

Pear Decline Disease

in the general economy of California

A. D. REED

The worth of California's 1959 pear crop amounted to more than \$66 million of value to the state's economy; gross returns to growers were in excess of \$27 million; and the value to nongrowers exceeded \$39 million.

Pear production in California is concentrated in the 10 counties—Santa Clara, Placer, Lake, Sacramento, El Dorado, Mendocino, Solano, Sonoma, Contra Costa, and Yuba—that have 85% of the total producing acreage.

Bartlett pears constitute 91% of the total acreage and more than 150,000 trees have been killed by the pear decline disease since the disease was found in California in March, 1959.

The total effect of pear decline on the economy of California will depend on the percent of the trees killed by decline and the rapidity with which orchards are replanted or converted to an alternative use.

The effects of pear decline on the local economy of the producing areas can be severe. In some of the leading production areas pears account for nearly 50% of the agricultural income and in some cases are a large percent of the total income of the county.

Pear production costs vary from area to area and from farm to farm but for

the state, costs approximate \$670.00 per acre per year. Most of the production costs represent cash paid out to nonfarm segments of the economy.

Labor constitutes about 40% of the cost of producing the state's pear crop with pruning and harvesting accounting for about 78% of the labor bill. Because much of the labor is hired, approximately \$7.5–\$8.0 million are paid to agricultural laborers each year by pear growers. The value of grower and family labor used in pear production amounts to \$2.0–\$2.5 million and would be paid to the nonfarm sector of the economy to cover living expenses for the farm family. Therefore, about \$10.5 million are contributed annually to the economy in the form of labor payments in the production of pears.

Fuel and repairs for tractor and equipment operation account for about \$2.7 million paid in cash by pear growers to oil companies and machinery dealers.

Fertilizer—less than 2% of the total cost of production—represents about \$385,000 paid to dealers for this factor of production.

Spray and dust—important cost items—contribute nearly \$2.9 million to the local economy, just for the materials.

Water or power, on the average, amounts to nearly \$600,000 and is much more important in some areas than in others because of the source of the water. Purchase of water by growers concerns irrigation districts in areas where there is no good alternative to pear production.

Taxes on property add about \$1.2 million to the cost of producing pears in California. About 30% of the tax is on the trees themselves and the remaining 70% on the land, buildings, irrigation system, and equipment. However, a loss of pear trees through decline could result in more than 30% decline in taxes on a particular orchard if the land must be reassessed for a lower economic use and if some of the machinery is discarded because it is no longer needed for production. Because about 56% of the taxes

are distributed to schools, 42% to county government, and 2% to other districts, a reduction in taxes would be a severe blow to local taxing units.

Miscellaneous cash expenses for accounting, legal services, telephone, travel, and other costs of management account for nearly 4% of the cost of pear production. These are not major items in terms of the total cost of production but a major source of income to the establishments furnishing those services.

Depreciation constitutes nearly 13% of the cost of producing pears. Although it is not a current cash expense of production, the depreciation cost is paid out over time to replace machinery, buildings, irrigation systems, and to replant orchards. On the average, pear growers in California pay out about \$3.25 million each year to replace depreciable facilities.

Interest costs are about 13% of the total cost, approximately the same as depreciation. Interest is not a cash cost of production unless the operating capital has been borrowed or there is a mortgage on the fixed assets. In any case, the interest is spent in the state.

Over 70% of the pears produced in California have been going to the cannery with 27% shipped fresh and 2% dried.

Packing costs for fresh fruit shipments average about \$54 per ton which is divided 30% to labor, 50% to materials, 10% to fixed costs, and 10% to administration and general operating expenses. Fresh fruit shipments contribute to nonfarm segments of the economy about \$16.20 per ton to labor; \$27.00 per ton for materials; \$5.40 per ton for fixed costs; and \$5.40 per ton for administration. The total contribution by the fresh fruit shipping industry amounts to \$5,715,900 annually.

Processing costs for canned pears can not be accurately estimated from the information available. The best approximation is the difference between the value

Continued on next page

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Annual Range Forage

to seasonal applications of urea

MILTON B. JONES

To test the efficiency of nitrogen fertilization on California annual rangelands, a three-year study was made of forage yield and nitrogen uptake in relation to the dates of application of urea fertilizer.

Study plots were located on Sutherlin fine sandy loam, at an elevation of about 1,400' in Mendocino County. Fertilizer was applied by broadcast about the middle of September, November, December, January, February, and March each year. Fertilizer treatments were nitrogen

as urea, and urea with phosphorus as treble superphosphate. Nitrogen was applied at the rate of 50 pounds per acre the first two years and 75 pounds per acre the third year. Phosphorus was applied at the rate of 75 pounds per acre for all three years.

A factorial design with four replications was used. The first year individual plot size was 7'x30'. The second year individual plots were split in half to 7'x15' in size. One half was fertilized and the other half received no fertilizer,

so the effect of the carryover could be measured. Half of each check plot was fertilized the second year, to measure the effects on previously unfertilized areas. Plots which received fertilizer the first year but not the second were fertilized again the third year, as no residual effect was measured on any of those plots by the end of the second year.

Forage production was measured by clipping three plots one foot square from each plot, in February and again in May,

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Test plots treated with nitrogen in October at rates of 30 pounds and 100 pounds per acre; photographed in November.

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of pears sold to the cannery and the value of the canned product. This difference includes not only the costs of processing but also any profit made by the canners. Since this entire difference enters into the nonfarm sector of the economy, it can be considered as a contribution from the pear industry.

Pears canned in California in 1959 amounted to 286,700 tons or 5,227,522 cases packed and valued at \$32,149,260.

The cause of pear decline is unknown but the severity of the potential economic loss to growers and nongrowers justified a statewide, all-out research program designed to find the cause and control—if any—of the disease. The United States

Department of Agriculture, the states of Washington, Oregon, and California have assigned qualified personnel to work with the University of California Agricultural Experiment Station in an effort to find a solution to the problem of the pear decline disease.

A. D. Reed is Extension Economist, University of California, Davis.