


CORNELL **Economic Analysis of the Tart Cherry Federal Marketing Orders**



Cornell Horticultural Business Management and Marketing Program

CORNELL **Writing Team**

- ❑ An issues paper, "Economic Analysis of the Tart Cherry Federal Marketing Orders", was commissioned by the Cherry Industry Administrative Board (CIAB), Perry Hedin, Executive Director
- ❑ Authors:
  - Gerald B. White  
Professor Emeritus, Department of Applied Economics and Management, Cornell University, Ithaca NY 14853-7801
  - Kevin Kesecker  
Senior Economist, Fruit and Vegetable Programs Agricultural Marketing Service, USDA, Washington DC . (The views expressed in the paper do not represent an official USDA position).
- ❑ Additional Support was provided by:
  - Curtis Rowley, Cherry Hill Farms, Inc., Santaquin, UT 84655;
  - James R. Jensen, President, CherrCo, Inc., Ludington, MI 49431-0689

Cornell Horticultural Business Management and Marketing Program

CORNELL **Industry Overview**

We reviewed farm level statistics and trends for three periods of the last 35 years ending in 2006:

- ❑ 1972-1986, the years of operation of the first FMO, administered by the Cherry Administration Board (CAB);
- ❑ 1987-1996, a period in which no FMO was in operation, and
- ❑ 1997-2006, the years of operation of the current FMO, administered by the Cherry Industry Administrative Board (CIAB).

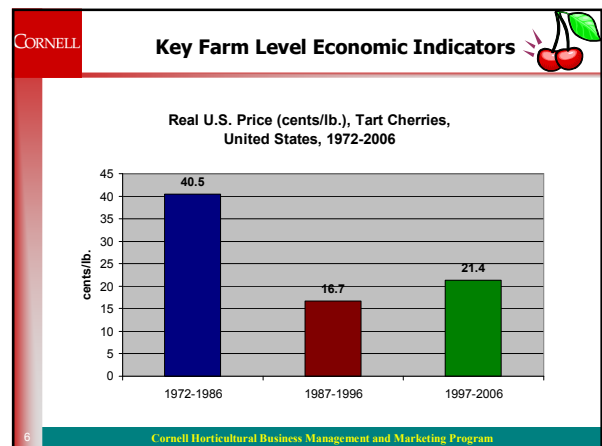
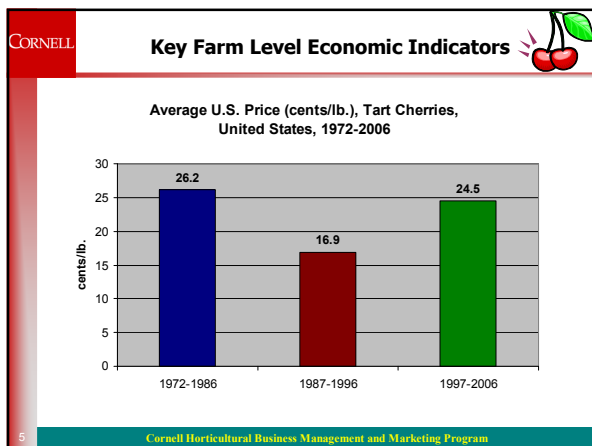
Some statistical highlights and comparisons of key economic indicators are shown in the following slides:

Cornell Horticultural Business Management and Marketing Program

CORNELL **Six Key Economic Indicators**

- ❑ **Nominal Values for Farm Level Indicators**
  - U.S. Price (processed, cents per pound)
  - Value of U.S. Production (million dollars)
  - Value of U. S. Production per acre (dollars)
- ❑ **Real Values for Farm Level Indicators.** Nominal prices were adjusted by Prices Received by Farmers, Fruit and Nuts Index, 1990-92=100.
  - To account for the effects of inflation, and
  - To compare the performance of tart cherries with respect to other crops that could be considered as alternatives to cherries, either for consumers or growers who can consider alternative crops

Cornell Horticultural Business Management and Marketing Program



## Slide 2

---

**g2** gbw2, 11/27/2007

**g4**

**This is a test**

gbw2, 11/27/2007

**g5** gbw2, 11/27/2007

## Slide 3

---

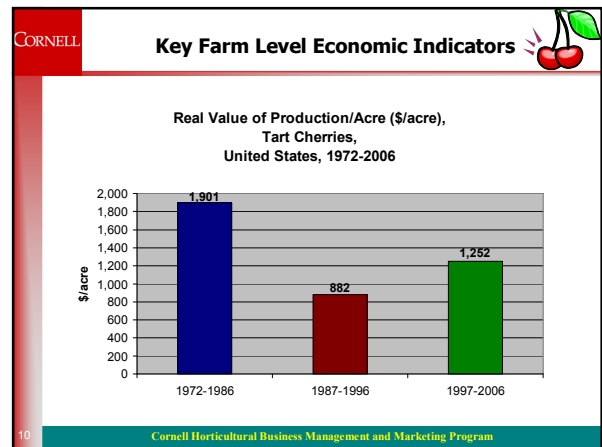
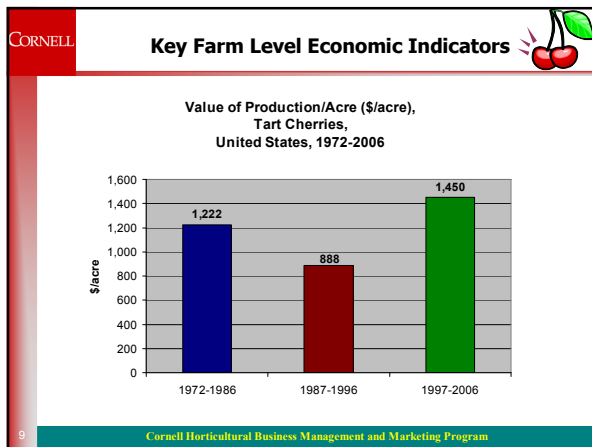
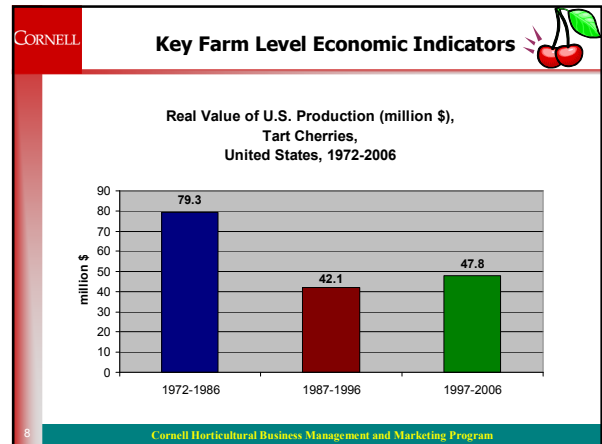
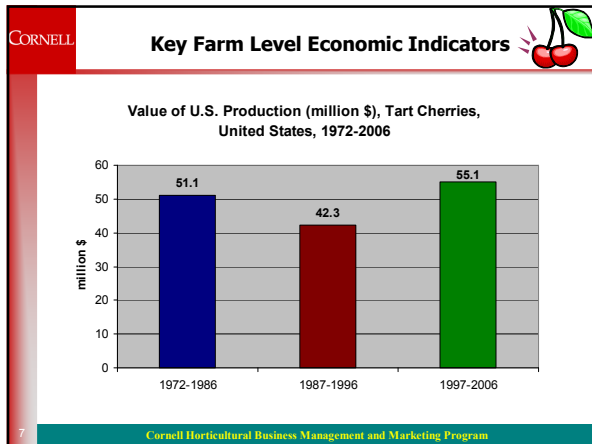
**g3** gbw2, 11/27/2007


**g6** gbw2, 11/27/2007


## Slide 4

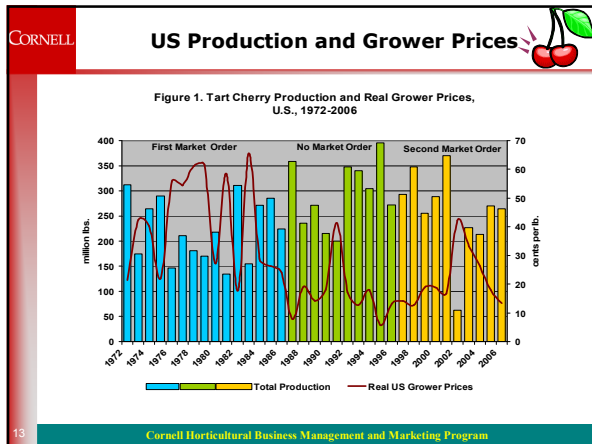
---

**g7** gbw2, 11/27/2007



- CORNELL** Summary of Key Farm Level Economic Indicators 
- ❑ Results for the years in which either one of the FMO's were in operation were superior to the results when the FMO was not in operation
  - ❑ When prices are converted to real values the average prices for cherries, the value of production, and value of production per acre are higher in the years of the second FMO than for the period when no FMO was in effect
  - ❑ Average nominal values of the three variables are higher for 1997 through 2006 period compared to the period of no marketing order
  - ❑ Average nominal values for total value of US production and value of production per acre are higher for the second FMO than for the first FMO
  - ❑ Real values for the three estimates are, however, higher for the years of the first FMO than for the in the 1997-2006 period of the second FMO
- 11 Cornell Horticultural Business Management and Marketing Program

- CORNELL** Conclusions From Analyses of Key Farm Level Economic Indicators 
- ❑ The statistics support and substantiate the results of previous studies by Putnam and Forker and Kaiser.
  - ❑ These results are not sufficient, however, to assert that the FMO caused the improved economic performance; thus we concluded that a more rigorous analysis was needed.
  - ❑ The next sections of the report analyze the hypothesis that the tart cherry industry is better off operating pursuant to the FMO, as measured by the farm gate value of tart cherries at the grower level, than it would be operating without the Order.
- 12 Cornell Horticultural Business Management and Marketing Program



CORNELL

## Production in the Future? Bearing Acreage Cycle

- ❑ In Figure 1, the production levels from the mid- to late-1980s to the late-1990s were extremely high.
- ❑ There were 6,380 non-bearing acres of tart cherries in Michigan alone indicated in the 2006-07 NASS rotational survey.
- ❑ Considering that US bearing acreage in 2006 was about 36,000 acres (NASS), the Michigan non-bearing acreage indicates the possibility that production in the next year or two may enter another increasing cycle.

14 Cornell Horticultural Business Management and Marketing Program

CORNELL

## Production in the Future? Bearing Acreage Cycle

- ❑ As of 2004/2005, there were 6,740 acres in the US with trees aged 26 + years.
- ❑ These older orchards are candidates for removal due to missing trees and other factors contributing to reduced productivity.
- ❑ The extent of removals will depend mainly on the price of cherries in the next few years.

15 Cornell Horticultural Business Management and Marketing Program

CORNELL

## Authorities Under the FMO (1997-2007)

- ❑ The supply control elements allow for
  - 1) The creation of a reserve pool
  - 2) Expansion of domestic sales opportunities by using restricted cherries in the market expansion, new product and new market program
  - 3) Sale of restricted cherries into other secondary markets such as exports
 These aspects of the order have been used with varying emphasis by handlers in compliance with the supply control process
- ❑ Use of the generic promotion authority started with the 2006 crop and will continue into the future

16 Cornell Horticultural Business Management and Marketing Program

CORNELL

## Models to Estimate the Impact of the FMO's

- ❑ Two econometric models were developed to evaluate the impact(s) of the FMO's on **Real Value of Production Per Acre** at the grower level.
- ❑ We used regression analysis (a statistical technique used to quantify relationships between two economic factors while taking into account the impact of other factors).
- ❑ "Other factors" include
  - The existence of a marketing order ("policy variable")
  - Additions and releases from the reserve pool ("policy variable")
  - Real grower prices
  - Total utilization and movement
  - Carry-in inventory

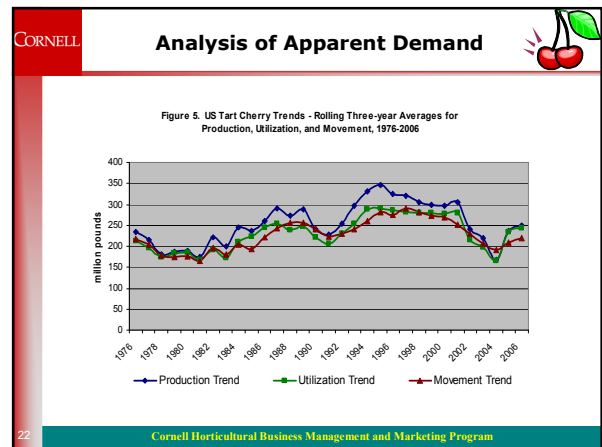
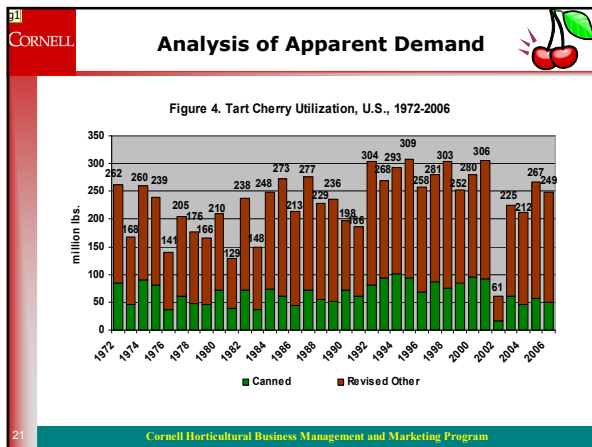
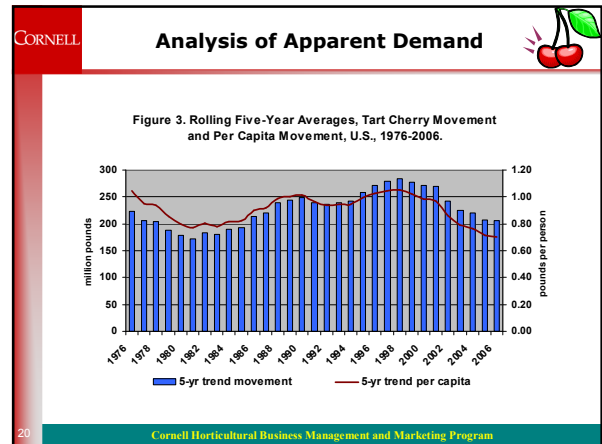
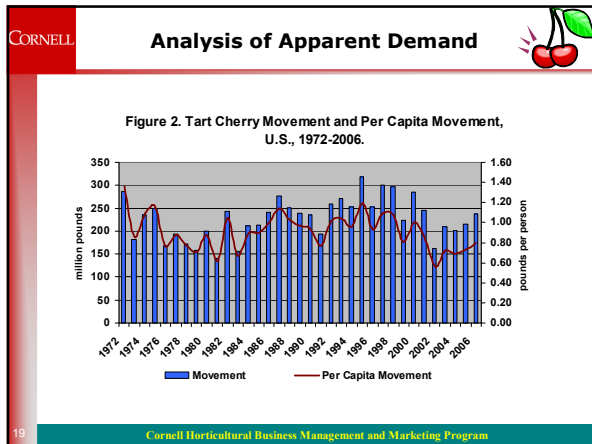
17 Cornell Horticultural Business Management and Marketing Program

CORNELL

## Major Findings from Regression Analysis

- ❑ Over the 35-year period of 1972-2006, we believe that the tart cherry industry was better off operating pursuant to the marketing order, as measured by the farm gate value of tart cherries per acre at the grower level, than it would have been if operating without the Order.
- ❑ Results in the first model indicated that the existence of the marketing order is associated with a \$211.80 increase in the real value of production per acre. This indicates that the marketing orders increased real total value per acre by about 24 percent annually.
- ❑ Results in the second model indicated that for each million pounds of cherries added to the reserve pool there is an increase in the real value of production per acre of \$3.99.
- ❑ Economic theory suggests that a FMO with a similar approach to management of reserves will continue to provide returns in the future that are greater than what the industry returns would be without the FMO.

18 Cornell Horticultural Business Management and Marketing Program



CORNELL **Summary of Analysis of Apparent Demand**

- ❑ Trend analysis technique of five-year averages indicates that utilization reached a peak in 1998 at 288.6 million pounds, but fell by about 30 percent in the next eight years.
- ❑ Anecdotal evidence suggests that dried and juice are growing components of the revised other category.
- ❑ In the last decade, canned tart cherries (including pie filling) were the major source of the total decline in utilization (42 million pounds).
- ❑ Our analysis suggests that major efforts are necessary by the industry to grow the dried cherry and juice category market, but also to stop the erosion in the market of the staple products, canned and frozen.
- ❑ An industry-wide effort is necessary to effectively counter this major erosion in market demand.

23 Cornell Horticultural Business Management and Marketing Program

CORNELL **Countering the Erosion in Demand- 5 Major Challenges**

- 1) **The total size of the industry.** Tart cherries had a farm value of production of \$61.4 million annually (average for 2004-2006). Compare with:
  - Processed cranberries (\$228 million)
  - Juice grapes, (\$80 million)
  - Cultivated blueberries (\$372 million)
  - Farm value of milk production is over the \$26 Billion
- 2) **The structure of the tart cherry industry, with several major processors, compared to grape juice and cranberries, each with one dominant cooperative processor with a national brand (Welch's and Ocean Spray)**


24 Cornell Horticultural Business Management and Marketing Program

**Slide 21**

---


**g1**

gbw2, 11/27/2007

CORNELL **Countering the Erosion in Demand- Five Major Challenges** 

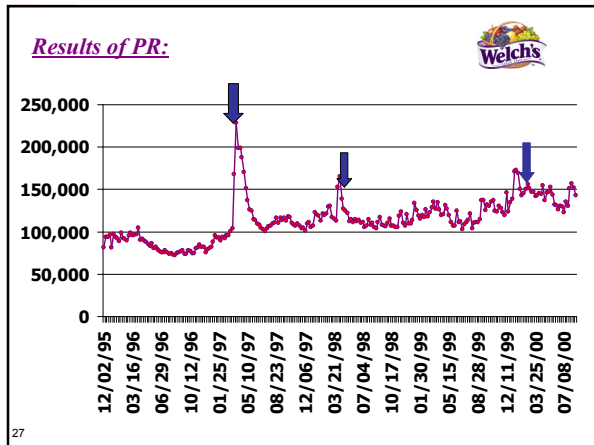
- 3) Demographic changes—women working more outside the home, less time for food preparation, i.e. baking; and the resulting need for new products and distribution strategies
- 4) Many different commodities competing with tart cherries have well-established national generic or brand promotion programs, mostly around health themes. In this environment, it becomes a defensive strategy to promote
- 5) There is a lack of broad availability of identifiable product in retail outlets

25 Cornell Horticultural Business Management and Marketing Program

CORNELL **Countering the Erosion in Demand** 

- Given these challenges, generic promotion may offer the best alternative for a viable strategy for increasing demand.
- The tart cherry industry started this year with a \$1.5 million generic promotion effort—
- Modest in terms of a national generic promotion program, but, a substantial 2.3 % of the total value of production, a larger percentage than both the blueberry and cranberry industries designate to their promotion programs.
- Michigan growers are paying 5 % of gross receipts for research and promotion.
- The generic promotion program, together with the other market development efforts, might have success in expanding either the total and/or the per capita consumption of tart cherries. (See the next slide for an example from the grape industry.)

26 Cornell Horticultural Business Management and Marketing Program



CORNELL **Contact Information** 

**Gerald B. White**  
**Professor Emeritus**  
**Department of Applied Economics and Management**  
**Cornell University, Ithaca NY 14853-7801**  
**PH: 607-255-2299**  
**E Mail: [gbw2@cornell.edu](mailto:gbw2@cornell.edu)**

The entire 17 page Issue Paper may be viewed at the Cherry Industry Administrative Board web site, <http://www.cherryboard.org/>

28 Cornell Horticultural Business Management and Marketing Program