

Trends and Insights of the Blueberry, Cranberry, and Tart Cherry Industries

Introduction and Summary

Blueberries, cranberries, and tart cherries have a long and storied history. Cranberries are associated with Native Americans and Pilgrims and featured at the first Thanksgiving. Tart cherries are associated with George Washington and the chopping down of the cherry tree. Blueberries were revered among early Northeast Native Americans who used the berries, leaves, and roots for medicinal purposes.

Blueberries and cranberries are fruits native to North America. Tart cherries are believed to have come from China and the first cherry orchard was believed to have been planted in the Grand Traverse area in Michigan around 1852 by a Presbyterian missionary.

This paper attempts to compare and contrast the marketing of three U.S. fruits: blueberries, cranberries, and tart cherries. All three fruits are using or will participate in Federal programs to promote the nutrition and health benefits associated with the consumption of their products. Blueberries use a research and promotion program while cranberries and tart cherries use the promotion authority under Federal marketing orders.

The level of bearing acreage seems to indicate that the three fruit industries are very similar in size. However, because of yield, cranberry production is actually much larger than either the blueberry or tart cherry production. However, wild blueberries grown in Maine are not included in the blueberry production used in this analysis because they are excluded from the Blueberry Research and Promotion Program. Most of the wild blueberries grown in Maine are processed.

One of the striking differences in the three fruits is the large amount of blueberries that are consumed as fresh. Fresh produce generally sells at a higher price than processed fruit. Blueberries have a taste profile that appeals to consumers in both fresh and processed forms. In addition, exports of blueberries are increasing. Presently, fresh exports are greater than processed exports.

Tart cherry fresh sales are minimal and the majority of fresh cranberry consumption occurs over the Thanksgiving and Christmas holidays. Fresh blueberries are increasingly available all year. When the domestic crop is out-of-season, imports from Chile and Argentina are featured in U.S. supermarkets. The availability of the commodity all year often results in increased per capita consumption. Consumers get in the habit of purchasing the same fruit during each shopping trip throughout the year.

Blueberry prices and value of production bring to mind similarities to the cranberry situation in the late-1980's and early 1990's. Prices and value of production are trending higher. This will encourage growers to expand production. As long as demand stays strong, growers will be able to operate profitably. However, since blueberries can be grown in a large number of areas and yields are likely to continue to improve; at some point the market may become over-supplied.

Generic promotion will likely benefit both the cranberry and tart cherry industries. Export promotion appears to have already assisted the cranberry industry in expanding export opportunities. Blueberry promotion appears to have helped spur consumption and may be able to circumvent any possible downturn in the market in the near future.

Market research funded by the North American Blueberry Council, which administers the Federal research and promotion program, indicates that the perception of health benefits in blueberries can reduce price sensitivity. The perception of value by consumers concerning freshness, taste, and health benefits is the main driver influencing consumer purchases instead of price. Promotion has likely played a large role in influencing consumer awareness and perceptions concerning blueberries.

Per capita consumption of cranberries is the highest among the three fruits. Fresh blueberry and processed cranberry per capita consumption is increasing while tart cherry per capita consumption has been decreasing. While the per capita consumption of blueberries is very similar to the per capita consumption of tart cherries, both are somewhat low and have the potential to increase.

History of Generic Promotion for Blueberries, Cranberries, and Tart Cherries

All three of the fruit industries have been interested in using generic promotion to expand the demand for their products. On December 2, 1998, the North American Blueberry Council (NABC) submitted a proposal to the Agricultural Marketing Service of USDA for a national research and promotion program covering domestic and imported cultivated blueberries. The program, which is authorized by the Commodity Promotion, Research, and Information Act of 1996, became effective on August 16, 2000. Handler assessment obligations began on January 1, 2001.

Blueberry assessments are paid on highbush (cultivated) blueberries grown in and imported in the 50 states, the District of Columbia, and Puerto Rico. Producers and importers pay an assessment of \$12 per ton (\$0.006 per pound). The producer assessment is remitted by first handlers, and the importer assessment is remitted by the U.S. Customs Service. The NABC uses these assessments and funds from the Foreign Agricultural Service Market Access Program (MAP) to conduct domestic and export generic promotion programs. In 2005 grower and importer assessments totaled \$1.8 million per year and MAP funds were \$283,065.

The cranberry industry implemented a Federal marketing order on August 15, 1962 in response to over-supply and low prices. The primary purpose of the marketing order was to use the volume control authority to limit the delivery of fruit during severe surpluses. The volume controls have only been used five times in the history of the marketing order.

During the surplus years of 2000 and 2001, cranberry growers became convinced that promotion under the marketing order should be used as a solution to increase demand in the long run. In the midst of the surplus situation when grower revenues were at their

lowest, the growers decided to increase their assessment by \$0.10 per barrel (100 pounds) for domestic generic promotion. The Cranberry Marketing Committee (CMC), which administers the Federal marketing order, conducts generic promotions in the United States and uses a combination of funds from the MAP and grower assessments under the Federal marketing order to conduct generic promotion in Japan, Mexico, Germany, France, and Australia. Currently, export sales represent 23% of total sales in the industry.

The CMC spends approximately \$500,000 a year on its domestic promotion programs. The CMC strategy has been to emphasize the health benefits of consuming cranberry products and to target this information to health-care practitioners and health writers/editors as an attempt to influence consumers' awareness. The CMC has also provided print materials to media outlets as an attempt to encourage year around consumption of cranberry products (Sexton).

Cranberry assessments are paid by first handlers and are only remitted on domestic production, even though a substantial volume of cranberries are imported from Canada. Cranberry assessments on growers are currently at \$0.18 per barrel. The CMC has recently recommended increasing that assessment to \$0.28 per barrel so that it can increase its market promotion programs. Currently, assessments amount to just over \$1 million a year for promotion programs and MAP funds are at \$998,589.

The U.S. tart cherry industry first implemented a Federal marketing order program with supply management provisions in 1972. The declining support of the industry in favor of the marketing order resulted in the Secretary of Agriculture terminating the program on April 30, 1987. A new marketing order for tart cherries went into effect on September 25, 1996 and regulation under the marketing order began in the 1997 crop year. The marketing order was implemented primarily to use the volume control authority to control excessive supplies.

Recently, the industry has been exploring promotion opportunities under the marketing order. The industry established the rationale for advertising and promotion at the promulgation hearings and the USDA provided the authority for advertising and promotion. The Cherry Industry Administrative Board (CIAB) is planning to use the promotional authority under its marketing order starting in 2007. An assessment of \$0.005 per pound was approved by the growers and handlers which will provide at least \$1.25 million annually for promotion activities.

The industry intends to highlight the health benefits associated with the consumption of tart cherries through promotion activities. This promotion effort is intended to influence consumer's perceptions by increasing awareness about the health benefits of tart cherries. If successful, the promotion will lead to an increase in demand for tart cherry products which will improve returns for producers and handlers. The industry plans to promote tart cherries only in domestic markets.

Comparison of the Three Fruit Industries

Since all three of these fruit industries are at different stages of using generic promotion to enhance the demand for their products, it may be useful to compare and contrast them. Their profiles are different in terms of production areas and international trade. Also, health benefits substantiated by scientific research have been used to promote cranberries and blueberries. Health benefits of tart cherries are suspected, but not yet firmly established or disseminated.

High bush (cultivated) blueberries are primarily produced in thirteen states; Alabama, Arkansas, California, Florida, Georgia, Indiana, Michigan, Mississippi, New Jersey, New York, North Carolina, Oregon, and Washington. Maine produces a significant amount of wild blueberries but they do not participate in the research and promotion program and are not included in any of the statistics provided in this paper. Imports are primarily from Canada while Chile and Argentina are increasingly exporting fresh blueberries into the U.S when domestic production is out-of-season. Imports account for 24% of total supply.

Cranberries are primarily produced in five states; Massachusetts, New Jersey, Oregon, Washington, and Wisconsin. Rhode Island, Connecticut, Michigan, Minnesota, and Long Island in New York have minor levels of production and are covered under the Federal marketing order. Canada exports around 1 million barrels of fresh cranberries into the U.S. for processing. Imports account for 14 percent of new supplies each year. Canada and to a lesser extent Chile are the only other countries that are known to produce cranberries commercially. This provides the industry a good opportunity to develop export markets while not fearing competition from other exporting countries.

Tart cherries are primarily produced in seven states; Michigan, New York, Oregon, Pennsylvania, Utah, Washington, and Wisconsin. Imports are generally very small and dependent on the size of the U.S. crop. A crop disaster such as the tart cherry industry experienced in 2002, can cause the loss of markets in the long run when customers turn to alternative sources or substitute products. In 2002, when the tart cherry industry production fell to an all time low, imports from Poland increased to supplement the U.S. crop. Exports of tart cherries are small and average about five percent of total annual shipments. Exports are dependent on the value of the dollar and the size of the crop in Poland. Poland is a major producer of tart cherries and has a tariff advantage in shipments to other European markets.

In some of the recent CIAB and CMC meetings concerning the development of the generic promotion programs, references have been made about the success of the blueberry promotion program. The demand for blueberries in the U.S. has generally been increasing since the 1980's. The demand for both fresh and processed blueberries has increased.

Researchers at the USDA Human Nutrition Center have found that blueberries rank number one in antioxidant activity when compared to forty other fresh fruits and vegetables. Antioxidants help neutralize harmful by-products of metabolism called "free radicals" that can lead to cancer and other age related diseases. The blueberry industry has made good use of informing consumers about the health benefits associated with the

consumption of blueberries and many believe their promotion programs has been very effective for the industry.

Cranberries were identified in 1984 as potentially being helpful in treating urinary tract infections. Cranberries also contain antioxidants. However, domestic consumption has been stagnant while export sales have been increasing in recent years.

Tart cherries are also reported to contain antioxidants. In addition, they are believed to contain compounds that help relieve the pain of arthritis, gout, and even headaches. Conclusive scientific evidence, however, has not yet been fully established nor widely disseminated.

Data and Graphs Illustrating Marketing and Promotion Issues

The promotion and advertising of farm commodities have become important activities within the overall structure of the U.S. domestic and international food marketing system. Promotion and advertising are attempts to change preferences, perceptions, attitudes, and ultimately consumption behavior. Successful promotion programs result in increased sales and producer returns. Examination of data for blueberries, cranberries, and tart cherries yields insights to the value of promotion programs.

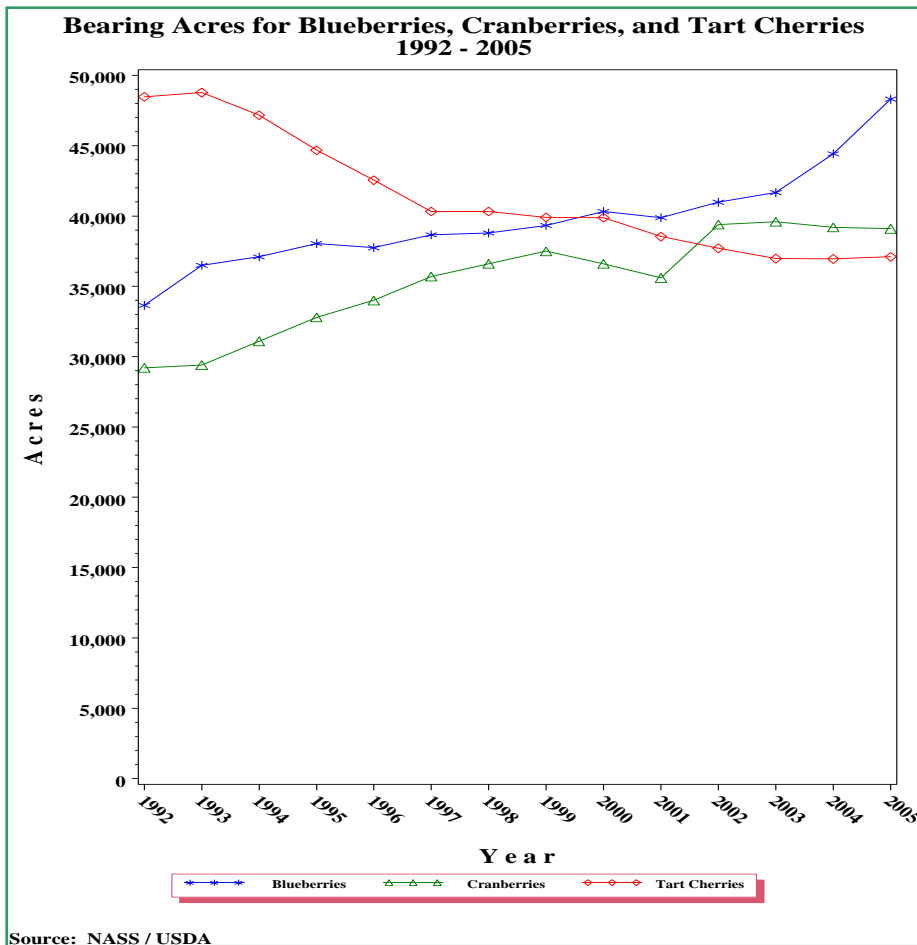
In this paper a number of graphs and tables are presented to compare and contrast the three fruit industries. Blueberries, cranberries, and tart cherries are very suitable for comparison due to their similarities and differences. All three of the fruits are used as ingredients in the manufacture of other processed products such as baked goods, flavored yogurt, and ice cream. All three of the fruits are dried and sold to consumers directly or used as ingredients in cereal and cereal products as well as snack foods. The fruits can also be processed into jams/jellies, syrup, and juice/concentrates. Blueberries are enjoyed by consumers in their fresh form. Cranberries are directly purchased by consumers in their fresh form but are generally processed with the addition of sugar or other sweeteners. Only negligible amounts of tart cherries are sold fresh. Due to the many similarities between these three fruits, they are believed to be competitive. However, due to their differences in taste they are still distinctive commodities which can be used to exploit consumer preferences.

The comparison of these three fruits in the tables and graphs that follow will examine the time period from 1992 through 2005. Due to budgetary problems, National Agriculture Statistics Service (NASS) of USDA stopped publishing information on blueberries in 1982. The reporting of information on blueberries did not start again until 1992.

Bearing Acres

In the graph and table below bearing acres or acres harvested are compared for blueberries, cranberries, and tart cherries. Bearing acres reflect the producing capacity of the industry. It is striking how similar in size the three industries are. Over the fourteen year period from 1992 through 2005, the area harvested for blueberries has averaged 39,674 acres, while cranberry bearing acres has averaged 35,414 acres, and tart cherry bearing acres has averaged 41,382 acres.

Acreage situation is different However, blueberry area harvest increased by 43.6 percent and cranberry bearing acres increased by 33.9 percent, while tart cherry bearing acres declined by 23.5 percent.



**Bearing Acres for Blueberries,
Cranberries, and Tart Cherries: 1992 -
2006**

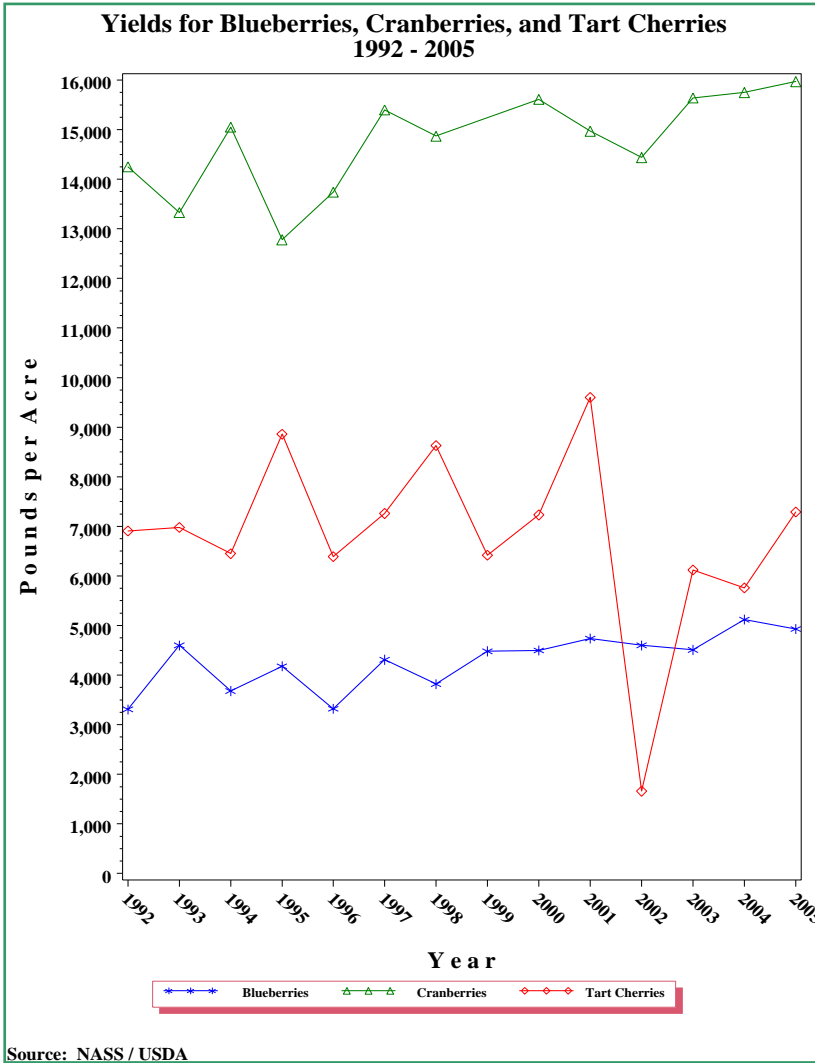
Year	Blueberry Area Harvested	Cranberry Bearing Acres	Tart Cherry Bearing Acres
1992	33,650	29,200	48,480
1993	36,500	29,400	48,780
1994	37,100	31,100	47,175
1995	38,040	32,800	44,675
1996	37,750	34,000	42,550
1997	38,670	35,700	40,330
1998	38,800	36,600	40,320
1999	39,330	37,500	39,900
2000	40,320	36,600	39,880
2001	39,880	35,600	38,540
2002	40,980	39,400	37,700
2003	41,670	39,600	36,970
2004	44,430	39,200	36,950
2005	48,310	39,000	37,050
2006	52,820	38,900	37,200

Source: NASS / USDA

Yields

Yield is a measure of the productivity of the bearing acres or area harvested. The graph and table below compare the average yield per acre for blueberries, cranberries, and tart cherries. Yields for blueberries are very stable from year-to-year, while yields for tart

cherries are highly variable. Yields for blueberries and cranberries have been trending higher due to new higher yielding varieties of each fruit.



Yields for Blueberries, Cranberries, and Tart Cherries: 1992 - 2005

Year	Blueberry Yields	Cranberry Yields	Tart Cherry Yields
		pounds per acre	
1992	3,310	14,250	6,910
1993	4,600	13,330	6,980
1994	3,680	15,050	6,450
1995	4,180	12,780	8,860
1996	3,320	13,740	6,390
1997	4,310	15,400	7,260
1998	3,820	14,870	8,630
1999	4,480	16,950	6,420
2000	4,500	15,610	7,230
2001	4,740	14,970	9,600
2002	4,600	14,440	1,660
2003	4,510	15,640	6,120
2004	5,120	15,750	5,760
2005	4,930	15,970	7,290

Source: NASS / USDA

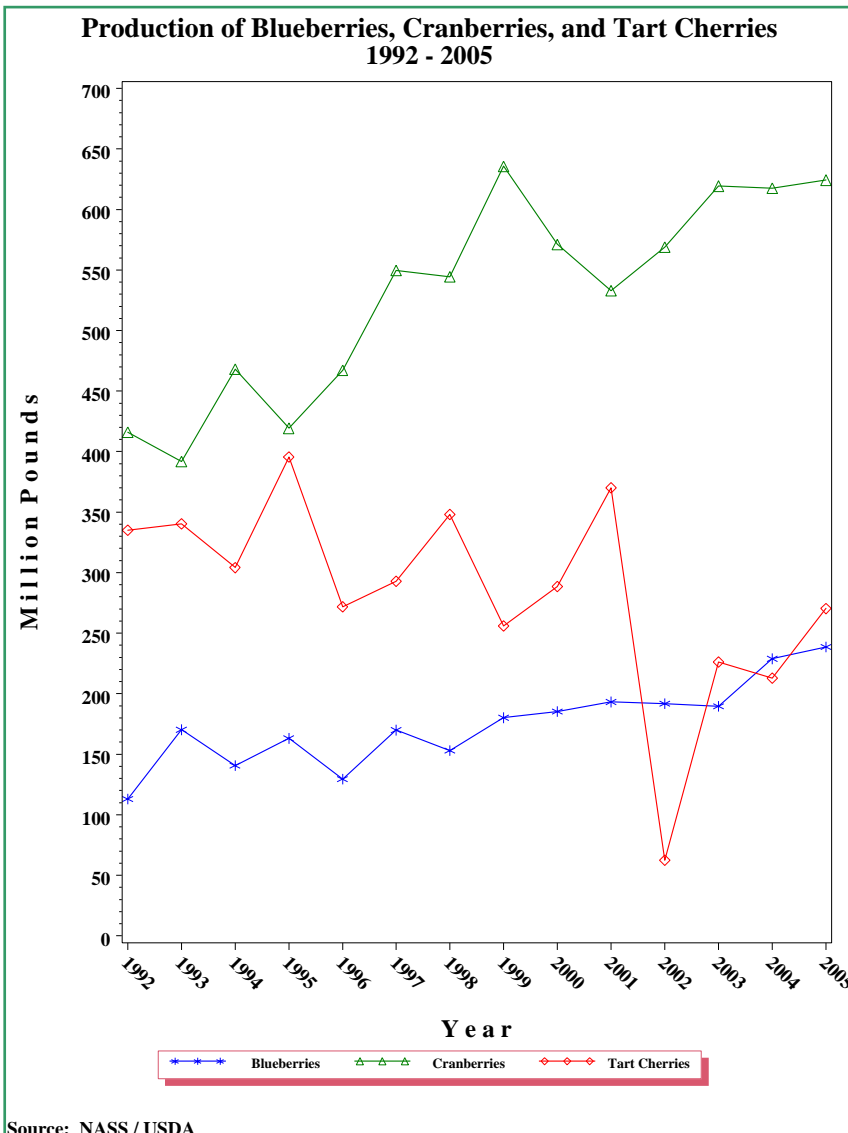
Across the 14-year period, yields for blueberries averaged 4,293 pounds per acre, yields for cranberries averaged 14,911 pounds per acre, and yields for tart cherries averaged 6,826 pounds per acre. Cranberry yields are much higher than blueberry or tart cherry yields per acre. With an average yield of 4,293 pounds per acre for blueberries, the cost of production for highbush blueberries is estimated at \$0.90 per pound. Cranberry cost of production is estimated at \$0.35 per pound and tart cherry cost of production is estimated at \$0.31 per pound. Lower yields generally result in higher costs of production.

As the graph and table show, tart cherry yields are highly variable. Tart cherries are alternate bearing and yields are heavily influenced by the weather. This results in production going from very high in some years to very low in other years. This makes the marketing of tart cherries more difficult. For this reason, the tart cherry industry uses a reserve pool under their Federal marketing order as a supplemental coordinating

mechanism. One of the primary purposes of the storage program is to warehouse supplies in large crop years to provide additional supplies in short crop years.

Production

The production of blueberries, cranberries, and tart cherries are illustrated in the graph and table below. This graph and table is a basic reflection of the area harvested or bearing acres and yield information. Cranberry and blueberry production has been trending up while tart cherry production has trending down.



Year	Blueberry Production (million pounds)	Cranberry Production (million pounds)	Tart Cherry Production (million pounds)
1992	113.09	416.00	335.10
1993	170.27	391.90	340.40
1994	140.61	468.20	304.20
1995	163.20	419.30	395.60
1996	129.48	467.10	271.80
1997	169.98	549.70	292.90
1998	153.07	544.40	348.10
1999	180.23	635.70	256.10
2000	185.34	571.20	288.50
2001	193.21	532.90	370.10
2002	191.84	568.90	62.50
2003	189.65	619.30	226.30
2004	228.88	617.50	213.00
2005	238.65	624.30	270.40

Source: NASS / USDA

Due to higher yields cranberry production is much higher than either blueberry or tart cherry production. In 2002, the production of blueberries surpassed tart cherry

production and the production levels of these two fruits have been very similar since then.

One of the differences between the cranberry industry as compared to the blueberry and tart cherry industries is the presence of a major cooperative which has a brand that is readily recognized by consumers. The presence of a large cooperative provides additional opportunities in marketing due to the availability of direct marketing to retail chains, national advertising, supply-chain management, distribution, and export sales.

The cranberry industry has responded to these higher levels of production by aggressively pursuing export markets.

The table below compares how each of the fruit industries utilizes its crop. The utilization of blueberries has been increasing for both fresh and processed. From 1992 through 2005 fresh utilization has increased by 170.5 percent, while processed utilization has increased by 74.8 percent.

Comparison of Utilizations for Blueberries, Cranberries, and Tart Cherries: 1992 - 2005

	Blueberry Utilization			Cranberry Utilization			Tart Cherry Utilization		
	Fresh	Processed	Total Production	Fresh	Processed	Total Production	Fresh	Processed	Total Production
	million pounds								
1992	45.50	65.82	113.09	22.35	388.10	416.00	8.80	304.20	335.10
1993	69.55	98.20	170.27	19.90	361.90	391.90	5.30	268.30	340.40
1994	68.04	68.42	140.61	21.60	441.50	468.20	3.50	292.80	304.20
1995	74.76	84.24	163.20	24.20	385.80	419.30	2.70	308.50	395.60
1996	62.38	63.00	129.48	23.60	433.00	467.10	2.50	257.60	271.80
1997	69.30	97.32	169.98	22.50	507.20	549.70	2.60	280.70	292.90
1998	74.98	73.22	153.07	24.40	515.70	544.40	2.30	303.30	348.10
1999	79.29	96.72	180.23	35.70	597.40	635.70	1.80	252.30	256.10
2000	77.82	103.80	185.34	44.20	513.70	571.20	1.80	279.60	288.50
2001	87.99	100.85	193.21	42.60	435.70	532.90	1.90	306.00	370.10
2002	99.38	89.15	191.84	38.60	524.90	568.90	0.80	61.40	62.50
2003	103.62	84.28	189.65	35.10	584.20	619.30	1.00	225.30	226.30
2004	124.55	103.02	228.88	39.70	577.00	617.50	1.30	211.70	213.00
2005	123.10	115.07	238.65	36.20	588.10	624.30	1.20	267.20	270.40

Source: NASS / USDA

Note: All production is not always utilized. Therefore, fresh and processed utilization does not always sum to total production.

Fresh utilization for cranberries has increased by 62.0 percent over the 14-year period while processed cranberry utilization has increased by 51.5 percent. The fresh utilization of tart cherries is very minimal and has decreased while processed utilization has decreased by 12.2 percent.

This illustrates one of the striking differences between the three fruits. Blueberries are very versatile, and consumers enjoy them either fresh or processed. Beginning in 2002, more of the fruit was utilized as fresh. Prior to 2002, a larger proportion of the fruit was utilized in processed forms. It appears that the blueberry industry has been able to capitalize on Americans' increasing appetite for fresh produce. On the other hand, while there is a fresh demand for cranberries, it is generally only around the traditional Thanksgiving holiday. The availability of fresh cranberries generally disappears shortly after the Christmas season, in response to the lack of consumer demand. There is essentially no consumer demand for fresh tart cherries.

Fresh cranberries are generally processed by consumers into sauce or a salad which requires the addition of sugar since the fruit is very tart. Fresh blueberries are easy to handle and prepare and do not require the addition of sugar. It is believed that consumers are increasingly trying to limit their consumption of products containing sugar, salt, and fat. This may highlight one of the major advantages that blueberries have over cranberries and tart cherries. Tart cherries and cranberries need the addition of sugar so that they are palatable to consumers.

Cranberry Sales

The following table shows cranberry sales for domestic and export markets and for fresh and processed sales. Detailed information on sales of cranberry sauce, dried cranberries, or juice is not available. Similar sales information for tart cherries or blueberries is not available.

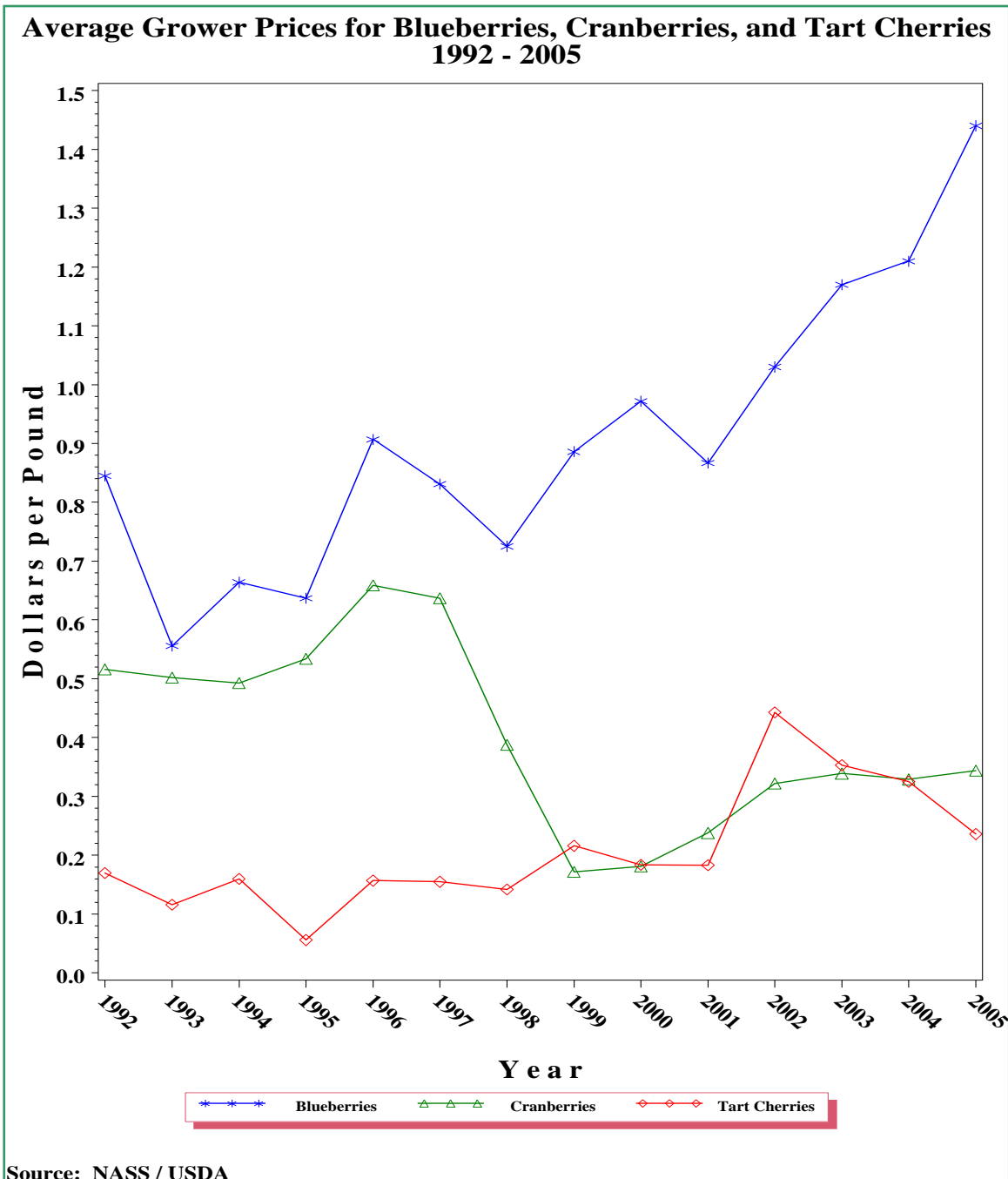
Cranberry Sales							
Year	Fresh Domestic Sales	Fresh Export Sales	Processed Domestic Sales	Processed Export Sales	Total Sales	Total Fresh Sales	Total Processed Sales
	Barrels						
1988	253,597	130,596	3,693,561	53,300	4,131,054	384,193	3,746,861
1989	234,210	123,630	3,433,799	68,436	3,860,075	357,840	3,502,235
1990	164,998	104,659	3,665,882	95,791	4,031,330	269,657	3,761,673
1991	173,861	66,434	4,173,095	136,235	4,549,625	240,295	4,309,330
1992	204,648	34,199	3,755,315	176,136	4,170,298	238,847	3,931,451
1993	210,090	19,126	3,878,172	263,589	4,370,977	229,216	4,141,761
1994	230,850	18,474	4,461,657	342,604	5,053,585	249,324	4,804,261
1995	216,558	22,557	4,161,843	374,468	4,775,426	239,115	4,536,311
1996	213,542	19,726	4,071,969	466,000	4,771,237	233,268	4,537,969
1997	205,218	22,835	4,413,398	479,321	5,120,772	227,875	4,892,719
1998	191,690	28,768	4,215,469	676,481	5,112,408	233,782	4,927,950
1999	217,012	36,727	4,395,560	861,071	5,510,370	253,739	5,256,631
2000	260,249	25,468	5,513,106	545,156	6,343,979	300,353	6,058,262
2001	236,249	31,412	5,822,142	563,363	6,653,166	267,661	6,385,505
2002	251,789	47,911	4,825,187	1,251,462	6,376,349	299,700	6,076,649
2003	202,572	49,321	4,991,500	1,435,275	6,678,668	251,893	6,426,775
2004	249,318	49,087	5,248,666	1,458,525	7,005,596	298,405	6,707,191
2005	238,995	55,615	5,164,398	1,640,480	7,099,488	294,610	6,804,878

Source: Cranberry Marketing Committee

The table on cranberry sales shows total sales increased by 71.8 percent from 1988 to 2005. The cranberry market had a major surplus problem beginning around 1999 and continuing through at least the 2002 marketing year. The increase in sales is due to increases in the processed export market. The CMC has spent considerable energies and funds to open export markets in Japan, Germany, Spain, Mexico, and France. These efforts have paid off by increasing sales and reducing inventories which has led to improved grower returns. However, the CMC has also been involved in domestic promotion activities. Most of these activities have involved public relations programs including increasing the awareness of the health benefits associated the consumption of cranberries among dieticians and newspaper and magazine articles and recipes. While it is still too early to judge the success of the domestic promotion efforts, the domestic processed sales category has remained stagnant. The CMC first started using generic promotion in the 1999 marketing year.

Prices

The following table and graph compares grower prices for blueberries, cranberries, and tart cherries. The graph below shows the weighted average for the combined fresh and processed fruit while this table shows fresh, processed and the weighted average for fresh and processed fruit.



The advancement of blended drinks using cranberry juice led to a rapid increase in cranberry grower prices. Grower prices increased rapidly to \$0.659 per pound in 1996. This led to increased plantings and production which led to the surplus situation where grower prices plummeted.

The blueberry situation seems somewhat similar to the cranberry situation. Grower prices are high and increasing which must be encouraging plantings. At some point this may lead to a surplus situation which seems to accompany most perennial crops.

However, one of the differences between blueberries and cranberries is that fresh blueberry utilization continues to increase and is now greater than processed utilization. It appears there is still plenty of room for growth in the blueberry industry. If blueberries, cranberries, and tart cherries are competitive, then processed blueberry gains in demand may result in losses for either the processed tart cherry or processed cranberry markets.

Grower Value of Production

The graph and table on the next pages compare the grower value of production for blueberries, cranberries and tart cherries from 1992 through 2005. Value of production is a reflection of grower prices and production. The graph shows that the value of production for blueberries has been trending up over the 14-year period.

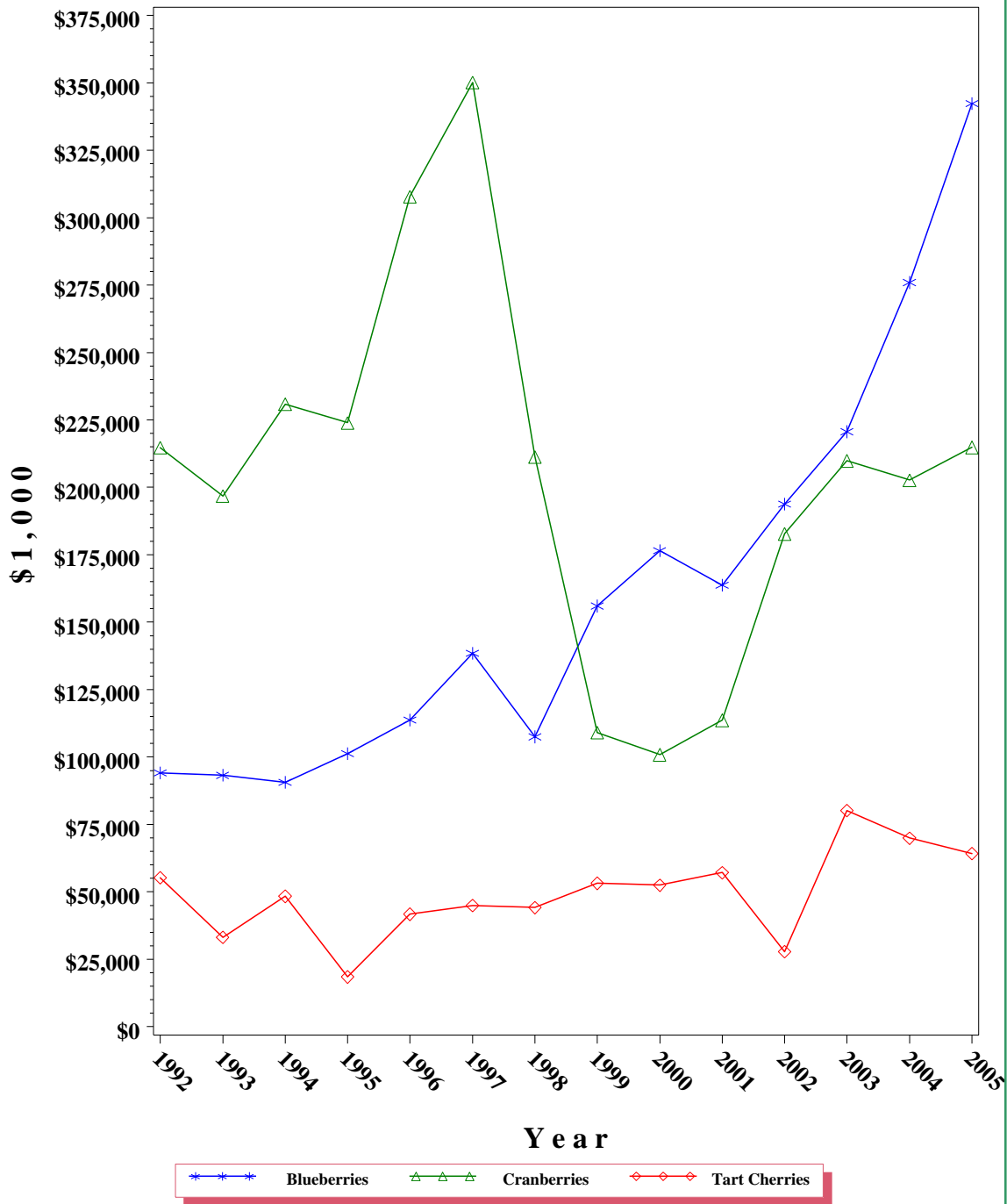
Cranberry value of production reached a high of \$340.146 million in 1997. In 2000 the cranberry value of production dipped to \$100.851 million and has recovered to \$214.812 million in 2005. The decline in the value of production was due to the severe surplus faced by the industry during this time period which led to depressed grower prices. The CMC used its volume control authority to limit deliveries by growers in both 2000 and 2001.

Tart cherry value of production reached a high of \$80.210 million in 2003. Even though the production levels of tart cherries and blueberries are somewhat similar, blueberry value of production is higher and increasing as compared to the tart cherry value of production which is stagnant.

While cranberry production is much greater than blueberry production, the grower value of blueberries became greater than the value of cranberries in 1999 and continues to increase.

The table demonstrates that most of the value in the tart cherry crop comes on the processing side of the industry as compared to the fresh side of the industry. Cranberries and in particular blueberries generate significant value from the fresh side of the industry. Sixty-nine percent of the value of production for blueberries is generated by the fresh side of the market. However, the value of production for processed blueberries continues to increase and is greater than the total value of production for tart cherries.

Grower Value of Production for Blueberries, Cranberries, and Tart Cherries 1992 - 2005



Source: NASS / USDA

Grower Value of Blueberry, Cranberry, and Tart Cherry Production: 1992 - 2005

	Blueberry Value of Production			Cranberry Value of Production			Tart Cherry Value of Production		
	Fresh	Processed	Total	Fresh	Processed	Total	Fresh	Processed	Total
					\$1,000				
1992	50,001	44,096	94,097			214,767	3,426	51,804	55,230
1993	61,102	32,152	93,254			196,820	2,114	31,031	33,145
1994	61,351	29,322	90,673			230,795	1,526	46,860	48,386
1995	67,609	33,670	101,279			223,938	1,200	17,256	18,456
1996	66,169	47,611	113,780			307,827	1,203	40,544	41,747
1997	76,219	62,271	138,490			350,146	1,465	43,446	44,911
1998	72,546	34,948	107,494			211,301	1,136	43,050	44,186
1999	92,176	63,829	156,005			112,235	969	52,207	53,176
2000	101,101	75,470	176,571	16,500	84,351	100,851	1,035	51,453	52,488
2001	110,638	53,125	163,763	16,762	93,580	110,342	1,022	56,128	57,150
2002	140,769	53,018	193,787	16,786	137,469	154,255	676	27,203	27,879
2003	154,533	66,116	220,649	18,650	191,184	209,834	744	79,466	80,210
2004	193,058	82,905	275,963	21,694	180,976	202,670	1,190	68,751	69,941
2005	237,595	104,716	342,311	20,203	194,609	214,812	1,071	63,161	64,232

Source: NASS / USDA

Note: Fresh and processed value of production was not reported for cranberries prior to 2000

Per Capita Consumption

The following table shows the domestic per capita consumption of blueberries, cranberries, and tart cherries. Per capita consumption provides a clue to how well a commodity is doing in the marketplace. If per capita consumption is increasing, then the domestic market is growing. If per capita consumption is staying the same, then the commodity is growing slowly at the rate of population growth. If per capita consumption is falling, then the demand for the commodity is decreasing. For most mature agricultural commodities, it is difficult to maintain an ever increasing per capita consumption.

This table shows that cranberry per capita consumption is the highest among the three fruits. Tart cherry per capita consumption is very similar to blueberry per capita consumption. However, total blueberry per capita consumption is flat while tart cherry per capita consumption has been declining. Fresh blueberry consumption has increased while processed blueberry consumption has slightly decreased. It should be noted that blueberry per capita consumption includes all blueberries (cultivated and wild) and only frozen blueberry sales are included in the processed per capita consumption (blueberries processed in cans are not reported).

Cranberry per capita consumption is increasing. The two very high years of per capita consumption in 2000 and 2001 should be viewed cautiously. Handlers were holding large amounts of inventories and it is believed that these inventories were sold off at very low prices. In addition, government purchases were very high in those years.

(Negative)Both per capita consumption and total sales for tart cherries has been decreasing since 2002. Weather had a major impact on the 2002 tart cherry crop. Production dropped from 370.1 million pounds in 2001 to 62.5 million in 2002. This resulted in a shortage for the 2002 marketing year. Often when markets are unfilled, competing commodities are substituted and it is difficult to rebuild those markets. The tart cherry industry has used the volume control authority under its marketing order in eight out of the ten years it has now been in existence. Restricted percentages were established at 42 percent in 2005 and 45 percent in 2006 crop years. These high restricted percentages accompanying relatively moderate production in recent years are not healthy signs for the industry.

Per Capita Consumption for Blueberries, Cranberries, and Tart Cherries: 1992 - 2005

	Blueberry			Cranberry			Tart Cherry
	Fresh	Processed	Total	Fresh	Processed	Total	Total
	pounds per person						
1992	0.20	0.41	0.61	0.08	1.46	1.54	1.01
1993	0.26	0.47	0.73	0.08	1.49	1.57	1.04
1994	0.27	0.49	0.76	0.08	1.70	1.78	0.96
1995	0.32	0.46	0.78	0.08	1.57	1.65	1.20
1996	0.27	0.37	0.64	0.08	1.53	1.61	0.94
1997	0.29	0.32	0.61	0.08	1.62	1.70	1.10
1998	0.32	0.35	0.67	0.08	1.56	1.64	1.07
1999	0.31	0.40	0.71	0.08	1.60	1.68	0.83
2000	0.26	0.33	0.59	0.09	1.87	1.96	1.01
2001	0.34	0.39	0.73	0.08	2.04	2.12	0.86
2002	0.39	0.25	0.64	0.09	1.68	1.77	0.56
2003	0.38	0.36	0.74	0.07	1.71	1.78	0.71
2004	0.53	0.24	0.77	0.08	1.79	1.87	0.69
2005	0.44	0.35	0.79	0.08	1.75	1.83	0.72

Note: Per capita consumption information for blueberries is from the Economic Research Service, USDA and includes cultivated as well as wild blueberries. Per capita processed blueberries does not include canned processed blueberries.
 Per capita consumption information for cranberries is from the Cranberry Marketing Committee
 Per capita consumption information for tart cherries is derived from the movement information provided by the Cherry Industry Advisory Board

Conclusion

The blueberry, cranberry, and tart cherry industries are analyzed in this paper. All three are mature industries that are using Federal programs to conduct promotion programs. One of the major differences between the three fruit industries is that blueberries and to a lesser extent cranberries both have fresh market outlets while fresh tart cherry consumption is very small.

All three fruits are perennial crops that can be processed and stored from year-to-year and the build-up of large inventories has a depressing impact on grower prices. Since the

fruits are perennial crops it is difficult to adjust supply to meet demand in the short term (Sexton).

Another difference between the three fruit industries is grower prices. Blueberry grower prices are six times higher than tart cherry grower prices and four times higher than cranberry prices.

Both fresh and processed utilization of blueberries has increased over the 14-year period examined in this analysis. Processed utilization has increased for cranberries while processed tart cherries are either stagnant or have declined slightly.

One of the surprising findings in this paper is the comparison of the per capita consumption levels for the three fruits. Cranberry per capita consumption is twice as large as either blueberry or tart cherry per capita consumption. Given all the information about the health benefits associated with the consumption of blueberries, blueberry and tart cherry per capita consumption are very similar. Furthermore, fresh blueberry per capita consumption is slowly increasing while processed blueberry per capita consumption is slowly decreasing leaving total per capita consumption flat. Per capita consumption of most fruits that are canned has been decreasing (apples, apricots, tart cherries, peaches, pears, pineapples – www.ers.usda.gov/publications/FTS/2006/Yearbook/FTS2006.pdf).

Generic promotion appears to have been used very effectively by the blueberry and cranberry industries. The cranberry industry has used generic promotion to increase exports while the blueberry industry's generic advertising efforts have been very effective in increasing fresh blueberry consumption. The ease of eating fresh blueberries over cranberries or tart cherries makes blueberries an easier choice for consumers.

References

Trends in the U.S. Blueberry Industry, Economic Research Service, USDA, Fruit and Tree Nuts Outlook/FTS-305/July 30, 2003.

Highbush Blueberry Production, College of Agricultural Sciences, Pennsylvania State University 2001.

Jesse, Edward V. and Rogers, Richard T., "The Cranberry Industry and Ocean Spray Cooperative: Lessons in Cooperative governance, Food System Research Group, January 2006.

Nugent, James, Kole, Glenn, Thronton, Gary, and Bardenhagen, "Cost of Producing Tart Cherries in Northwestern Michigan, Extension Bulletin E-1108, Michigan State University, February 2003.

Sexton, Richard, "Evaluation of the Cranberry Marketing Committee's Promotion Program", February 10, 2006.

Sobota, A.E. Inhibition of bacterial adherence by cranberry juice: Potential use for treatment of urinary tract infections, Journal of Urology, 1984. 131:1018.

Sweet and Red Tart Cherry Crop Statistics & Market Analysis, Cherry Marketing Institute, Inc., Various annual issues.

U.S. Department of Agriculture, National Agricultural Statistics Service, Noncitrus Fruits and Nuts. Various annual summaries.

Pollack, Susan and Perez, Agnes, "Fruit and Tree Nuts Situation and Outlook Yearbook," USDA/ERS, FTS-2006, October 2006.

U.S. Highbush Blueberry Council, Health, www.blueberry.org/health.htm