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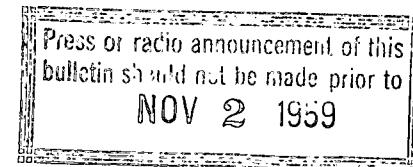
Transportation Rates

on

Oregon's Green Bean Industry

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Transportation Rates on Oregon's Green Bean Industry

By Ronald E. Young and Gerald E. Korzan*

Conclusions

Between 1946 and 1958, freight rates from Oregon to markets east of the Rocky Mountains increased over other areas the equivalent of from \$.0051 to \$.0126 per #303 can of green beans, depending on the market. The model shipment plan in this research indicates Oregon would lose its eastern markets to other growing areas if Oregon green beans were the same quality as those produced in the competing areas. Fortunately, Oregon green beans are of superior quality, commanding a premium price.

Any percentage transportation rates increase in the years ahead could seriously affect Oregon's competitive position in the green bean market unless the consuming public is willing to pay an even higher premium price, and this appears to be unlikely. Furthermore, there is no evidence available that costs of production will decline in Oregon relative to competing regions. Therefore, further transportation rate increases will likely reduce grower net returns, other things equal.

Sales price policy has not been considered in this analysis, but it is an important part of any over-all marketing effort. It could be best for Oregon processors to emphasize securing more of the nearby western markets even if it meant a slight reduction in price so long as the reduction was less than the difference in freight rates to the more distant markets.

What is the Problem?

Oregon has been producing 20 to 25 percent of all green beans processed in the United States. Principal competing states in production of green beans for processing are California, Florida, Maryland, New York, Pennsylvania, Tennessee, Washington, and Wisconsin. These states, together with Oregon, account for between 75 and 80 percent of total production. With the exception of the other West Coast states, all principal production areas are closer to population centers of the East and Midwest than Oregon. Oregon, located far from large markets, must compete for these markets with relatively long transportation hauls.

A history of rates indicates a series of increases from 1946 to the present. Until 1955 the method of calculating increases consisted of applying a straight percentage to former rates. Since Oregon shippers have paid higher basic rates, the percentage increase raised the amount paid per unit shipped from Oregon by a greater amount than from production areas located nearer the consumer centers. In 1955 the method of increasing rates on canned and frozen foods changed. A straight percentage is applied to the existing rates and if the increase does

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not exceed a predetermined maximum or holddown, the percentage increase applies. If the increase exceeds the maximum, only the maximum applies. The holddown has the effect of limiting the amount of increase which applies to Oregon shippers. In all cases since 1955 the maximum increase has applied to Oregon shippers, except on shipments into Washington. However, rates from competitive producing areas located closer to large markets have not increased by the full amount of the holddowns. Thus, the difference in rates paid by Oregon shippers is still increasing over other producer areas but to a lesser degree than before 1955.

With several sources of supply, buyers in the market can choose the source which provides them with the product at competitive prices. They will pay no more for Oregon green beans than for New York or Florida beans of the same quality. In order to compete with other production areas, Oregon shippers must absorb the increase in rate differentials or pass it back to producers. Thus increases in rate differentials clearly become a factor which works against the competitive production by Oregon's processed green bean industry.

Oregon bean growers have probably maintained their competitive position in the market largely because of premium quality which has resulted in premium prices.

Objective of Study

The objective of this study is to determine the extent to which the competitive position of the Oregon green bean industry has changed due to increasing transportation rates.

Present Location of Markets

In 1957, more than 50% of Oregon's total shipments went to states east of the Mississippi River where 60% of the green beans for processing are grown. This means Oregon is competing for markets with production areas which have a distinct geographical advantage.

More than 20% of all Oregon processed green beans were sold in New England states and on the Eastern Seaboard (Figure 1). More than 20% were sold in the Midwest and over 10% in the deep South. A substantial number of Oregon's green beans find markets a long way from home.

Less than 12% of Oregon's green beans are consumed in Oregon (Figure 1). It is common practice for one processor to ship beans to another in the same state or region. For example, frozen beans are sometimes shipped in bulk pack for use as an ingredient in a vegetable mix. Also large quantities are shipped to staging points within the state and are later sold in other states. Reshipments were not determined because data were not available.

Changes in Markets Between 1953-57

Oregon sold a larger volume of green beans in 1957 than in 1953 in all regions of the United States, largely because production increased by two-thirds during this five-year period. Sales percentages declined in the New England states and particularly in the nearby states of California, Nevada, Utah, Arizona, Washington, Idaho, and Montana. Markets expanded greatly in southern and midwestern regions. Also a slightly greater proportion of Oregon green beans were sold in the Atlantic Seaboard states and in the South Central States, particularly in Texas, in 1957 than in 1953. Hence, growing markets for Oregon green beans are in the south and the midwest regions.

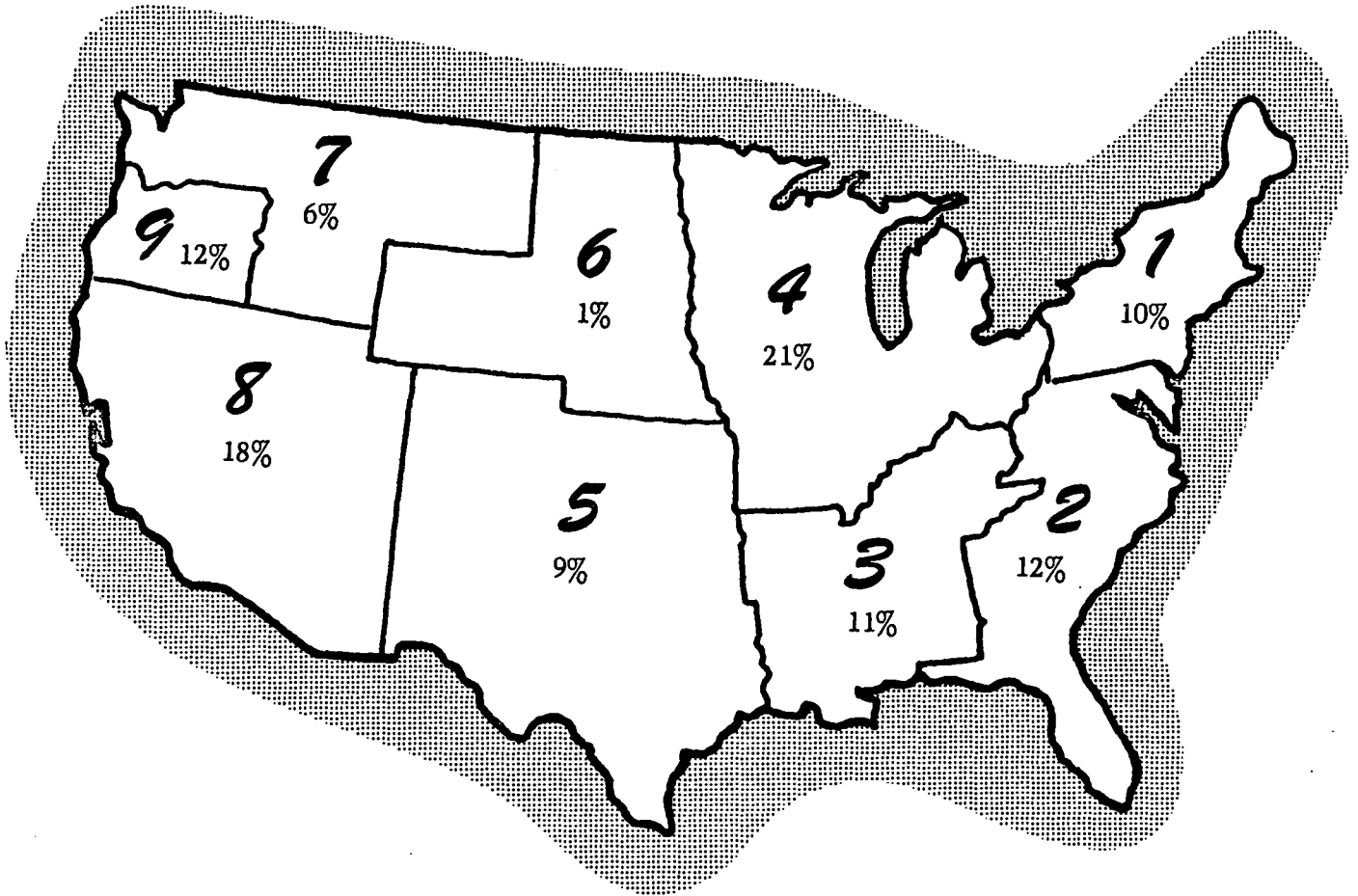


Figure 1. Oregon green bean sales in 1957

Impact of Changing Freight Rates on Competitive Position

Between 1946 and 1958 freight rate differentials from Oregon to markets east of the Rocky Mountains increased from \$0.39 to \$0.97 per hundredweight or from \$.0051 to \$.0126 per #303 can, depending on the market and the competitive producing area. The rate increases occurring between 1946 and 1958 may appear insignificant unless compared with the price of beans. When compared with an estimated average, Oregon F.O.B. price of \$.12 for a #303 can, it means transportation rate increases amounted to from 4 to 10% of the price of beans, depending on the market. These figures are net increases in freight rates paid by Oregon shippers over the period indicated as compared with competing areas. In other words, Oregon shippers experienced a disadvantage in getting their beans to market which ranged from \$.0051 to \$.0126 per #303 can between 1946 and 1958. To simplify analysis, all transportation rates used in this study are for canned green beans even though as much as 20% of Oregon's beans are sold in frozen form.

On the average, from 1953 to 1958 Oregon shippers worked under the most severe handicap on shipments to Southwestern markets. Net increases in rate differentials under Oregon ranged from \$.23 to \$.52 per hundredweight. Net increases to the Midwest of from \$.18 to \$.60 per hundredweight were recorded while increases to the South ranged from \$.19 to \$.50 per hundredweight. Increases to the Northeast were from \$.17 to \$.36 per hundredweight.

It can be seen that the structure of transportation rates between Oregon and competitive producing areas is important to Oregon producers. Any change in the structure affects the ability of Oregon producers to compete in the markets. Certain states, because of proximity to large consuming centers, have relatively low transportation costs in marketing their products. Others, like Oregon, are farther from markets, have relatively high transportation costs. Over time, a relationship in rates between producing areas is formed. As rates change, unless they change by the same amount from each production area to each market, and such has not been the case, a new relationship in rates between producing areas is formed. The new relationship may favor the same areas as before but more strongly, or it may favor new areas. The ability of an area to compete in the market depends to some degree on how much or how little the new rate structure favors it, other things equal.

Model Shipment Plan for Green Beans

By partitioning the United States into nine regions (Figure 1) a model shipment plan was calculated for the marketing year August 1, 1956 to July 31, 1957 (Table 1). Production figures for each region are for the 1956 crop. Transportation rates used in the model were railroad rates for canned green beans. The model plan provides for an optimum shipment arrangement which minimizes total transportation costs with regard to the market distribution of green beans. No other plan can be devised that will move green beans to all parts of the country at lower cost under assumptions employed in this study.

Table 1. Computed and Transportation Model Shipments From Oregon, August 1, 1956 to July 31, 1957

| To region | Computed shipments (tons) | Model shipments (tons) |
|-----------|------------------------------|---------------------------|
| 1 | 6,780 | none |
| 2 | 9,340 | none |
| 3 | 6,700 | 11,615 |
| 4 | 15,140 | 40,475 |
| 5 | 8,890 | 12,045 |
| 6 | 1,900 | 6,080 |
| 7 | 6,050 | none |
| 8 | 15,660 | 3,675 |
| 9 | 8,940 | 3,510 |

It is important to keep in mind that in determining the model shipment plan, it was assumed that the green beans produced in various sections of the United States were all of the same quality and per capita consumption was the same in all parts of the country. Neither of these assumptions are entirely correct. With respect to quality, it will be shown later that Oregon green beans are of superior quality commanding a premium price. Also, recent data indicate there are variations in per capita consumption of green beans by regions.

Table 1 compares the computed and model shipments from Oregon. The computed shipments represent the amounts by regions where Oregon green beans were actually shipped between August 1, 1956 and July 31, 1957. With the railroad rates in existence in 1957, the model shipment plan indicates no shipments should be made to the most distant markets. Shipments should be increased to the Midwest and South according to the model and decreased in the nearby markets and abandoned to region 7.

Why Do Computed Shipments Differ From Model Shipment Plan?

There is no doubt that the Oregon market would tend to shrink in accordance with the model shipment plan if relative transportation rates were the only factors determining market distribution. Oregon has been able to hold the distant green bean markets in spite of rising transportation rates largely because of the superior quality of the product. A number of factors such as climate and soil combine to produce a high quality bean in Oregon of very low fiber content which has met with favorable consumer response. This high uniform quality has been the basis of an industry-wide promotional campaign designed to promote consumption of Northwest Blue Lake beans. This promotion undoubtedly has aided in expanding demand to the point where Oregon green beans sell at a premium over other green beans. Estimates of the premium vary but \$.02 per #303 can would seem average.

The large amount of green beans processed in Oregon is another factor which may be of considerable importance in establishing the premium. In order to make procurements more efficient, it may be to the buyer's advantage to pay a premium to insure ready availability of large supplies of a high quality product.

It should be noted that many more green beans were actually sold in the Western states, including Oregon, than was the case under the model shipment plan. This is at least partially explainable through (1) shipments between processors resulting in double counting, (2) shipments to staging centers within the states, later to be reshipped, and (3) shipments to processors who further process the product, of which part probably was to be consumed outside of the West.