-type sweet wines, and white table wines.

MORE EFFICIENT FERTILIZERS

Davis researchers are comparing nitrate and ammonium salts as sources of nitrogen fertilizer for several crop plants. Some important differences in growth and com-

A continuing program of research in many aspects of agriculture is carried on at University campuses, field stations, leased areas, and many temporary plots loaned by cooperating landowners throughout the state. Listed below are some of the projects currently under way, but on which no formal progress reports can yet be made.

position attributable to nitrogen source have been observed. These tests, along with evaluations of the effects of different rates of application, are aimed at developing recommendations for more efficient use of fertilizer.

BINDWEED CONTROL

Studies on use of picloram at low rates to control bindweed show promise, and further work on this problem is being carried on at Riverside.

INCENSE CEDAR FOR CONSTRUCTION

Preliminary tests with old-growth incense cedar trees from Blodgett Forest show that the wood may be as suitable for light construction as the more commonly used white fir and western hemlock. Incense cedar is currently used primarily for the manufacture of pencils.

MITE CONTROL ON CITRUS

Over 60 different compounds have been tried and evaluated at Riverside to try to find more efficient controls for citrus red mite and Pacific mite. Further studies are planned, and will include timing, rate of application, and the effectiveness of oils under conditions in which oils are not generally used.

THISTLE-CONTROL STUDIES

Attempts are being made to import a European insect into California (under strict quarantine) to test its host-restrictiveness for use in controlling yellow star thistle.

WALNUT HUSK FLY

Berkeley entomologists have experimented with applications of chemicals to the soil in which pupae of the walnut husk fly overwinter, in the hope of controlling the pest's emergence rate. Only one chemical showed promise, but none seems economically feasible at this time.