CORNELL AGRICULTURAL ECONOMICS STAFF PAPER

WHY NEW YORK GRAPE GROWERS NEED TO INCREASE YIELDS

GERALD B. WHITE

MARCH 1986 No. 86-7

Department of Agricultural Economics
Cornell University Agricultural Experiment Station
New York State College of Agriculture and Life Sciences
A Statutory College of the State University
Cornell University, Ithaca, New York, 14853

WHY NEW YORK GRAPE GROWERS NEED TO INCREASE YIELDS

By
Gerald B. White
Associate Professor
Department of Agricultural Economics
Cornell University

At the Agriculture 2000 conference in Albany last year, I emphasized the importance of increased yields if New York grape growers are to be competitive in the next decade. That prescription was met with more than a little skepticism at that time, and subsequently. One questioner at the Agriculture 2000 conference after hearing my pitch for increased yields, posed this question to the reactor panel of economists: "What do you think about the suggestion that New York growers need to increase yields when we are not able to market all the grapes we produce now?" In fact, that argument is often voiced today in calling for total reliance on increased expenditure for promotion and marketing to address the current problems in the industry. It has been suggested that little or no further research and extension efforts are necessary for production technology, and that most money should be devoted to marketing research.

I do not want to suggest that marketing and promotion are not important to the recovery of the New York industry. There is much that can be done in the way of marketing initiatives to help the industry lift itself from the current malaise. But it is my contention that improved marketing is not enough, and that the New York industry can attain economic well-being only if fundamental changes occur to make New York yields more competitive with those of competing regions. There are two basic methods to improve efficiency. The first method is to reduce costs, holding yields constant. I believe that, in the last two or three years, New York growers have made most of these cost-cutting adjustments that can be made. In many vineyards, cost-cutting has been

carried to the point of reducing productivity. The second method of increasing efficiency involves actually increasing expenditures. By implementing cost-effective cultural practices, growers on productive sites can increase revenue by more than costs, thereby increasing profits. Today I want to explain my rationale for the need for improved yields. I maintain that those growers who sell to a major processor, and expect to be in business five to ten years from now, must attain average yields of at least six to seven tons per acre. This does not necessarily apply to those growers who are marketing their grapes through their own wineries or have some other unique marketing situation. There is certainly a need for new marketing initiatives such as marketing table grapes and new cooperatives for marketing natural juice. But, major processors will certainly continue to be important to the New York industry in the year 2000, regardless of the success of these new marketing ventures.

Those who do not think that the prospect of improved yields is particularly appealing probably have in mind a future for the industry similar to the one that existed in 1980 (Table 1). At that time we produced 168,000 tons of grapes on nearly 2,000 farms encompassing 42,000 acres. It is realized that if New York growers had produced six tons per acre, or 251,000 tons, that we would have been in serious trouble. Indeed, crops of 190,000 tons in 1983 and 1984 are associated with the current woes of industry.

What should be recognized is that the grape industry, nationally and internationally as well as in New York, is going through a shake-out that will result in fewer and more efficient farms, perhaps fewer acres of grapes, and probably lower prices (in current dollars) than existed in the more favorable period of the late 1970's and until about 1980. One scenario for the New York industry in the year 2000 is shown in

Table 1. It is not the only scenario one could project, but it is one that is plausible, and will help illustrate the kinds of changes that we might expect in New York in the next 15 years. These changes are occurring because in the current conditions in the industry, typical California, Washington, and New York growers are experiencing financial stress. Many, unfortunately, will be forced out of existence by the year 2000. The ones who survive will necessarily be more efficient.

In the next few minutes, I will sketch out the economic rationale for these changes. The major premises of the argument are the following:

1. The demand for grapes and grape products is growing slowly.
2. Grapes are grapes.
3. Grapes (or products in intermediate stages of processing) can be supplied by competing regions.
4. The most efficient producers and producing regions determine the supply of grapes.
5. The price that results from these interacting supply and demand factors will not be high enough to keep in production all of the growers currently in business.

Demand For Grapes

If there is one statement that would elicit unanimous agreement from this audience, it is the following: "The price of grapes depends on supply and demand". And yet, growers often talk as if supply were the only factor which affects prices. It is often asserted that prices should be higher because "the cost of production is higher than the price". If any good could have come out of the current difficult period, it is recognition that in a market economy, price does not always equal or exceed the cost of production of every producer, particularly in the short-run when supply and demand imbalances occur

and particularly for high cost producers. Cost of production is a supply concept that ignores the demand for the product - and we agree that both supply and demand determine prices.

The consumer of final grape products - that is, concentrate, juice, jelly, wine, and table grapes - is the one who ultimately determines the market demand for grapes. Major factors which affect the level of demand are 1) population size and its age and geographic distribution; 2) consumer income and its distribution; 3) prices and availability of other products, including other fruit juice, alcoholic beverages other than wine, etc.; and 4) consumer tastes and preferences.

I do not have time to dwell on these at length except to say that since tastes and preference are among the determinants of demand, we should be reminded that per capita consumption of alcoholic beverages is decreasing, suggesting concern on the part of consumers about the health effects of alcohol. How table wine will be affected by this concern is still an open question. Wine accompanying meals is a "beverage of moderation" and could be favorably affected by this trend. Wine as a cocktail perhaps shares in the general slowdown of alcohol consumption. Whatever the case, the growth in per capita table wine consumption leveled off in the two most recent years. This leveling off in per capita consumption is not associated with price, because the consumer price index for wine has decreased due to the pressures of plentiful supplies of both domestic and foreign table wines.

Unfermented grape products face strong competition from other fruit juice products and other beverages; consumers carefully compare the prices of grape products with competing products. In this environment, when the price of a particular product gets out of line, consumers reduce their purchase of that product. In my mind, that is what happened with the Concord grape products and New York State wines

in the past few years. No amount of "improved marketing" or promotion can alter that fact significantly - unless New York grape products are unique. Remember that there are some huge food and beverage companies in this market. These companies spend tens of millions of dollars in advertising. Spending for promotion almost becomes a defensive strategy rather than a strategy to increase market share.

Are New York Grapes Unique?

If New York's grapes were unique, then a higher price might result for our growers. Certainly, the New York product has different chemical characteristics in terms of acid/sugar balance and the 'grapey' flavor of the native varieties. In past years, New York grown grapes commanded a premium price - 20 years ago, the average New York price was twice that of the national average. However, that advantage has eroded in recent years until our growers receive the same price on average as growers in California. Our growers do realize an average of about $30 per ton more for Concords than Washington growers. But that difference, as far as I can determine, is related more to local supply and demand conditions and transportation costs than to the acid/sugar balance of Concords. Processors apparently do not move grapes around because of the acid/sugar balance, but to even out storage imbalances. The New York product does enjoy the advantage of being adapted to amelioration, but that advantage has eroded in recent years as the price of sugar in relation to grape juice has increased.

So, even though the New York product does have some favorable product characteristics, there is little evidence that this translates into a market advantage that brings a premium over and above the cost of bulk wine or juice plus the transportation costs involved in getting the product from the west coast. The market is telling us that "grapes are grapes".

Grapes Can Be Supplied By Competing Regions

Our major competitors are of course California (for wine grapes) and Washington (for Concords). These states attain, on the average, yields of seven to eight tons per acre. Certainly their costs per acre are higher than ours due to higher land costs and irrigation. Growing costs for Washington and California, however, are similar to ours, or even lower. I have adapted and standardized costs of production for Washington Concords and wine grapes in San Joaquin County, California from cost estimates prepared by Kirpes and Folwell (Washington) and Kissler (California). New York adaptations are also shown in Table 2. The net result is higher total cost per acre, but lower cost per ton - $263 per ton for the San Joaquin Valley for wine grapes and $230 per ton for Washington Concords. Our costs can be +$30 for Concords and +$100 for wine grapes and we can still remain competitive with western growers due to transportation costs. Washington costs are $51 per ton less than our Concords grown in the Great Lakes and wine grapes grown in San Joaquin County, California have a $124 advantage over native varieties grown in the Finger Lakes.

The Most Efficient Producers and Producing Regions Determine Supply

In the final analysis, the national and international competition has the effect of keeping the pressure on us. In effect, it is the most efficient producing regions or nation that determine the price of grapes.[1]

In such a competitive environment, processors find themselves in a squeeze. They cannot price their product in the market for more than it will bear. Grapes are only one input into the total production process.

---

[1]The law of comparative advantage does not imply that just because one region can produce at a lower cost (has an absolute cost advantage) that it will drive all other regions out of business. A region such as New York can have a relative cost advantage in a crop even though it is a higher cost producer.

Processors have no interest in paying more for grapes (or labor, or fuel, or any other input) than necessary. This fact extends to cooperatives as well, because their final products are in competition with those of other firms, and they must also cover their costs of processing, distribution, etc. It is to be expected that processors will purchase the least expensive inputs that meet their quality standards. This could be grape juice from Brazil or bulk wine from California. Thus, it would be a surprise to find that the prices for grapes in New York would be higher than the prices on the West Coast when adjustments are made for transportation costs.

Price As The Equilibrating Mechanism

At current prices, grape growers nationally and internationally are facing a very difficult situation. The market is telling us that too many grapes are being produced. Financial difficulties are occurring - in Washington and California, as well as New York. There is no evidence that the average grower in any of these states can survive in the long-run with 1985 prices. It is just this condition that will, unfortunately for many, force supply back into balance. There is a shake-out occurring in the industry that will result in a reduced supply of grapes (or at least a slower growth in supply) that will eventually bring the situation back in balance.

All evidence suggests, however, that the new equilibrium will not result in as high prices as were attained in the late 1970's and early 1980's. My estimate of that equilibrium price is $160 - $180 for Concords and $180 - $220 for wine grapes. The price levels we are likely to see will not keep New York growers in business who are producing four tons per acre and selling to a major processor.

Conclusions

Returning to Table 1, I have laid out a scenario where the industry attains a new balance in the next 10-15 years. In this new setting in New York, there will be fewer farms, fewer acres of grapes, higher yields per acre, and somewhat lower prices. That is not comforting to us, because we deeply regret that many are pushed out by the competitiveness of the industry. But, we cannot stop technological progress. There is always incentive for the individual efficient, forward looking farmer to adopt new technology and increase yields. Eventually prices are forced down collectively as more and more farmers respond in the same way. There is really no way to stop this phenomenon. If New York does not discover and implement new technology, Washington State or California or France will. In fact, by the time New York growers attain a state average of seven tons per acre, Washington and California will probably be producing an average of nine or ten tons per acre. "Better marketing" will not exempt us from the forces of improved technology, the resulting increased productivity, and competition.

I would like to close with a challenge to the New York industry. The scenario that I have projected assumes that the marketing focus continues as it is now. That is, the products made from New York grapes do not bring a premium. The challenge for the New York industry is to develop marketing and promotion programs that capitalize on the uniqueness of the New York grape. If that can be accomplished, New York grapes can bring a premium in the market. Otherwise, our products compete head-to-head with western grapes, and the transportation cost difference in moving products from the west coast to the east coast would account for the major difference in prices between the two regions.

References

Folwell, R.J., "Consumer Goals Should Unify The Industry", Fruit Grower, February 1985, pp. 16-18

Kirpes, D.J. and R.J. Folwell, Establishment and Production Costs, Concord Grape Vineyards, 1982, Extension bulletin 0875, Washington State University, Pullman, Washington, 23pp.

Kissler, J.J., "Costs to Produce Wine Grapes in San Joaquin County, 1983", University of California Cooperative Extension, Stockton, California, 3pp.

White, G.B., "Economic Opportunities For Fruit", New York Agriculture 2000, pp. 113-128.

Table 1. Structural Characteristics of the New York Grape Industry, 1980 and Projected 2000.

	Year	
	1980	2000
Acres of grapes	41,979	31,000
Total production (5 year average)	167,600	200,000
Yield per acre (tons)	4.0	6.5
Number of farms	1,968	1,200
Price per ton, juice grapes (1980 $)	$198	$160
Price per ton, wine grapes (1980 $)	$271	$200

Table 2. Comparative Costs per Ton, Great Lakes Region (Concords), Finger Lakes (Native Variety), Washington (Concords), and California (Wine Grapes)

	Great Lakes	Washington	Finger Lakes	California
Growing	561	581	660	561
Harvesting	165	241	180	400
Subtotal	726	822	840	961
Property tax	55	57	52	32
Insurance	30	16	50	--
Utilities	6	--	14	--
Miscellaneous	30	--	27	--
Total Cost Excluding Interest	847	895	983	993
Interest on Operating Capital (@ 12%)	51	54	59	60
Machinery depreciation	87	144*	78	91*
Vineyard capital recovery (@ 7%)	306	558	306	557
Land cost	50	110	50	385
Interest on machinery (@ 7%)**	63	75	70	21
Total Cost Per Acre	1,404	1,836	1,546	2,107
Average yield - tons/acre	5	8	4	8
Cost per ton**	281	230	387	263

*Includes irrigation.

**The amount for interest on machinery and cost per ton has been changed slightly from that presented at the grape conferences due to discovery of an error in procedures. This correction does not materially affect the conclusions.

SOURCES: Kissler (California data); Kirpes and Folwell (Washington data)

NOTE: these costs have been standardized from their original sources to reflect the same methods for handling certain fixed costs, especially capital recovery.