

Market Outlook for Blackberry Production in the Southeast

**Blackberry Conference
2009 SE Regional Fruit & Vegetable
Conference**

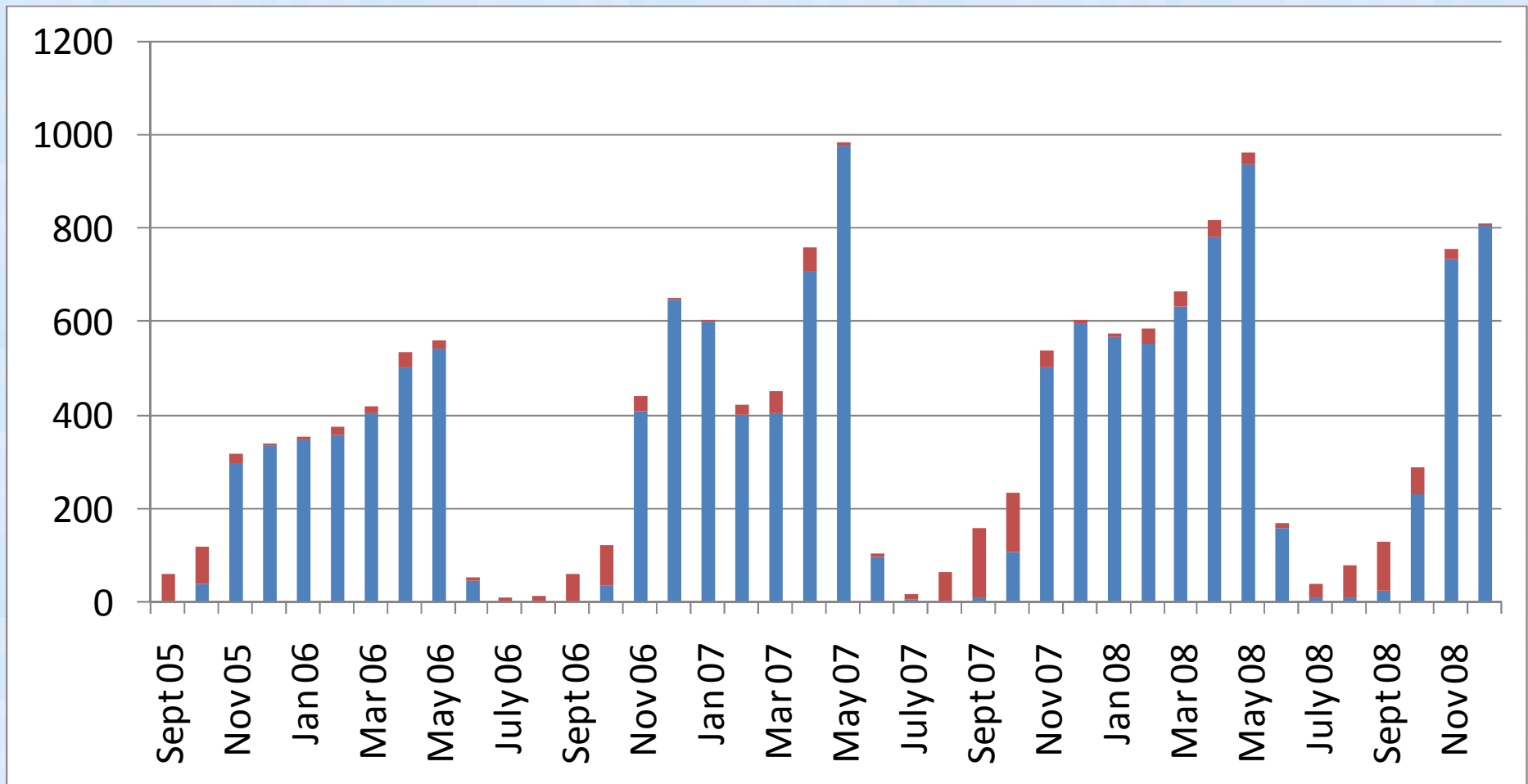
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Projected Increases in Blackberry Acreage by 2015 for Selected Countries

Country	Percentage Increase	2005 Area Planted (Acres)	Projected Increase (Acres)	Projected Area in 2015 (Acres)
USA	20 %	11,905	2,381	14,286
Mexico	117 %	5,683	6,649	12,332
Chile	76 %	1,111	844	1,955
Guatemala	33 %	222	73	295

Source: Bernadine Strik, Dept. of Horticulture, OSU

Total US Monthly Blackberry Imports from Mexico & Guatemala: 2005 - 2008 Marketing Season (10,000 pound units)

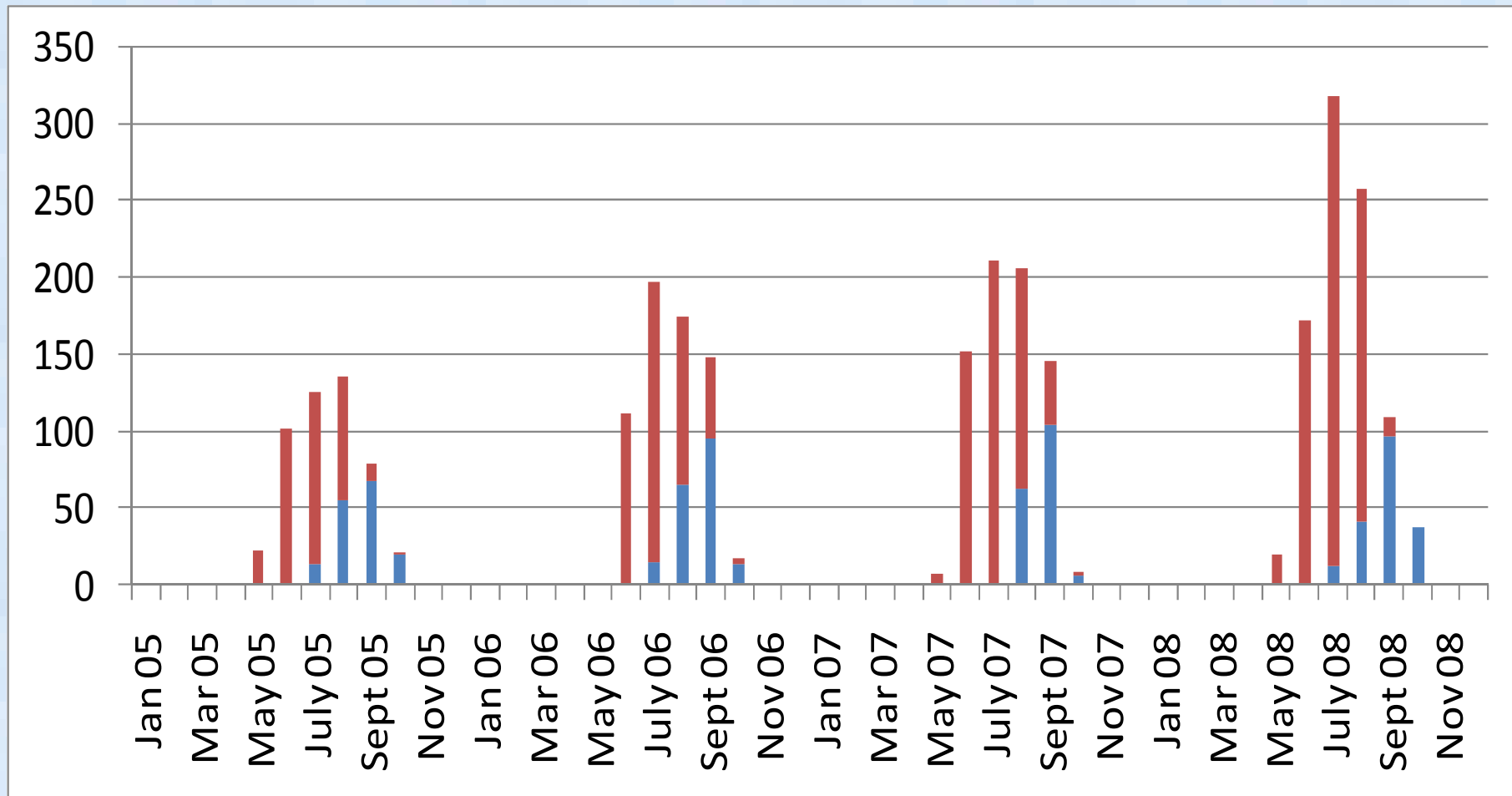


Source: Agricultural Marketing Service, USDA

Mexico

Guatemala

Total US Monthly Blackberry Shipments from Central California & Oregon: 2005 - 2008 Marketing Seasons (10,000 pound units)

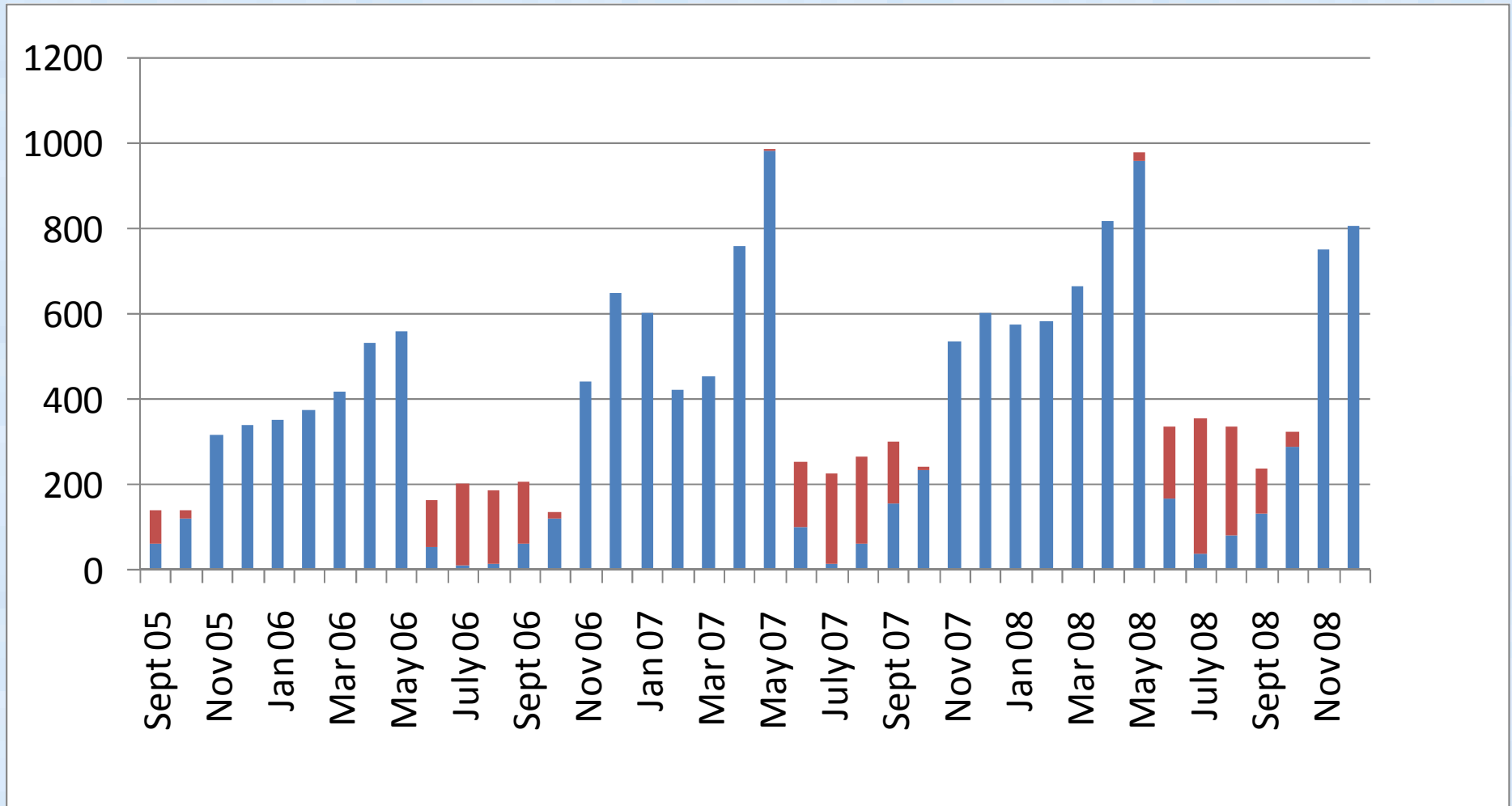


Source: Agricultural Marketing Service, USDA

Oregon

Central Calf.

Total US Monthly Blackberry Movement, 2005 – 2008 Marketing Seasons (Imports & Domestic Shipments) (10,000 pound units)

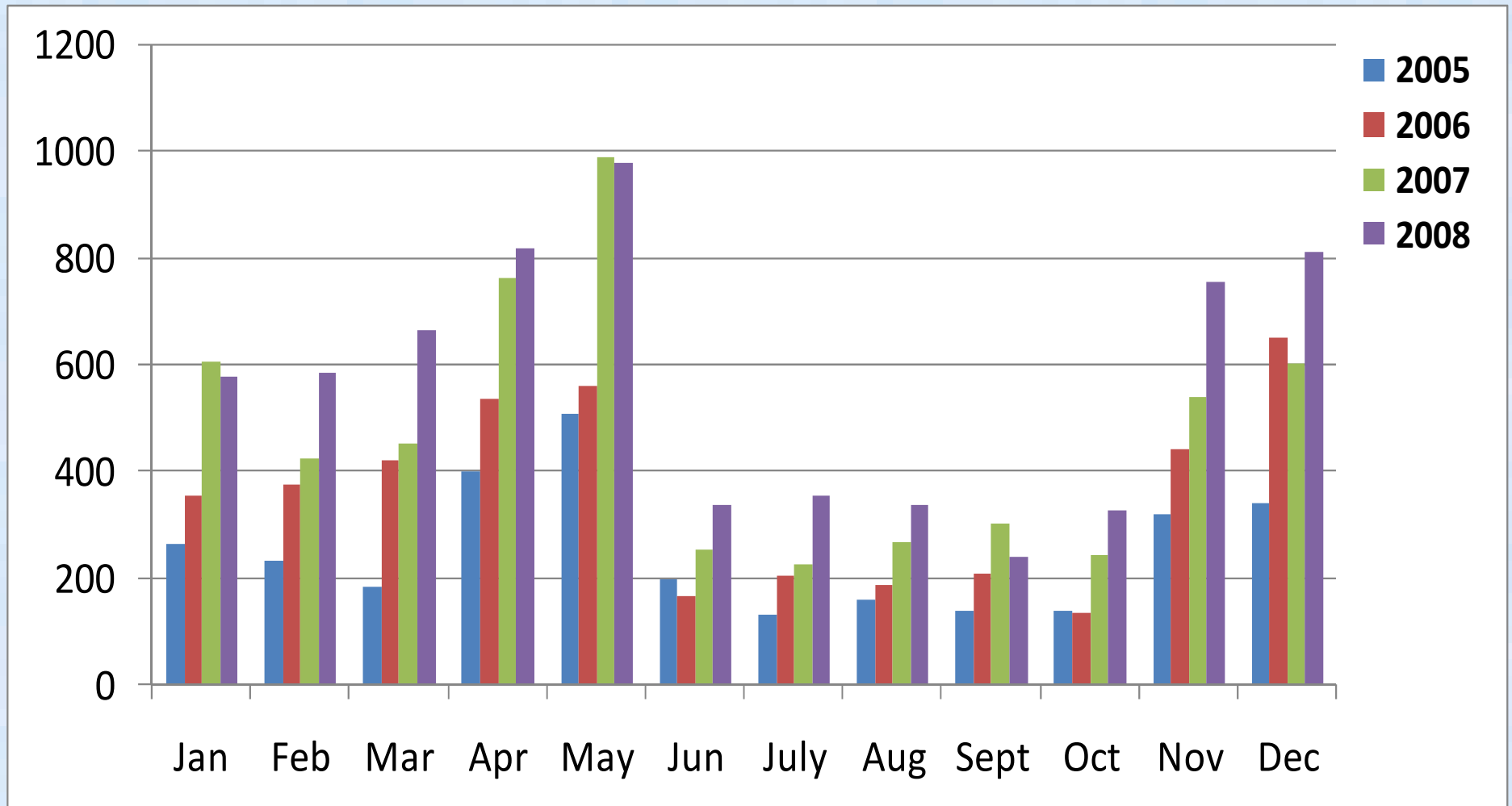


Source: Agricultural Marketing Service, USDA

“Imports”

“Domestic”

Total US Monthly Blackberry Shipments (Imports & Domestic Shipments) (10,000 pound units)



Source: Agricultural Marketing Service, USDA

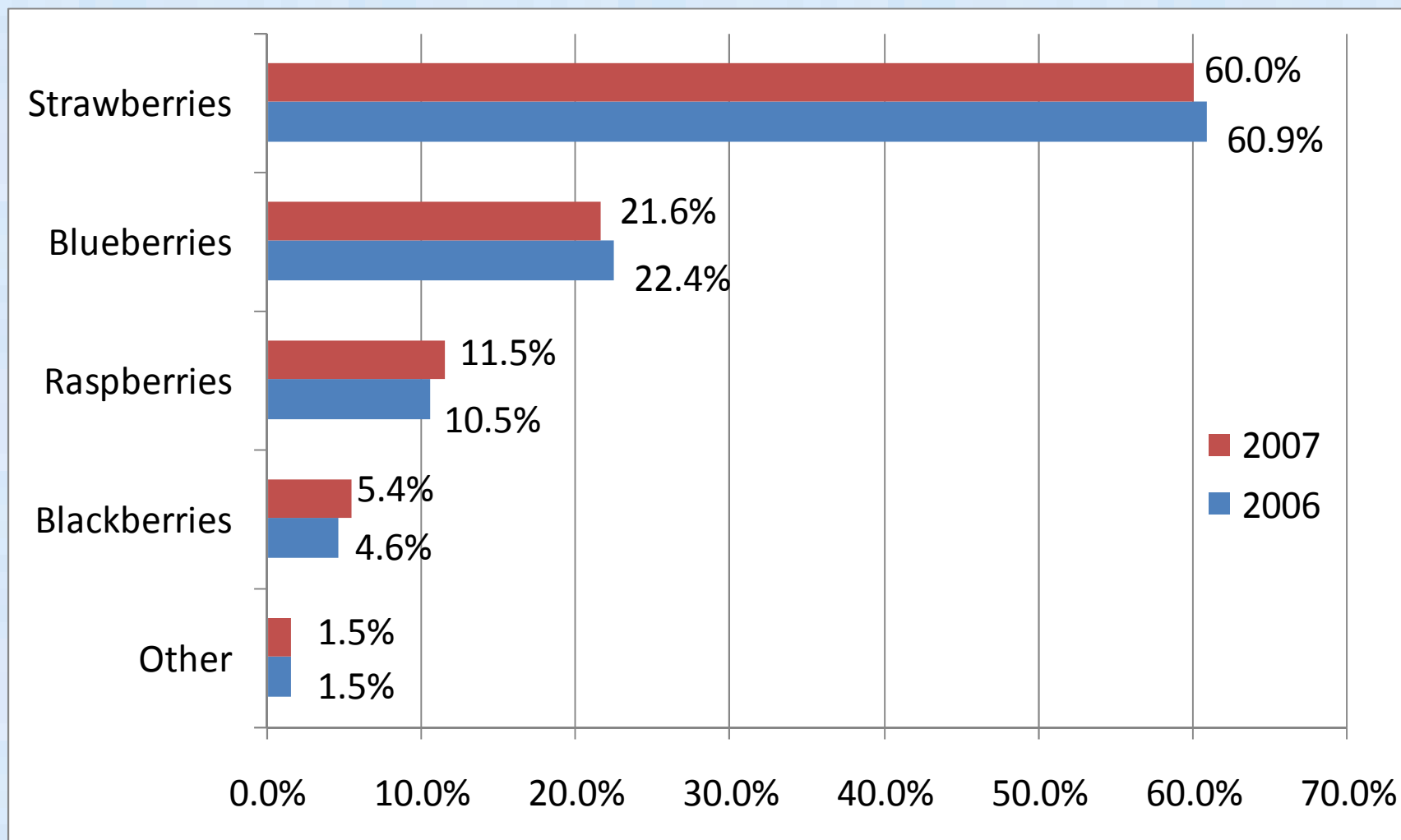
Blackberry Consumption

❖ “There’s room for growth!”

U.S. Data by Commodity	Expenditures (% of Consumer Dollar Spent on Fruit, 2006)	Per Capita Consumption (2005)
Strawberries	21.7%	1.84
Raspberries	3.8%	0.29
Blackberries	<2.0%	0.11

Source: USDA and The Packer Consumer Surveys

Consumer Expenditures for Selected Berries as a Percentage of Total Berry Sales



Source: Perishables Group, Inc.; published in *Produce Merchandising*, April 2008

Customers who Purchased within Last 12 Months

Fruit	Percentage Who Purchased in 2008	Percentage Change over 2007
Grapes	76%	0%
Strawberries	71%	+ 2%
Cherries	48%	+ 7%
Blueberries	44%	+ 1%
Raspberries	25%	- 1%
Blackberries	21%	+ 3%
Cranberries	14%	+ 1%
Pomegranates	11%	+ 5%

Source: *Fresh Trends – 2008*, The Packer

Likelihood of Purchasing based on Household Income

Fruit	> \$100,000	\$50 – 99,999
Strawberries	88%	77%
Grapes	84%	80%
Cherries	68%	51%
Blueberries	66%	51%
Raspberries	33%	33%
Blackberries	31%	26%
Cranberries	22%	22%
Pomegranates	16%	12%

Source: *Fresh Trends – 2008*, The Packer

Most Popular Organic Fruits Purchased in 2008

1. Raspberries
2. Blackberries
3. Pomegranates

Source: *Fresh Trends – 2008*, The Packer

**What is the potential demand
for blackberries?**

U. S. Demand for Blackberries

❖ **“Blackberry demand has an immense amount of potential to expand in the future.”**

➤ **“... consumption of blackberries (could) someday equal that of blueberries or raspberries, given consumers’ growing taste for, and recognition of, the healthful benefits.”**

▪ Janice Honigberg, President, Sun-Belle, Inc.

❖ **Demand for blackberries is strong and growing (Demand > Supply)**

▪ Consensus of produce buyers and managers interviewed for this report

Market Trends – Why has Demand Increased?

- 1. Health**
- 2. Convenience:**
 - ✓ Year-round availability
 - ✓ More supermarkets carrying berries
- 3. Globalization**
- 4. “Faster” and More Reliable Refrigerated Transportation – maintaining the cold chain better from supply point to retail**

Source: Various Articles and Interviews

Health

❖ **57% of the shoppers are making an effort to eat healthier**

❖ **Consumers Concerns:**

✓ Weight	61 %
✓ Cholesterol	36 %
✓ Blood Sugar	22 %
✓ High Blood Pressure	18 %
✓ Diabetes	14 %

Source: *Food Trends*, International Dairy-Deli-Bakery Association, June 2008

Health

- ❖ **Berry consumption has steadily increased during the past two years as consumers have become more aware of the health benefits:**
 - ✓ **Fighting cancer**
 - ✓ **Reducing risk of heart disease**
 - ✓ **Reducing signs of aging**

Source: *Produce Merchandizing*, Chris Crawford, April 2008

Telling the Blackberry's Story to American Consumers

- **Blackberries are the least known (berry) w/ consumers; they need more visibility**
- **The blackberry industry is at the “bottom of the list” in promoting their berry**
- **Future demand will depend on consumers knowing the health benefits of the berry. If consumers:**
 - ✓ **Are educated; demand will increase**
 - ✓ **Are not educated; demand will be stagnant**

Source: Comments of Produce Buyers/Managers

Telling the Blackberry's Story to American Consumers

- **Blackberries have less recognition relative to strawberries, blueberries, raspberries and pomegranates**
 - ✓ **Few consumers talk about the blackberry's nutritional value and/or as a source of antioxidants**
- ➔ **The Industry needs to do a better job in getting their (health) message out**

Source: Comments of Produce Buyers/Managers

Alternative Methods of Measuring Antioxidant Capacity

- 1. ORAC: Oxygen Radical Absorbance Capacity**
- 2. FRAP: Ferric Ion Reducing Antioxidant Power**
- 3. TRAP: Total Radical-Trapping Antioxidant Parameter**
- 4. TEAC: Trolox Equivalence Antioxidant Capacity**

List of Fruits High in Antioxidants Content

ORAC Estimation Method

($\mu\text{mol TE}/100\text{g}$)

Antioxidant Source	Total ORAC
Cranberries, raw	9,584
Currant, Black, raw	7,960
Blueberries, raw	6,552
Plums, raw	6,295
Blackberries, raw	5,347
Raspberries, raw	4,862
Strawberries, cultivated, raw	3,577
Cherries, raw	3,365
Grape, red, raw	1,260

Source: *Oxygen Radical Absorbance Capacity of Selected Foods*, Nutrient Data Laboratory, ARS, USDA, November 2007

List of Fruits High in Antioxidants Content

FRAP Estimation Method

(mmol Fe²⁺/Kg Fresh Weight)

Antioxidant Source	Antioxidant Activity
Blackberries	51.53
Redcurrants	44.86
Raspberries	43.03
Strawberries, cultivated	22.74
Blueberries	18.61
Plums (red)	12.79
Grapes (black)	11.09
Cherries	8.10
Grapes (white)	3.25

Source: *Total Antioxidant Capacity of Plant Foods, Beverages & Oils Consumed in Italy*, Nicoletta Pellegrini et. a., *J. Nutr.* 1333:2812-2819, 2003

List of Fruits High in Antioxidants Content

TRAP Estimation Method

(mmol Trolox/Kg Fresh Weight)

Antioxidant Source	Antioxidant Activity
Blackberries	21.01
Redcurrants	12.14
Raspberries	10.48
Blueberries	9.30
Strawberries, cultivated	8.56
Plums (red)	8.09
Grapes (black)	2.50
Cherries	4.17
Grapes (white)	1.59

Source: *Total Antioxidant Capacity of Plant Foods, Beverages & Oils Consumed in Italy*, Nicoletta Pellegrini et. a., *J. Nutr.* 1333:2812-2819, 2003

List of Fruits High in Antioxidants Content

TEAC Estimation Method

(mmol Trolox/ Kg Fresh Weight)

Antioxidant Source	Antioxidant Activity
Blackberries	20.24
Raspberries	16.79
Redcurrants	14.05
Strawberries cultivated	10.94
Blueberries	7.43
Plums (red)	5.11
Grapes (black)	3.85
Cherries	2.69
Grapes (white)	2.48

Source: *Total Antioxidant Capacity of Plant Foods, Beverages & Oils Consumed in Italy*, Nicoletta Pellegrini et. a., *J. Nutr.* 1333:2812-2819, 2003

**Are we already oversupplied
with blackberries on the East
Coast?**

**Or, do we need more
blackberry production on
the East Coast?**

A: The East Coast is Not Oversupplied

- ❖ Produce buyers/managers would like to see more production on the East Coast.**
- ❖ Want to buy locally grown produce**
 - ✓ Improved quality**
 - Relative to berries shipped across the country**
 - ✓ Reduced shrink**
 - Blackberries are the most perishable berry**
 - Buying local is critical due to spoilage**
 - ✓ Reduces Delivery Price → More Affordable Berries**
 - Transportation expenses**
 - ✓ Buying locally will be more important in the future**

Source: Comments of Produce Buyers/Managers

Consumer Perceptions of Locally Grown Food

❖ **Consumer appreciate local food for its:**

- ✓ **Improved Taste**
- ✓ **Freshness**
- ✓ **Improved Quality**

Source: Food, Fuel and the Future: Consumer Perceptions of Local Safety and Climate Change in the Context of Rising Prices, Leopold Center's Marketing and Food Systems Initiative, August 2008

Definition of Locally Grown Food

❖ Consumer definitions of local:

- 100 miles or less: 67%
- Within the state or region: 33%

Source: Food, Fuel and the Future: Consumer Perceptions of Local Safety and Climate Change in the Context of Rising Prices, Leopold Center's Marketing and Food Systems Initiative, August 2008

❖ Produce Buyers/Managers definitions of local:

- 100 miles or less
- Within the state
- Within a 6-hour drive

Source: Comments of Produce Buyers/Managers

**What is the optimum size
container?**

**Is there an advantage to selling
blackberries in larger container
sizes, such as a quart container?**

Product Packaging

- ❖ **Protecting the fruit is the most important function for blackberries**
- ❖ **Consumers are concerned about:**
 - ✓ **Product Visibility**
 - ✓ **Convenience**
- ❖ **Clamshells for berries**
 - ✓ **Improve quality**
 - ✓ **Increase refrigerator life for consumers**
 - ✓ **Help retailers reduce shrink**

Source: *Packing a Punch*, Amy Sung, September 2008

Optimum Size Container?

- ❖ **Chain store produce buyers/managers:
No consensus on the optimum container size**
- ❖ **Generally the container should be shallow/flat & have a wide profile:**
 - **Reduces bruising**
 - **Provides “best” presentation of the berries**
 - **Blackberries are an impulse item**

Source: Comments of Produce Buyers/Managers

Optimum Size Container?

❖ Two Major Considerations:

➤ Price/Affordability

- Blackberries are an impulse item, not a staple
- Consumers buy blackberries with disposable income
- ➔ Concern that purchases will decrease given the current economic situation

➤ Spoilage Factor – Blackberries are Highly Perishable Berries

❖ Produce Buyer/Manager comments:

- One opinion: “Six-oz clamshells are the best” because of the spoilage factor.

Source: Comments of Produce Buyers/Managers

Optimum Size Container?

- ❖ Produce Buyer/Manager comments:
- ❖ Container size is dictated by price, i.e. “Whatever size (5.6 oz – 1 pt) is most affordable (at the time).
 - One opinion: “In today’s economy, ½- pint clamshells are more affordable.”
- ❖ Another opinion:
 - “One-pint clamshells would be the best.”
 - ✓ If one-pint containers were priced so they were affordable (i.e. priced lower); growers would make up the (price) difference by selling greater volume.

Source: Comments of Produce Buyers/Managers

Quart Size Container?

- ❖ **Larger size, i.e. quart, containers would not be feasible – Almost Unanimous Opinion (One Abstained)**
- ❖ **Reasons:**
 - **Would not be affordable for consumers**
 - **Would put increased pressure on the berries and increase bruising**
 - **Too much risk given how perishable blackberries are**

Source: Comments of Produce Buyers/Managers

Larger size containers: a different view-point.

- ❖ Vendor at Charlotte Farmers Market
 - Blackberry Sales \approx \$3,000 on a typical Saturday
 - Primarily sells in 2-quart containers
 - ✓ \$9.00 each or \$2.75/lb
 - Can not sell ½- pints and only a few 1-pints
 - ✓ Sells mostly 1- and 2-quarts containers
- ❖ Costco & Sam's Club
 - Sell in 18-ounce containers

Source: Ervin Lineberger

**What can growers do to improve
their product and or service?**

Suggestions to Improve Product

❖ Blackberry Varieties

- Varieties that would extend the local season
- Larger size berries
- Improved sweetness/flavor
 - “Sometimes we receive blackberries that are too tart to eat.”
 - Previous opinion: “A lost in taste does not seem to matter as long as the fruit looks good.”
 - Some Industry experts: There is evidence that Raspberry consumption is decreasing due to poor flavor (i.e. low sugar content) relative to blueberries.

Source: Comments of Produce Buyers/Managers

Suggestions to Improve Product & Service

❖ More or Better Standardization:

- More consistent container size
- More consistent pack

❖ Post Harvest Handling:

- PHH is critical for blackberries
- Some growers need additional training
 - e.g. – cooling containers prior to packing berries to increase shelf life

Source: Comments of Produce Buyers/Managers

Suggestions to Improve Service

- ❖ **Improved Information about Suppliers/
Potential Suppliers**
- ❖ **Example: *NCDA&CS Marketing Services***
 - **Growers can post their information onto a website**
 - **Buyers can identify new growers or growers who were previously unknown to them**
 - **Buyers can help “train” new growers on marketing requirements**
 - **Growers can identify other Growers**
 - **Can exchange information on production, PHH, etc.**

Source: Comments of Produce Buyers/Managers

There is potential for increased blackberry production on the East Coast

❖ However, there are challenges

❖ To reduce/prevent threat of oversupply, the industry need to address:

➤ Consumer education

✓ Health/nutrition

✓ Value of locally grown blackberries

➤ Packaging/containers

➤ Post Harvest Handling

➤ Varieties Grown?

**Thank you for your
attention!**

Charles D. Safley

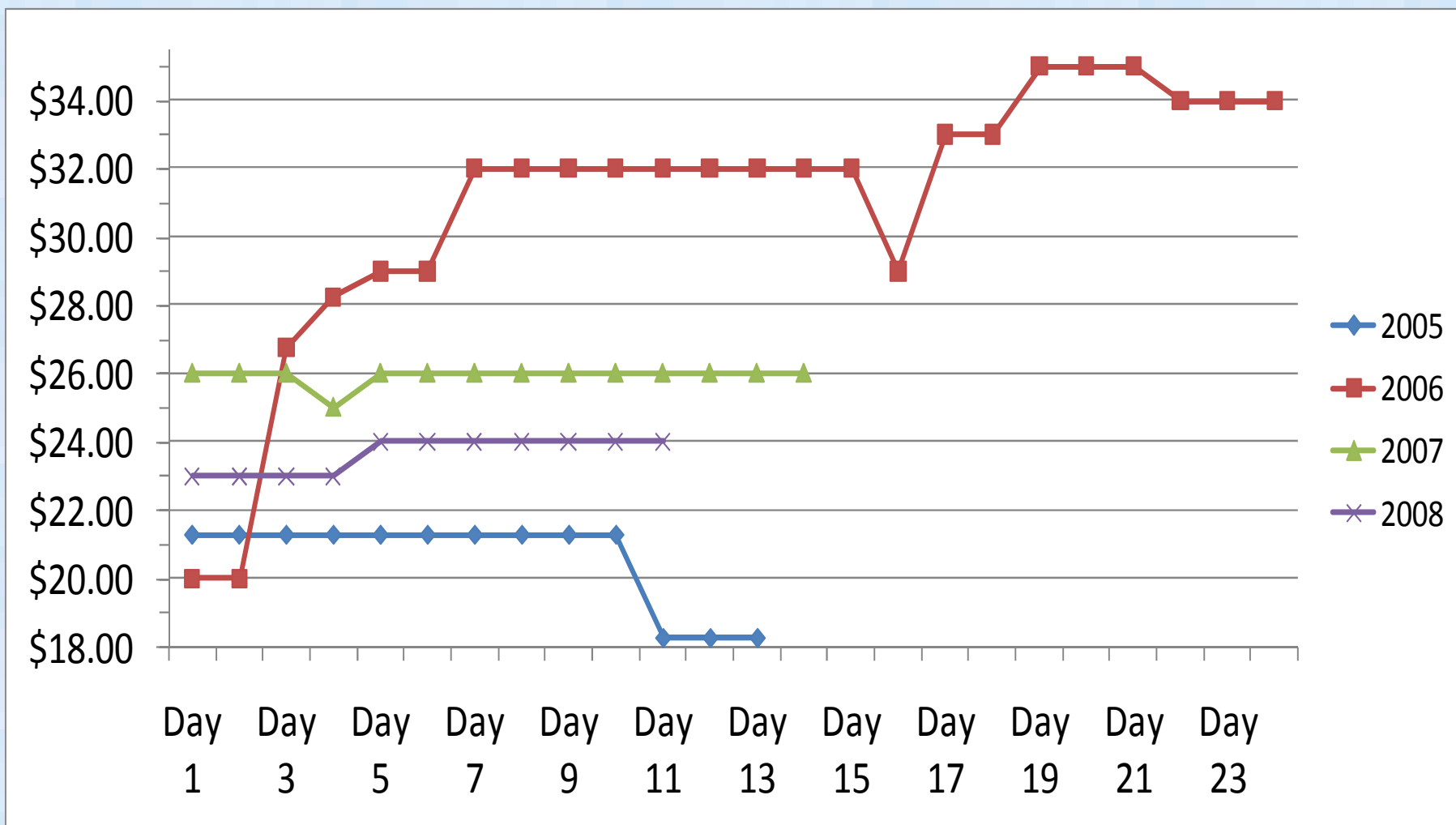
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Daily Blackberry Prices at the Atlanta, GA Terminal Market

Georgia Shipments, June and July Market Season

1 Flat: 12 1-Pint Cups

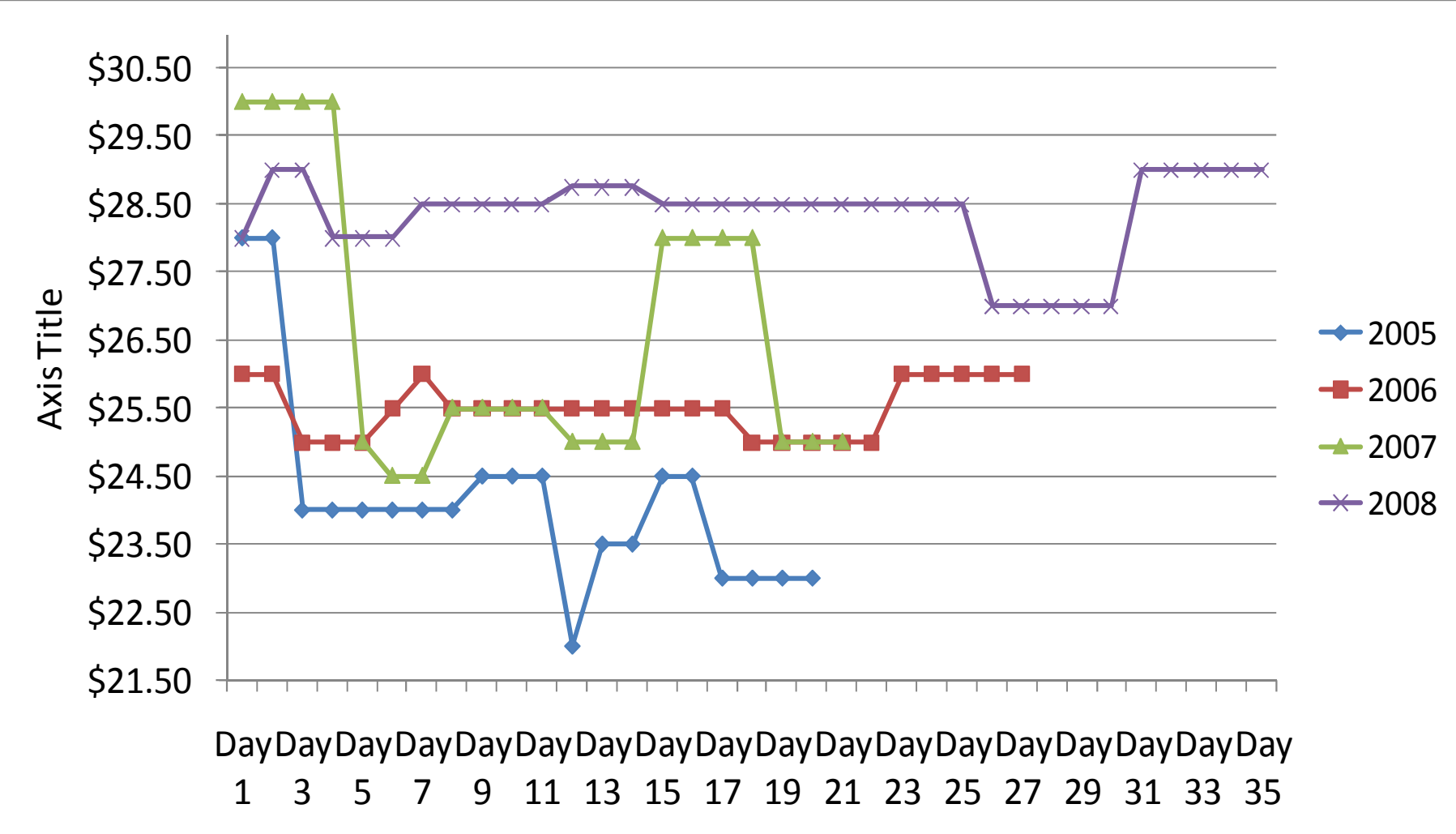


Source: Agricultural Marketing Service, USDA

Daily Blackberry Prices at the Columbia, SC Terminal Market

South Carolina Shipments, June and July Market Season

1 Flat: 12 1-Pint Cups



Source: Agricultural Marketing Service, USDA