

Vegetable Production

in the 12-year period, 1947-1959

Ben C. French

A study of relative changes in post-war factor prices, unit costs, and productivity in the vegetable producing and processing industries has provided indicators of significant economic changes in those industries and suggests something of the future direction of the economic forces involved.

For purposes of the study, production and processing inputs were each grouped into three major classes. Production cost components were grouped as labor, land, and other inputs—such as repairs, fuel, materials, and depreciation; processing cost components were classified as labor, packaging materials, and capital and overhead. Selling costs and costs of the raw vegetable product were not included.

Factor Prices

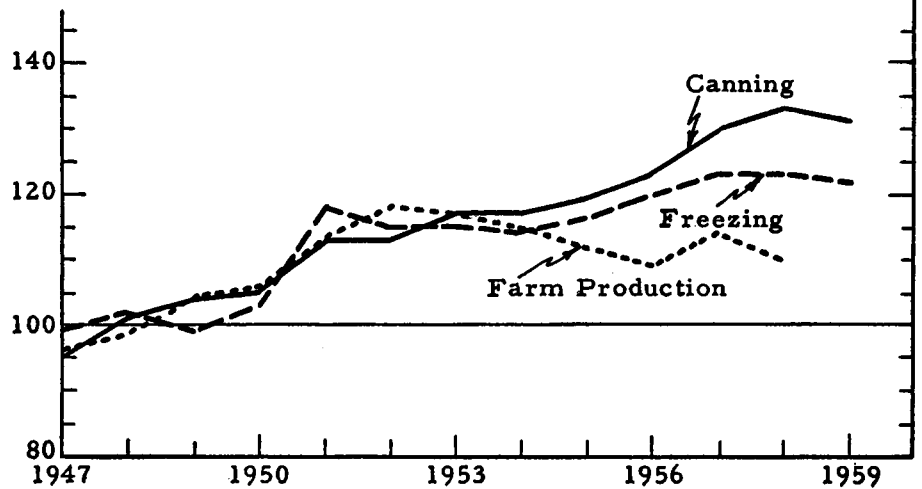
The United States average price of inputs used in producing vegetables in 1959 was about 39% above the 1947-49 average. Of the three production input groups, land prices rose most steeply, labor less, and other production inputs least.

Prices of inputs used in canning were, on the average, about 54% above the 1947-49 average, while prices of freezing inputs had increased about 46%. The

smaller increase of freezing inputs was due to the relatively lower cost rise of packaging materials for frozen vegetables. Prices of all other major input components increased at about the same rate.

Regionally, prices of farm production inputs showed a smaller percentage increase in the Pacific region than in other major vegetable regions of the United States.

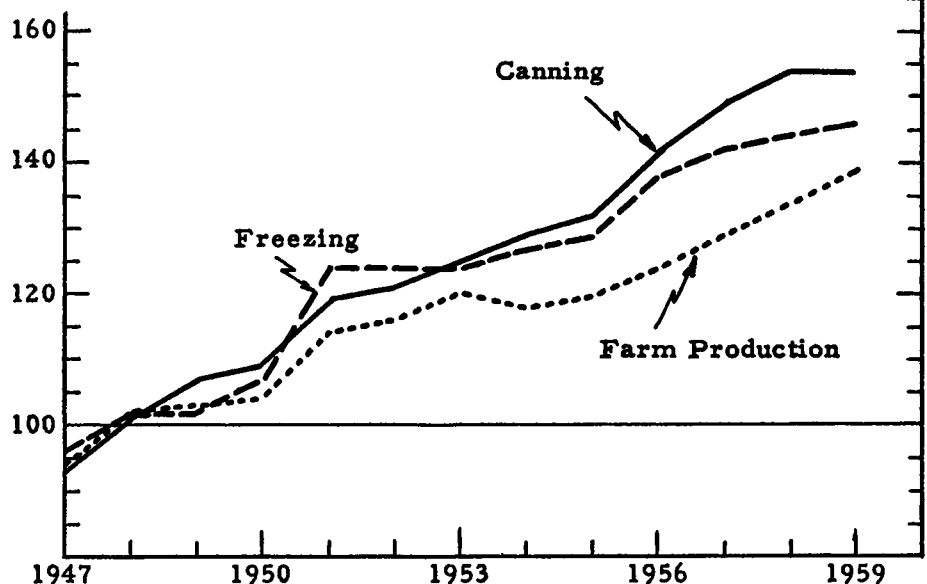
PER CENT OF 1947-49



Changes in cost per unit of output in producing, canning, and freezing vegetables, United States, 1947-1959.

Changes in prices paid for factors used in producing, canning and freezing vegetables, United States, 1947-1959.

PER CENT OF 1947-49



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With increasing productivity, average cost per unit of output increased relatively less than did prices of inputs. In fact, unit cost of farm production actually decreased from 1953 on, and in 1958 was only about 10% above the 1947-49 average, as compared with a 34% increase in the average price paid for inputs. Similarly, canning cost per unit of output in 1959 was 31% above the 1947-49 average, compared to the 54% increase in prices of canning inputs; freezing costs

had increased by 22% compared with a 46% increase in the prices of freezing inputs.

These comparisons bring out the possible misleading effects of using indexes of prices paid for inputs as measures of relative change in production costs.

Cost Changes

Cost per unit of farm output showed the lowest over-all percentage—but not

absolute—change in the Pacific region. This was largely due to a smaller relative increase in wage rates in the Pacific area and, in most years, a greater percentage increase in vegetable yields.

Labor cost per unit of output in both producing and processing of vegetables declined, while costs of capital, overhead, and materials increased. However, this does not mean that the efficiency of labor, as such, increased while that of capital declined. Although individual worker performance may have improved, most of the labor cost reduction probably came from technological advances, capital substitution, or both.

Over-all unit processing costs increased at roughly the same rate as production costs, until about 1952. Since that time cost per unit of farm vegetable production has drifted generally downward, while processing costs have continued a small upward climb.

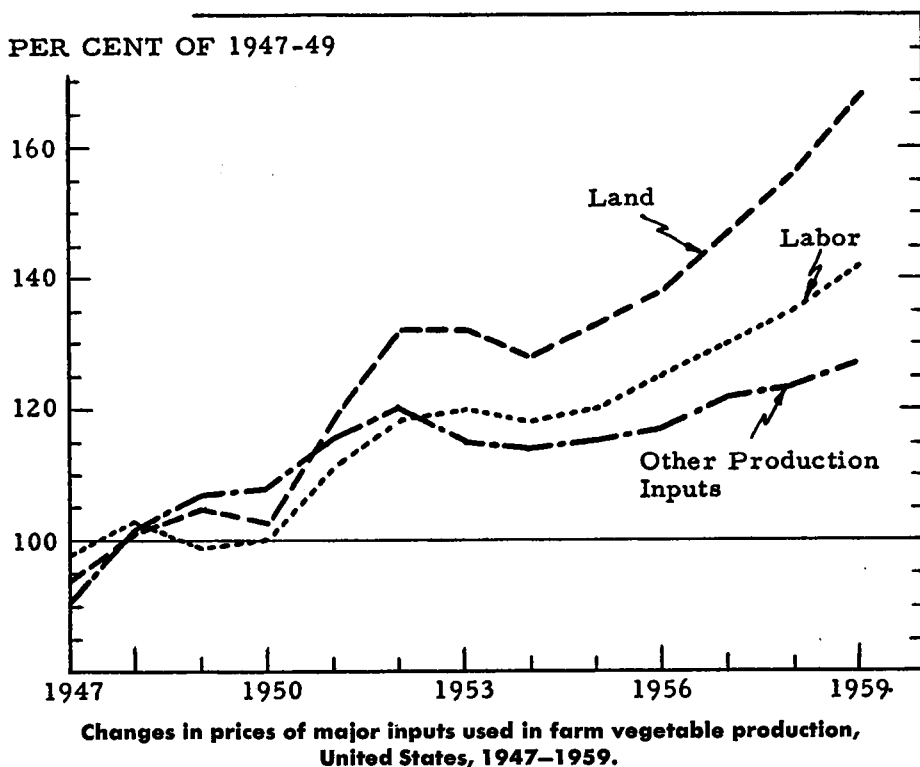
Productivity

Productivity—the ratio of the output of product to the input of resources—may increase with technological advances, improved organization, scale of operations, and other less tangible factors. The changing mix of outputs and inputs and the complex nature of conditions associated with those changes make the measurement of productivity an extremely difficult process. Measures of total productivity are therefore subject to important limitations. The indexes of productivity computed in this study take into account the contribution of all factors rather than attributing changes in output to a single factor, as is the case with measures of labor productivity alone.

The indicators suggest that productivity has increased by about 18%-20% in processing and slightly more in production since 1947-49. If all gains in processing output are attributed to labor, capital, and overhead—with materials excluded—the productivity of these inputs appears to have increased about 40%. The cost reducing forces—improved techniques and organization—have been more than offset by inflationary increase in input prices, but without the reducing forces unit costs would have increased more than has been the case.

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The above report is based on Giannini Foundation Research Report No. 241, Cost and Factor Price Changes in the Vegetable Producing and Processing Industries, 1947-1959.



Change in cost per unit of output for major classes of farm vegetable production inputs, United States, 1947-1959.

