

Red Brand Canners

Red Brand Canners was a medium-size company that was specialised in canning and distributing a variety of fruit and vegetable products under private brand names in the western states of the US. On Monday, September 13th, Mitchell Gordon, Vice-President of Operations, asked the Controller, the Sales Manager, and the Production Manager of Red Brand Canners to meet with him to discuss the amount of tomato products to pack that season. The tomato crop, which had been purchased at planting, was beginning to arrive at the cannery. Packing operations would have to start by the following Monday because, after this time, the fruit would begin to deteriorate. In effect this ruled out the possibility of reselling any part of the crop which, if it remained unpacked, would be worthless.

William Cooper, Controller, and Charles Myers, Sales Manager, were the first to arrive in Mr. Gordon's office. Dan Tucker, Production Manager, came in a few minutes later and said that he had picked up Produce Inspection's latest estimate of the quality of the incoming tomatoes. According to the report, about 20% of the 3,000,000 pound crop was Grade "A" and the remaining portion Grade "B".

Mr. Gordon asked Mr. Myers about the demand for tomato products for the coming year. Mr. Myers replied that they could sell all of the whole canned tomatoes they could produce. The expected demand for tomato juice and tomato paste, however, was limited. The Sales Manager then passed around the latest demand forecast (Exhibit 1) reminding the group that selling prices had been set in light of long-term marketing strategy of the company, and that potential sales had been forecast at these prices.

This case is intended to be used as a basis for class discussion, rather than to illustrate either effective or ineffective handling of an administrative situation. All names of individuals and companies are fictitious.

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After looking at Mr. Myers' estimates of demand, Mr. Cooper said that it looked as though the company, "should do quite well on the tomato crop this year". With the new accounting system that had been set up, he had been able to compute the contribution for each product, and according to his analysis the incremental profit on whole tomatoes was greater than for any other tomato product. In May, after Red Brand had signed contracts agreeing to purchase the grower's production at an average delivered price of 18 cents per pound, Mr. Cooper had computed the tomato products' contributions (Exhibit 2).

Exhibit 1. Demand Forecasts

| Product | Selling Price per Case | Demand Forecast (Cases) | Pounds per Case |
|---------------------------|------------------------|-------------------------|-----------------|
| 24-2½ whole tomatoes | \$ 12.00 | 800,000 | 18 |
| 24-2½ choice peach halves | \$ 16.20 | 10,000 | 18 |
| 24-2½ peach nectar | \$ 13.80 | 5,000 | 17 |
| 24-2½ tomato juice | \$ 13.50 | 50,000 | 20 |
| 24-2¼ cooking apples | \$ 14.70 | 15,000 | 27 |
| 24-2½ tomato paste | \$ 11.40 | 80,000 | 25 |

Exhibit 2. Product Item Profitability (per case)

| Product | 24-2½ Whole Tomatoes (\$) | 24-2½ Choice Peach Halves (\$) | 24-2½ Peach Nectar (\$) | 24-2½ Tomato Juice (\$) | 24-2½ Cooking Apples (\$) | 24-2½ Tomato Paste (\$) |
|----------------------|------------------------------------|---|----------------------------------|----------------------------------|------------------------------------|----------------------------------|
| Selling Price | 12.00 | 16.20 | 13.80 | 13.50 | 14.70 | 11.40 |
| Direct labour | 3.54 | 4.20 | 3.81 | 3.96 | 2.10 | 1.62 |
| Variable overhead | 0.72 | 0.96 | 0.69 | 1.08 | 0.66 | 0.78 |
| Variable selling | 1.20 | 0.90 | 1.20 | 2.55 | 0.84 | 1.14 |
| Packaging material | 2.10 | 1.68 | 1.80 | 1.95 | 2.10 | 2.31 |
| Fruit | 3.24 | 5.40 | 5.10 | 3.60 | 2.70 | 4.50 |
| Total Variable Costs | 10.80 | 13.14 | 12.60 | 13.14 | 8.40 | 10.35 |
| Contribution | 1.20 | 3.06 | 1.20 | 0.36 | 6.30 | 1.05 |
| Allocated Overhead | 0.84 | 2.10 | 1.56 | 0.63 | 2.25 | 0.69 |
| Net Profit | 0.36 | 0.96 | (0.36) | (0.27) | 4.05 | 0.36 |

Mr. Tucker called Mr. Cooper's attention to the fact that, although production capacity was ample, it was impossible to produce all whole tomatoes because too small a portion of the crop was "A" quality. Red Brand used a numerical scale to record the quality of both raw produce and prepared products. This scale ran from zero to ten, the higher number representing better quality. "A" tomatoes averaged nine points per pound and "B" tomatoes five points per pound. Mr. Tucker noted that the minimum average input quality for canned whole tomatoes was eight and for juice six points per pound.¹ Paste could be made entirely from "B" grade tomatoes. This meant that whole tomato production was limited to 800,000 pounds.

Mr. Gordon stated that this was not a real limitation. Recently solicited to purchase 80,000 pounds of Grade "A" tomatoes at 25½ cents per pound, he had turned down the offer. He thought, however, that the tomatoes were still available.

Mr. Myers, who had been doing some calculations, said that although he agreed that the Company "should do quite well this year", it would not be by canning whole tomatoes. It seemed to him that tomato costs should be allocated on the basis of quality and quantity rather than by quantity only, as Mr. Cooper had done. Therefore, he had recomputed the marginal profit on this basis and from his results (see Exhibit 3), believed that Red Brand should use 2,000,000 pounds of the "B" tomatoes for paste, and the remaining 400,000 pounds of "B" tomatoes and all of the "A" tomatoes for juice. If demand expectations were realised, a profit contribution of \$145,600 would be made in this year's tomato crop.

¹ This meant, for example, that for every pound of "B" tomatoes used in a batch of tomato juice, one-third pound of "A" tomatoes would have to be used to maintain an average quality level of six points per pound for the batch.

Exhibit 3. Myers' Analysis of Tomato Costs

In calculating the cost of the tomatoes used in the different products, we should distinguish based on the quality of the tomatoes ("A" or "B"). Although average price paid for the tomatoes, namely 18 cents per pound, is for the entire crop, I suggest using different costs for the different qualities. Below is a suggestion on how to compute these costs.

Assume that

- x = cost per pound of "A" tomatoes used in a product (in cents)
- y = cost per pound of "B" tomatoes used in a product (in cents)

Then:

- $(600,000 \text{ lbs.} * x) + (2,400,000 \text{ lbs.} * y)$ should equal $(3,000,000 \text{ lbs.} * 18)$, and
- $x/9$ should equal $y/5$

The first condition ensures that the total price paid for the tomato crop is correct, the second condition ensures that the tomato cost is directly related to its quality, measured by its point value.

The resulting prices are:

- $x = 27.9$ cents per pound
- $y = 15.5$ cents per pound

This gives rise to the marginal profit analysis given in Exhibit 4.

Exhibit 4. Myers' Marginal Profit Analysis of Tomato Products

| Product | Canned Whole Tomatoes (\$) | Tomato Juice (\$) | Tomato Paste (\$) |
|---|----------------------------|-------------------|-------------------|
| Selling Price | 12.00 | 13.50 | 11.40 |
| Variable Costs (excluding tomato cost) | 7.56 | 9.54 | 5.85 |
| Contribution (excluding tomato cost) | 4.44 | 3.96 | 5.55 |
| Tomato Cost | 4.47 | 3.72 | 3.88 |
| Marginal Contribution | (0.03) | 0.24 | 1.67 |

Questions

1. Both Mr. Cooper and Mr. Myers made assessments of tomato product profitability and have drawn conclusions based on this to decide which products to produce. Mr. Cooper concluded that the incremental profit on whole tomatoes was greater than for any other tomato product, and therefore advised to produce whole tomatoes only. Is this reasoning correct?
2. At some point, Mr. Tucker mentioned that it was impossible to produce all whole tomatoes because too small a portion of the crop was “A” quality, and claimed that the whole tomato production was limited to 800,000 pounds. How did he figure that out?
3. What is the reasoning behind Mr. Myers’ analysis of tomato costs? Is his analysis correct?
4. Mr. Myers recommended using 2,000,000 pounds of the “B” tomatoes for paste, and the remaining 400,000 pounds of “B” tomatoes and all of the “A” tomatoes for juice, resulting in a profit of \$145,600. Is this figure correct? Do you agree with his recommendation?
5. Mr. Gordon mentioned that he had received an offer for 80,000 pounds of Grade “A” tomatoes at 25½ cents per pound. Should he have accepted this offer?