# Promotions and Supply Management

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The avocado industry has experienced cyclic production. In oversupply years the surplus avocados can drive the price so low that the grower's total income is about one-half his income in a less productive year. The graphs entitled, "Supply and Demand Trends" and "Income 1981-1988" illustrate the problem. Values for the graphs are listed in the "Surplus Table." For instance, in 1987 the volume was 556 million pounds with an average price of $0.17 per pound with a total grower income of $94.5 million. In 1988 the volume was 350 million pounds with an average price of $0.55 per pound and a total income of $192.5 million. In comparing 1988 with 1987, it paid to produce sixty-three percent as much fruit because the growers' income more than doubled. So a method of supply management can significantly increase the growers' income in oversupply years.
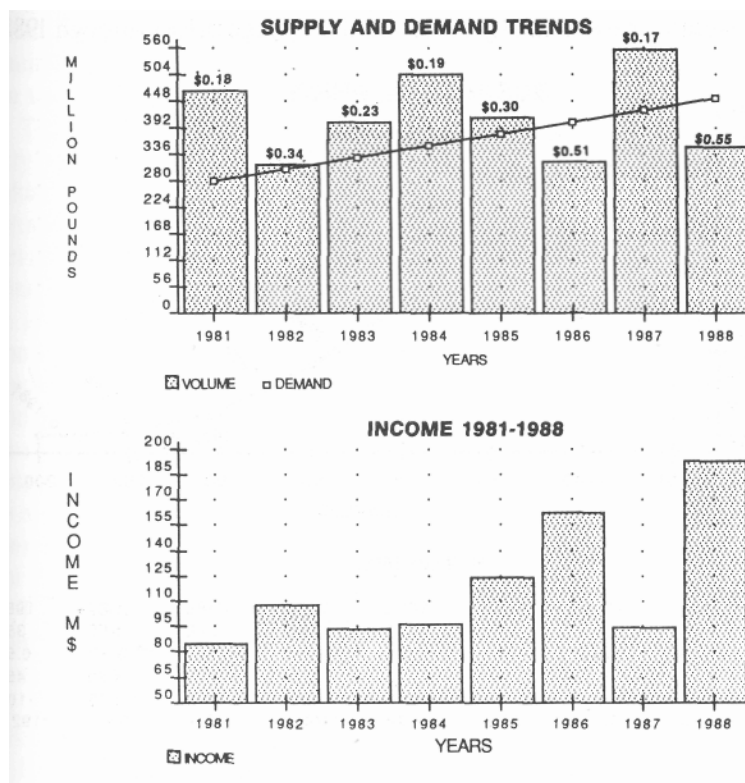
A second even more important problem in the industry is the lack of consumption in the east and Midwest where the per capita use is approximately 0.6 pounds compared to

the approximately 5.0 pounds per capita in the west and southwest. We need to build the demand in the east and Midwest.

It's important to be able to forecast in dollars the effect of oversupply so that action can be taken before the losses from oversupply occur. The upward sloping demand line for $0.36 per pound is shown on the "Supply and Demand Trends" graph. The portion of the volume above or below the line is defined as positive or negative "Surplus." If the surplus is plotted against the average price per pound, as illustrated in the graph entitled, "Surplus vs. Price," a curve representing all of the years from 1981 through 1988 can be drawn. Note that the curve fits the annual points very well with minute exceptions for three years at the lower end of the curve. If one knows the volume before the season starts, the average price can be predicted, so that total income can be forecast. With 20-20 hindsight, it's significant to point out that an initial curve could have been drawn after 1983 that would have essentially predicted the average prices through 1988.

SURPLUS vs. PRICE
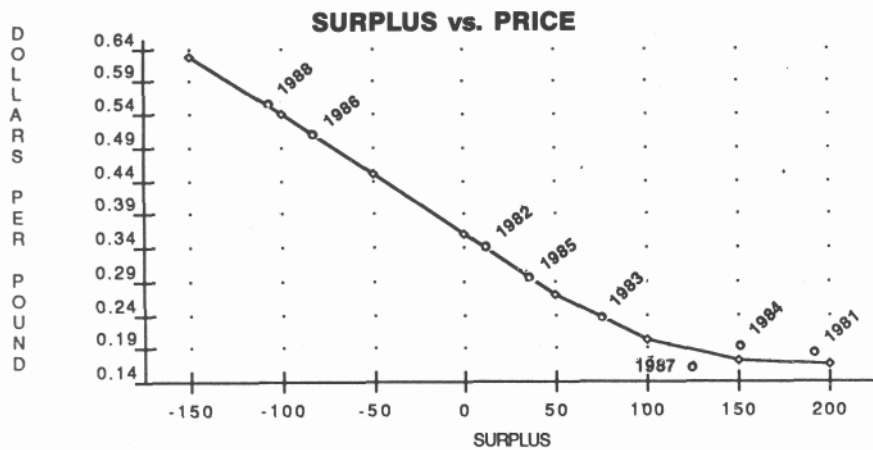
SURPLUS TABLE

YEAR	1981	1982	1983	1984	1985	1986	1987	1988
VOLUME	470	315	405	505	415	319	556	350
PRICE	0.18	0.34	0.23	0.19	0.3	0.51	0.17	0.55
DEMAND	280	305	330	355	380	405	430	455
SURPLUS	190	10	75	150	35	-86	126	-105
INCOME	84.6	107.1	93.2	96	124.5	162.7	94.5	192.5

Note that the curve is practically a straight line to the left of a surplus of plus-fifty million pounds. Its slope is $0.18 per 100 million pounds. In other words, for every reduction of 100 million pounds in volume the price increase is $0.18 per pound, or for fifty million pounds, $0.09 per pound, etc. As the volume is increased so that the surplus increases to over plus-fifty million pounds, the curve bends upward, and finally at approximately 150 million pounds and more, it remains horizontal. If the surplus were controlled from, say, 200 million pounds to 150 million pounds, there would be little change in price per pound compared to the surplus controlled downward from plus-fifty million pounds to minus-150 million pounds.

The demand line for $0.36 per pound was defined by CAC in November, 1986. It rises twenty-five million pounds per year and may increase or decrease slightly from year to year, but twenty-five million pounds per year is not significant compared to the cyclic

swings in production. An exception will be the coming export supply to Europe in 1989 to make up for Israel's disaster.

Based upon the principles presented above, a similar demand line for $0.45 per pound would parallel the $0.36 per pound line and be drawn $0.09 per pound below it. Similarly, a $0.54 line can be drawn at another $0.09 increment.

The foregoing principles can be applied for parallel curves for future years for income vs. various volumes. Also, curves for peak incomes and their corresponding volumes in future years can be drawn. These would be useful to CAC for administering supply management.

The foregoing concepts establish a need for supply management and quantify the effect of oversupply. A method for handling an oversupply is illustrated in the chart entitled, "Promotions." The chart shows how all growers will supply their packers with fruit and one in five avocados are set aside as assessments and packed in fifty pound special promotion boxes. One in five is not sacred; the ratio is determined by CAC prior to November 1; it can be adjusted if major calamities occur which significantly change the forecast production. Four Promotion Agents (PA's) are selected from the largest and best qualified packers. The PA's are assigned to zones in the east and the Midwest where they make agreements with chain stores to sell fruit at introductory prices and provide in-store demos. The PA is responsible to monitor and participate in the chain stores' actions with regard to in-store demos, consumer and produce manager education, and to prevent possible diversions of the fruit. The concept can be modified to be utilized for food services, especially chain restaurants.

The foremost reason for "Promotions" is to increase the demand in the east and Midwest. Since every increase of twenty-five million pounds increases the average price by $0.045 per pound, the long lasting effect of "Promotions" in increasing demand is much more significant than "Supply Management."

How successful would "Promotions" be? The potential is significant. How much leverage is there in gaining a housewife to be a consistent user through a sample and education for the no-cholesterol, vitamin-rich avocado? How much will the in-store demos supplement CAC's current emphasis on the Midwest and eastern markets? For instance, for a one hundred million pound promotion, if one out of one hundred avocados used or sold in the demo-promotions gained a housewife with a family of four and her friends, the net gain in demand for the remainder of the year and for the ensuing years would be considerable. One of the principal problems in introducing avocados to new users is gaining their confidence in selection, ripening, and preparation; what better method is there than in-store demos and fruit at introductory prices?

PROMOTIONS
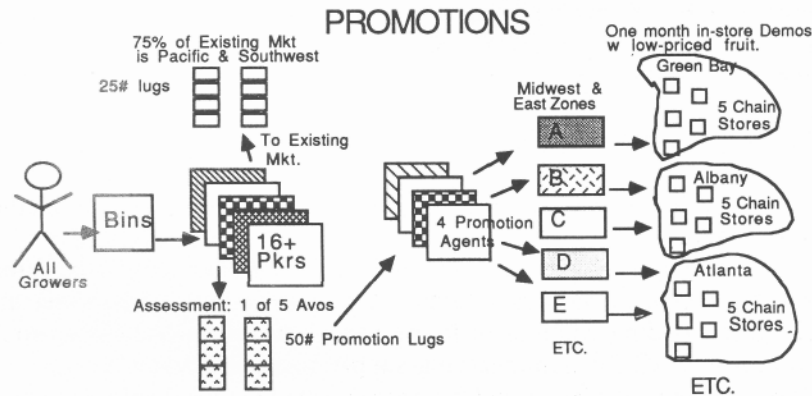
Oversupply occurred in four of seven years from 1981 through 1987. Although bearing acres have increased only modestly from 1981 through 1987, and the successive freezes in the 1987 and 1988 crop years have reduced production significantly, even into 1989, other factors will increase production. Some of these factors are larger groves, more productive varieties, better use of fertilizers, sprays to kill ice-nucleating bacteria, and better control of pests and root rot.

The volume for 1987 was 556 million pounds; it would have been 640 million pounds without the freeze, a surplus of 210 million pounds. The average production increase from 1981 through 1987 was approximately nine million pounds per year and demand increase was twenty-five million pounds per year, so it will take some time for demand to overtake production, especially in oversupply years. In the past, $0.36 average price per pound, which is about $0.40 per pound for Hass, was about a break-even price for avocados. Higher expenses make $0.36 per pound less acceptable, so the goal of the industry in future years might be $0.45 average price per pound, which makes the corresponding demand higher by fifty million pounds. Additionally, the 1988 crop year showed that prices above one dollar per pound were possible and were sustained for a reasonable period. So growers are likely to want to set their sights higher to offset increasing expenses and to compete with alternative investments, such as land sales for increasing urban growth.

If supply management had been utilized in 1987, the net gain to growers would have been as follows for various quantities of promotions; the table also shows corresponding gains for1992 for the same size crops:

These gains include net to growers after growers pay for packing the promotion fruit at $0.10 per pound. For the 100 million pound case in 1987, the growers spend ten million dollars to make thirty-seven million. The PA's expenses for freight, administration, monitoring, and reporting to CAC are recovered from charges to the chain store for the fruit. Avocados would sell at introductory prices of three or four for a dollar, or at prices sufficient for the PA's expenses and the chain stores' profit. Note that growers' gain peaks at approximately 200 million pounds of promotions for 1987

Promotions (Million #)	1987 Growers' Gain ($ Million)	1992 Grower's Gain ($ Million)
50	16.9	45
100	36.9	90
150	52.9	135
200	59.9	180
250	54.9	225

The growers' gain is increased when the net crop for sale to existing consumers is more and more to the left of zero surplus on the "Surplus vs. Price" curve. Also the demand increases in future years so there are proportionally fewer surplus avocados. If the 1987 crop were to occur in 1992 when the demand is built up to 555 million pounds instead of 430 million pounds in 1987, the net gains are significantly greater than in 1987 as shown by the table. So promotions become even more important as the demand rises. Although promotions over 150 million pounds for a 556 million pound crop may not be prudent or attainable, the table illustrates the concept.

Will there be oversupply in future years? The 1987 crop was 556 million pounds; it would have been 640 million pounds without the freeze. Don Gustafson has stated that the industry should be prepared to market 800 million pounds.

So what should be the priority of "Supply Management" and using oversupply avocados for "Promotions" to increase demand? In terms of dollars in the grower's pocket, it's at least a fifty to one hundred million dollar problem in every oversupply year depending upon the goal for an adequate price per pound. Additionally, and more importantly, there is value added due to the increase in subsequent demand due to promotions. We spend considerable amounts of time, effort, and money on production problems, new varieties, root rot, and even moving CAC's offices, which are all important problems that must be solved. But on a dollar scale of money in the grower's pocket, even these accomplishments are minor compared to supply management by using oversupply for promotions.

It's a paradox that increasing production reduces overall grower income. We spend considerable energy and money on improving production; shouldn't we spend equal energies and resources on controlling oversupply with promotions to build demand?