A DECADE OF VEGETABLE PRODUCTION AND PRICE TREND ANALYSIS

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Introduction

Although the U.S. vegetable production has been on the rise for the past decade, there has been inconsistency in the overall output. In 1989, 2001, and 2002, the overall output index fell below the linear trend line. Even though the total vegetable and melon output increased by 5% in 2002, total production was still below the linear trend line. The peak production year was 1999. The producer price index for fresh vegetable was extremely fluctuating from 1993 to 2000 and slightly leveled off in 2001 and thereafter. Frozen and canned vegetable price indexes were consistently upward slopping. Retail prices for fresh vegetable have been significantly higher than processed for the past decade (ERS/USDA 2003).

The U.S. fresh vegetable export has also been on the rise for the past decade but not as pronounced as import. From 1993 fresh vegetable import growth has been impressive and the trend is expected to continue. Selected vegetables that show important import and export growth were melons, onions, cucumbers and tomatoes. Current prices received by farmers for vegetables surpassed the deflated or real dollars from 1992 and the gap between the two has constantly been widening since then to the farmer’s advantage. Fresh market vegetable includes the following selected vegetables: snap beans, cabbage, artichokes, asparagus, greens, lima beans, broccoli, brussels sprouts, cantaloupes, carrots, cauliflowers, celery, sweet corn, cucumbers, eggplants, honeydews, onions, bell peppers, tomatoes, watermelons etc.

The primary objective of this study is to show the historical trend in vegetable production and price for the past decade. The specific objects are: (1) to analyze the U.S. vegetable production trend (2) to analyze the U.S. vegetable price trend, and (3) Compare production, price, population and per capita consumption trends for the past decade respectively.

Tomatoes

Tomatoes production was at its peak in 1992 when over 3,900 million pounds were produced reflecting 14.8% increase from 1991. The worst year was 1997 when only 3,278 million pounds were produced hence about 19% decrease in production. In 2000 and 2002 production were relatively good, but not better than 1993. It is interesting to note here that, while 1993 was the peak production year for tomatoes, it was equally the peak price year as it sold for $35.80 per cwt, thus 12.9% increase from the previous year. This 1993 trend is inconsistent with economic
theory. The relative peak price was in 1998, i.e., over half a decade ago when tomatoes sold for $35.20 per cwt (Fig 1).

**Bell Pepper**
On the contrary bell pepper production has maintained a consistent flow with a slight peak in 2000 when 1,686.1 million pounds were produced, hence 8.3 % increase from 1999. Bell pepper has enjoyed very good prices since 1990. The minimum and maximum prices recorded during these years were $24.60 and per cwt (1990) and $34.80 per cwt in 1998. There was 2.8% decrease in production that same year and that probably triggered the price hike (Fig 1).

**Onion**
Onion production took a jump in 1994 and maintained a slight increase since then. The peak production was in 1999 when 6,101.2 million pounds, up by 5.3% from previous year was produced. This slight increase put a downward pressure on price as 29.1% decrease was realized. Thus far the best price per cwt was $16.50 in 1993 (Fig 2).
**Leaf and Romaine**  
Leaf and romaine production are steadily on the rise. Production has more or less stabilized since 2000 to present. There was a 25.4 % increase in price in 2002, up from 2001. However, the best price of $30.10 per cwt was recorded in 1995. It is worth mentioning here that, leaf and romaine prices are not as steady as fresh onion (Fig 2).

**Fig. 2: U.S. Leaf and Romaine and Fresh Onion Analysis: 1990-2002**

![Graph showing U.S. Leaf and Romaine and Fresh Onion Analysis: 1990-2002](image)


**Sweet Corn**  
Sweet corn production has been steadily increasing from 1,745.5 million pounds in 1990 to about 2,643 million pounds in 2002. Prices have been rising steadily also from $15.00 per cwt in 1990 to $20.10 per cwt in 2002. Both production and prices are following a parallel trend (Fig 3).

**Carrots**  
Carrots production peaked in 1997 at 3,858.9 million pounds and started plummeting thereafter. Carrots prices have been volatile also with its peak in 2002 at $19.00 per cwt. The least price was $10.80 per cwt in 1992 (Fig 3).


Fig. 3: U.S. Sweet Corn and Fresh Carrots Production and Price Analysis: 1990-2002


**Cucumber**

Cucumber has maintained a fairly consistent production since 1995. The peak volume was in 1999 at 1,192.1 million pounds. Cucumber prices have averaged $18.30 per cwt since 1990 with the peak of $20.00 per cwt in 1998 and the least price of $15.80 recorded in 1990 (Fig 4).

**Cabbage**

Cabbage production was on the rise from 1990 to 1994, with a drop in 1995 and 1999. Prices have been low and fairly consistent. The highest price was recorded in 2001 at $13.30 per cwt and the lowest in 1990 at $7.70 per cwt. (Fig 4).

Fig. 4: U.S. Fresh Cucumber and Cabbage Production and Prices: 1990-2002

**Eggplant**

Eggplant had a good year in 2000 when 165.8 million pounds were produced whereas the worst year was 1991 when only 76.2 million pounds were produced. Prices have been fairly consistent. The best price was obtained in 2001 thus $31.70 per cwt. The least price for the past decade was $23.40 per cwt obtained in 1993. If production is not regulated, over supply might quickly dampen prices (Fig 5).

**Snap Beans**

Snap beans production has been rising since 1998 with a 3.3 % drop in volume in 2002 from 2001, which was the highest production during this time period i.e., 615.5 million pounds compared with 595.8 million pounds in 2002. The highest price was also obtained in 2002 i.e. $47.40 per cwt. Although prices have been fairly consistent, the least price was $35.20 recorded in 1992 (Fig 5).

**Fig. 5: U.S. Eggplant and Snap Beans Production and Prices: 1990-2002**

**Potatoes**

Potatoes production has been more consistent than price trend. The highest volume was in 2000 at 13,239.4 million pounds and thereafter there have been 0.6% decrease in volume in 2001 and a subsequent 2.9% decrease in 2002. On the other hand, the highest prices were in 2001 at $10.68 per cwt and the relative maximum price of $8.90 per cwt in 1995. The least price of $5.05 per cwt was recorded in 1996 (Fig 6).

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**Fig. 6: U.S. Potatoes and Honeydew Production and Prices: 1990-2002**

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**Honeydew Melons**

The best production for honeydew melon was 530.7 million pounds recorded in 1999. Since then, total production has been decreasing with a slight jump in 2002 at 505.9 million pounds. Prices have been fairly consistent. Prices above $20.00 per cwt were recorded in 1996, 1998, 1999 and 2001 respective with the highest of $21.60 per cwt in 1999 (Fig 6).

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**Cantaloupes**

Cantaloupes production has been increasing since 1995 when 1,896.2 million pounds were produced. Thereafter, production escalated to over 2,000 million pounds. The highest production for the past decade was in 2002 when 2,304.6 million pounds were produced. Besides 1991 when the least price per cwt was $12.25, prices have been on the rise also, ranging from $17.00 to $19.00 per cwt. From 1995 – 1997 prices per cwt remained above $18.00. The best price thus far was in 2002 at $19.00 per cwt (Fig 7).
Watermelons
Watermelons production has been up and down but maintaining an upward trend for the past decade. In 1996, 1999 and 2001, production was at its best as over 4000 million pounds were produced. The highest production was in 1996 when 4,272.4 million pounds were produced (Fig 7). While production is on the rise, prices are declining. The good years were 1991 and 1995 when watermelons sold for $8.87 and $8.90 per cwt respectively. Prices have been downward slopping since then.

U.S. Population Trend
The U.S. population has been fast growing for the past two decades as shown in fig 8 below. Population in 1980 was 226.5 million people compared with 248.7 millions in 1990, 281.4 millions in 2000 and 291.5 millions in 2003. The population growth from 1980 to 2003 represents 28.7 % increase.
U.S. Per Capita Consumption
As the U.S. population continues to grow, per capita consumption is growing concomitantly. In 1980, per capita consumption was 356.2 pounds per farm weight compared with 409.9 pounds in 1990, 452.2 pounds in 2000 and 445.3 pounds in 2003. From 1980 to 2003, per capita consumption has increased by 25%. Fig 8 is showing a leveling per capita consumption trend from 2000 to 2003 because it represents only three years data. By 2010, that trend is expected to be as sharp as from 1980 to 2000.

Conclusion
As population continues to grow, per capita consumption of vegetable will continue to grow thus creating the need for production expansion. If this expansion does not take place locally, imported vegetables will continue to make its way into the U.S. markets. However, production needs to be controlled, as excess supply of any of the fresh vegetable will only help to exert downward pressure on prices of the commodity.

References