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**U.S. Horticulture's Long Run Economic Outlook: USDA View**

by

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**Abstract:** Production of fruits, nuts, vegetables, potatoes, dry beans, and greenhouse/nursery crops is projected to increase to \$46 billion by 2005 from the current \$31 billion. Consumption of many fruits and vegetables is increasing at slower rates than a decade earlier, and the slowdown is forcing U.S. producers to develop markets in Asia and Latin America. Although U.S. fruit and vegetable production is rising, imports have risen recently and increased competition in the domestic market. However, demographic changes in the U.S. population suggest a possible upturn in demand, contingent on a strong macroeconomy.

**Keywords:** Horticulture, fruits, vegetables, greenhouse and nursery, economics, outlook.

### Horticulture Industry Set to Grow 3-4 Percent Annually

The U.S. horticulture industry, including fruits, nuts, vegetables, potatoes, dry beans, and greenhouse and nursery crops is projected to produce \$39 billion of output in 2000 and \$46 billion in 2005. The projections follow a trend of 3-4 percent annual average growth from the \$31 billion value of production in 1994. Output is projected to increase faster than U.S. population, exports

are projected to increase faster than imports, and price is projected to increase at the long run rate of 1 to 2 percent per year. Projected efficiencies in production and marketing technology moderate increases in costs.

Projections are based on a combination of trends and expected changes in fundamental factors affecting supply and demand. My purpose is to discuss the trends and factors affecting the U.S. horticulture industry over the next 10 years.

U.S. horticultural industry: Value of production, imports, and exports, 1992-1995, 2000, 2005

Item	Unit	1992	1993	1994	1995	2000	2005	Ann. Growth 1994-2005
<b>Production</b>								
Fruits, nuts	\$Billion	9.8	10.0	9.7	10-11	12.5	14.9	3.9%
Vegetables	\$Billion	11.2	12.2	11.8	11-12	14.3	16.3	3.0%
Green crops	\$Billion	9.1	9.3	9.5	9.5-9.8	12.0	14.5	3.8%
Total	\$Billion	30.2	31.5	31.0	30.5-32.8	38.7	45.7	3.5%
<b>Imports</b>								
Fruits, nuts	\$Billion	4.7	4.4	4.6	4.6-5.2	5.8	6.8	3.5%
Vegetables	\$Billion	1.8	2.1	2.3	2.3-2.6	3.1	3.9	4.7%
Green crops	\$Billion	0.6	0.6	0.6	0.6-0.7	0.8	0.9	3.2%
Total	\$Billion	7.1	7.1	7.6	7.5-8.5	9.6	11.6	3.9%
<b>Exports</b>								
Fruits, nuts	\$Billion	3.8	3.9	4.3	4.1-4.8	5.4	6.7	4.0%
Vegetables	\$Billion	2.2	2.5	2.6	2.4-2.9	3.6	4.7	5.4%
Green crops	\$Billion	0.2	0.2	0.2	0.2-0.3	0.3	0.4	3.8%
Total	\$Billion	6.2	6.5	7.2	6.7-8.0	9.3	11.8	4.5%

## Produce Consumption Flattens in the 1990's

U.S. consumers are apparently paying less heed to health professionals' advice to increase consumption of fresh fruits and vegetables. The consumption trend has flattened in the 1990's after rising most of the 1980's, putting a chill on expectations that U.S. consumers would double their consumption of fruits and vegetables by 2000.

In 1994, consumption of fresh fruits, vegetables, and potatoes totaled 255 pounds per person--about the same as in 1988. However, in the 1980's, consumption increased nearly 2 percent per year, on average. The current flat trend for produce is the net result of declining consumption of vegetables offset by a rise in bananas and fresh citrus. Fresh potato consumption remains flat.

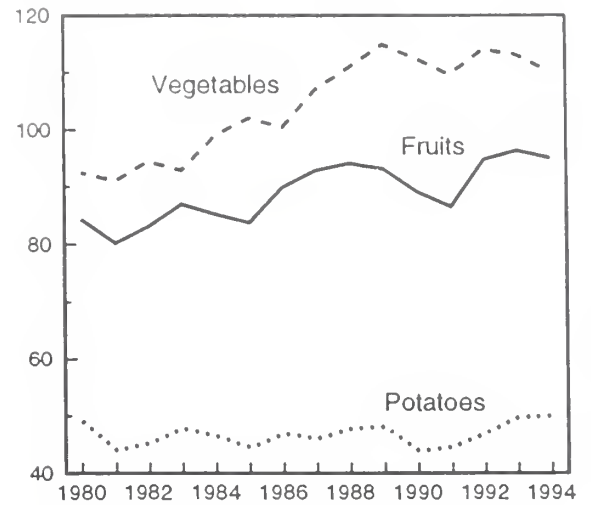
Vegetable growers will likely react to the low prices received during most of 1994 by cutting back on production in 1995. As a result without increased imports, lower fresh vegetable supplies will boost prices in 1995, and keep consumption flat. Fruit growers have an incentive to sell less if prices remain low, but they have less flexibility than vegetable growers to cut costs by cutting back on output. For example, there is potential to produce more citrus, as more trees come into full bearing in Florida and Texas.

The fruit and vegetable industry has responded to the flat trend in consumer demand for produce, in part, by looking to foreign markets for increased opportunities. Exports of fresh fruits and vegetables have increased from 7.5 billion pounds in 1990 to over 10 billion pounds in 1994, expanding 7 percent per year. The value of fresh fruit and vegetable exports in 1994 totaled \$2.9 billion, up from \$2.2 billion in 1990.

However, sales to Canada and Western Europe have stagnated since 1990, owed in part to their weakened currencies relative to the U.S. dollar. During 1990-94, the value of U.S. produce exports to these countries increased less than 1 percent per year, while exports to Latin America and Asia increased about 15 percent annually. The share of U.S. produce exports sold to Canada and Western Europe decreased from 61 percent in 1990 to 47 percent in 1994. The lower growth in these markets was made up by gains in Asia, going from 33 percent in 1990 to 41 percent in 1994, and in Latin America, going from 5 percent to 11 percent. Mexico accounts for all of the increase in Latin America's share.

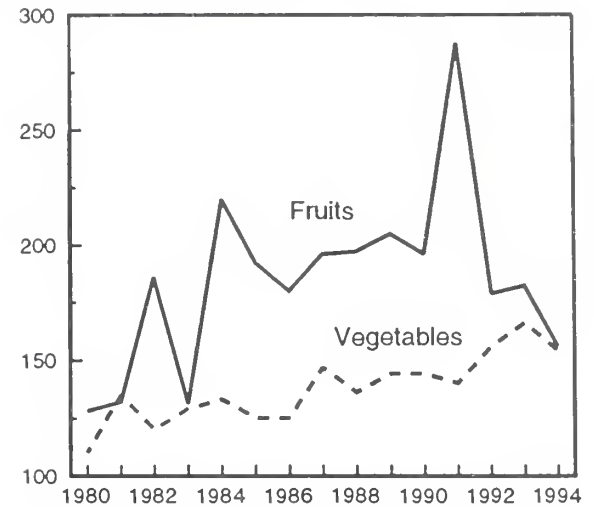
## Produce Consumption

Pounds/person



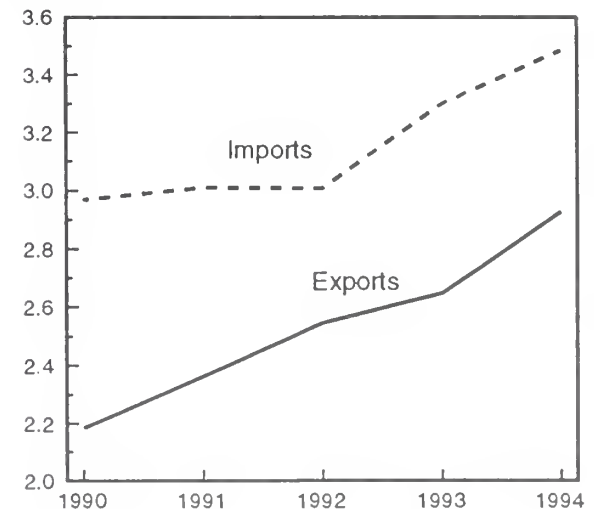
## Produce Farm Prices

Index (1977=100)



## U.S. Fresh Produce Trade

\$ Billion



Although a weakened peso is likely to slow the growth in exports to Mexico in the short term, Latin America and Asia are likely to continue as the most rapidly developing markets for U.S. produce. The NAFTA and GATT trade agreements helped the U.S. produce industry by lowering tariffs, reducing quotas, and facilitating resolution of phytosanitary disputes. But even before NAFTA, U.S. exports to Mexico were on the rise. Recently Japan accepted its first load of Washington State apples, and U.S. exporters anxiously await the verdict of consumer acceptance. Japan's economy is emerging from recession, and higher consumer incomes should boost demand for U.S. produce exports.

Produce imports followed the pace of U.S. domestic consumption in the early 1990's. The recent upturn is due to increases in a wide variety of items, from avocados to berries, mangoes, and melons. Imports of several high-volume items, such as tomatoes and apples, have remained flat in the 1990's.

While Latin America remains the major source of U.S. imported produce with an 85-percent share of the total, the position of South America has eroded in the last 5 years. The share of produce import value coming from South America declined from 28 percent in 1990 to 24 percent in 1994, while Mexico's share remained at 38 percent. Chilean grape and apple imports have declined from \$270 million in 1990 to about \$215 million in 1994. Recent reports from Chile suggest that fruit exports will continue level or decline due to aging orchards and vineyards.

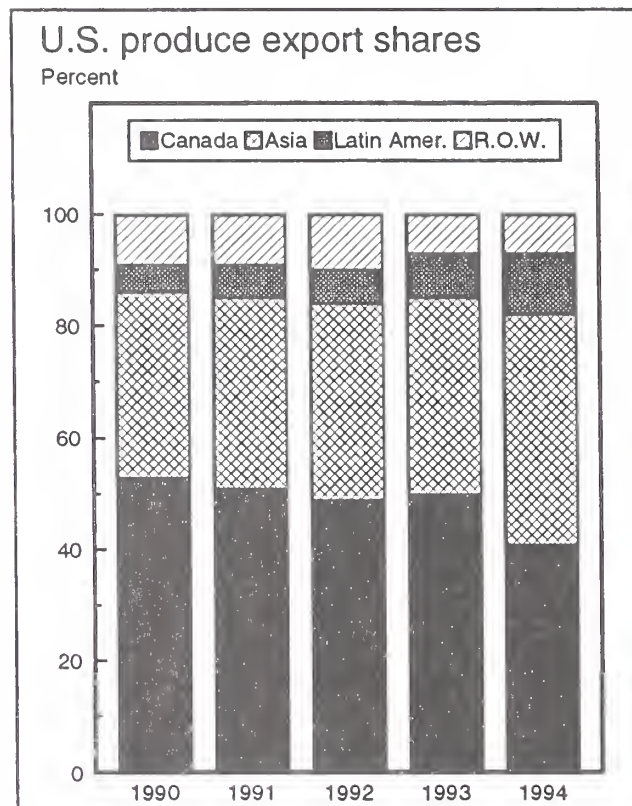
The trend toward importing from countries with relatively weaker currency partly explains the increased share of U.S. imports coming from Canada and Western Europe. Together, these sources account for 11 percent of annual U.S. fresh fruit and vegetable imports, up from 9 percent in 1990.

### Popular Items Keep Processed Market Strong

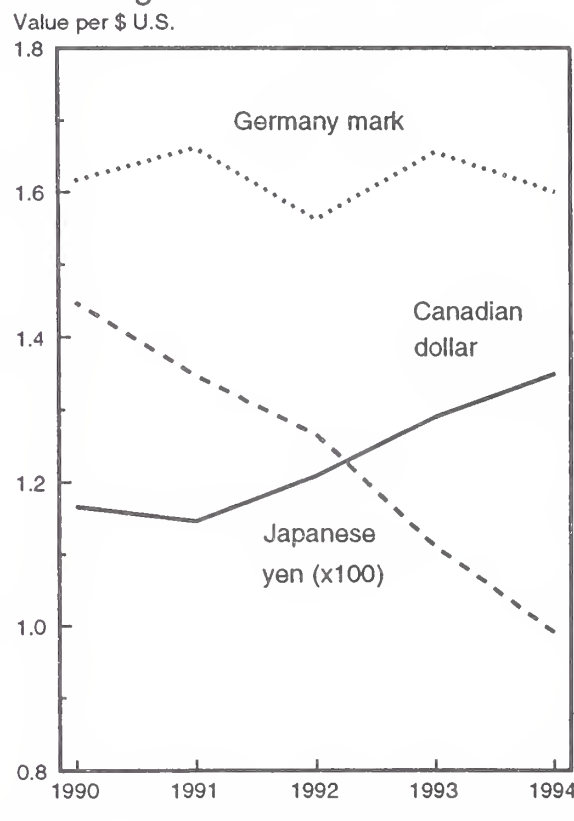
Consumption for processed fruits and vegetables, primarily orange juice, frozen potatoes, and tomatoes, continues to increase in the 1990's. This reflects the continued demand for convenience foods both domestically and abroad. And, where the domestic trend has become flat, processors are looking for exports to boost sales.

U.S. per capita consumption of frozen vegetables is projected to increase about 1 to 2 percent per year during 1995 to 2005, while canned vegetable consumption is

## Export Shares Change With U.S. Dollar's Value



### Exchange value of U.S. dollar





projected to remain flat. Orange juice consumption is projected to increase about 0.5 percent per year to 2005.

Processed fruit and vegetable exports (including canned, frozen, and dried products, juices, wines, and nuts) increased from 45 percent of total fruit and vegetable exports in 1990 to 50 percent in 1994. About 37 percent of U.S. exported processed fruits and vegetables goes to Canada and Latin America, 37 percent to Asia, and 20 percent to Western Europe. Exports to Asia have increased faster than exports to other regions in recent years, and U.S. firms are anticipating continued growth especially in Japan.

U.S. imports of processed fruits and vegetables will continue to be largely affected by changes in the domestic supply situation and the relative value of exporter currencies. For example, U.S. imports of frozen concentrated orange juice decreased from 1990 to 1992, as Florida growers recovered from the devastating freezes of the 1980's. However, 1994 FCOJ imports were up about 10 percent.

Now that Florida's orange production is set to increase with maturing trees in place, imports from Brazil face a highly competitive U.S. market. On the other hand, a weaker Latin American currency will force U.S. processors to improve efficiency to be price competitive with the cheaper imports. Processed tomato imports from Western Europe, which increased in 1994, are also likely to face stiff competition in the U.S. market if the U.S. continues to increase output at the 1990's rate of 2-3 percent annually.

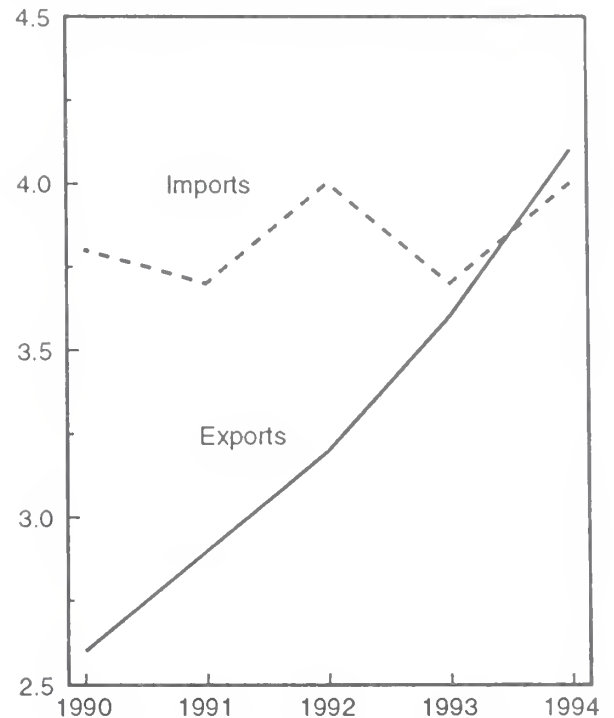
Processed fruit and vegetable exports have contributed to the growth in high-value product (HVP) exports, which claim a growing share of total U.S. agricultural exports. HVP exports (including meats, snack foods, etc.) have risen 8 percent annually during the past 5 years, while bulk commodity exports have declined 4 percent. HVP exports will likely claim a 42 percent share of U.S. exports in 1995, up from 37 percent in 1992, and prospects are good for a continuing increase in share of U.S. export trade.

### Long Run Factors in the Outlook for U.S. Horticulture

Performance of the U.S. and foreign economies is an important factor affecting demand for horticultural products. The period of fastest rise in produce consumption--the late 1980's--followed several years of rapid growth in the domestic economy, and the recent slowdown follows the 1991 recession.

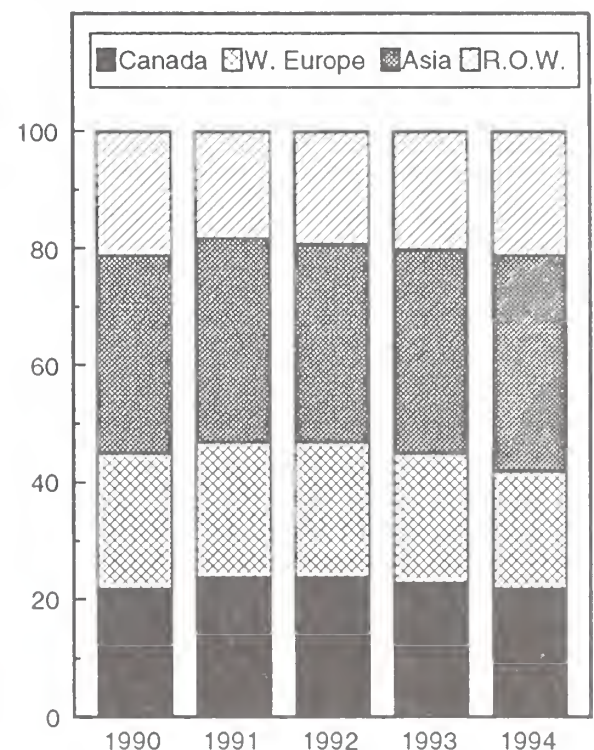
## U.S. Processed Fruit and Vegetable Trade

\$ Billion



## U.S. Processed Fruit and Vegetable Exports

Percent



If the U.S. economy follows a long run projected annual growth of 2-3 percent, demand is likely to remain steady over the next 10 years. Western Europe and Japan are emerging from recent recessions, and near-term export demand is likely to remain strong.

The U.S. population is expected to grow at 0.9 percent per year to the year 2000. But perhaps as important is the expected change in demographics. The age distribution of U.S. consumers is projected to skew toward older age groups. The "baby boomers" are moving through middle age now, and healthy eating choices are more important to older populations.

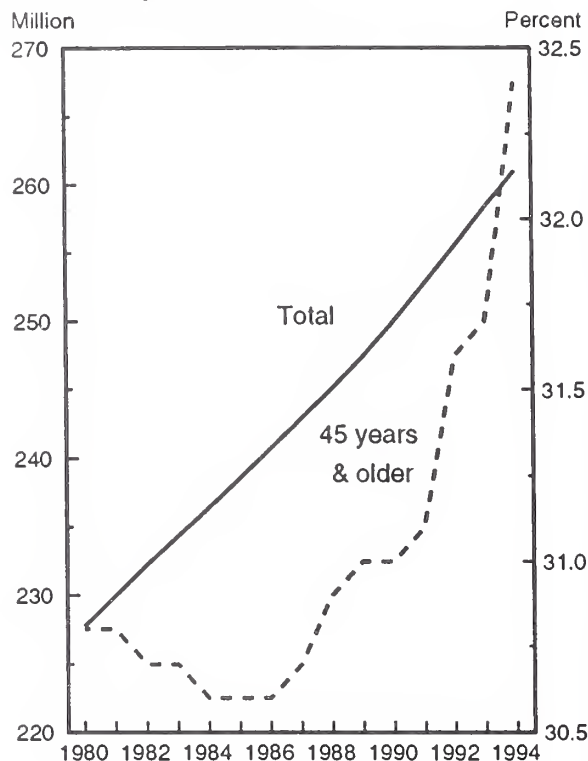
U.S. producers could reasonably expect total domestic consumption to increase faster than the rate of population growth, based on increasing income and aging of the population. In addition, the ethnic composition of the U.S. population is expected to favor increased demand for fruits and vegetables as immigration of Latin Americans and Asians continues to increase.

The export outlook for fruits and vegetables is optimistic, based on recent trends. Horticultural exports have increased faster than total agricultural exports. While, part of the growth in 1994 exports of vegetables to Asia is due to weather-related shortages in Japan and Korea, lower trade barriers and resolution of several phytosanitary disputes promise continued growth in U.S. fruit and vegetable exports.

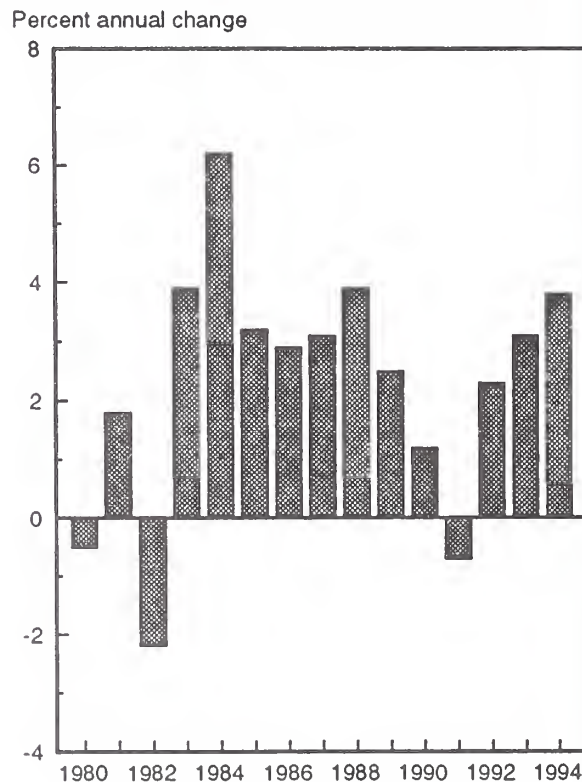
The recent efforts by U.S. firms to establish marketing relationships in other countries, for example Japan and Mexico, are expected to yield benefits over the long run. With the Japanese, consistent high quality and confidence are the most important ingredients for a lasting partnership.

On the supply side, U.S. fruit and vegetable growers continue to improve efficiency in the 1990's. With new production and marketing technologies, growers are likely to increase yields at the long run rate of 1-2 percent per year. Traditional improvements include better varieties and planting and cultivation methods. Scientific advances using biotechnology promise further increases in the quantity and quality of output. Biotechnology which increases pest resistance in plants growing in the field could reduce the costs of pest control. Also, plant genes which reduce perishability or increase the efficiency of canning and freezing could reduce spoilage and waste.

## U.S. Population



## U.S. Gross Domestic Product (\$1987)



U.S. fruit yields dipped sharply in the 1980's, due to several severe freezes in Florida and Texas which destroyed citrus trees. Florida growers have replanted citrus groves with higher densities of trees per acre and moved production areas farther south. The Gulf coast region in southwest Florida has developed rapidly as a producer of grapefruit, oranges, and specialty citrus. Texas grapefruit production is increasing, but the urbanization of land values in the Rio Grande Valley is likely to put a cap on production at below pre-freeze levels.

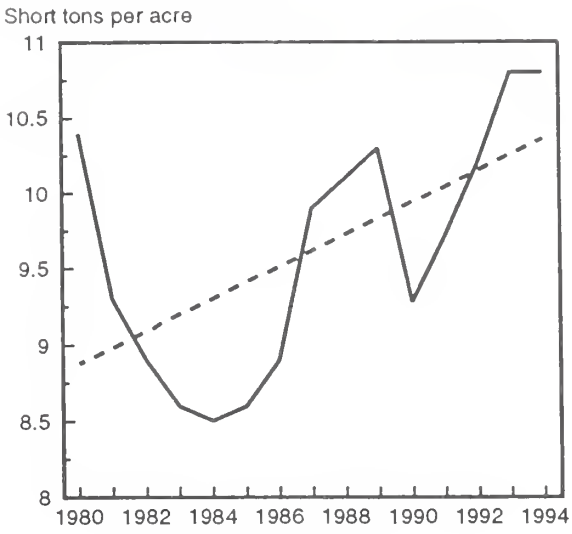
U.S. average yields for noncitrus fruits (for example apples, pears, peaches, and cherries) have increased about 300 pounds (0.15 tons) per year over the last 10 years, compared to about 200 pounds per year for citrus fruits. Area in production of noncitrus fruit, mainly apple orchards, expanded in the 1980's. The expansionary period for apples ended by 1990, and production has continued to increase as trees reach full-bearing age. Similarly, citrus groves in Florida are reaching full-bearing age, and yields are expected to increase rapidly from 1995 to 2000.

Yields of both vegetables and potatoes have risen above the long run trend in recent years. The trend rate of increase for vegetables and potatoes is 4-5 cwt. per acre. Processing tomato yields in California continue to set records, and potato yields in Washington and Idaho were near records in 1994. Fresh-market cabbage, cucumber, tomato, and watermelon yields have increased well-over 2 percent per year over the last 20 years, outpacing other vegetables.

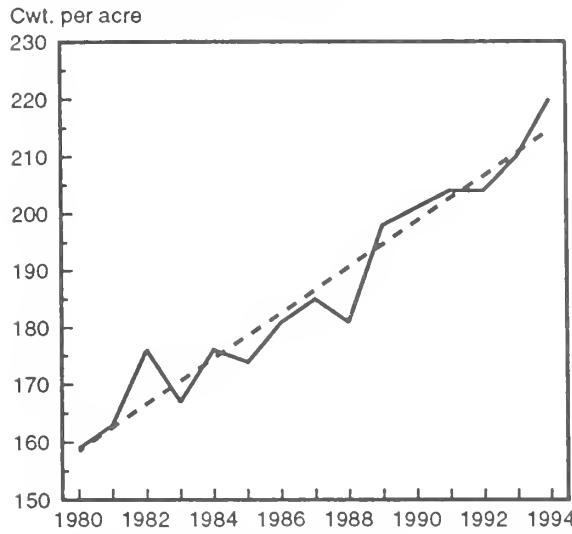
The leading marketing technology for U.S. produce is adding value to fresh fruit and vegetables through convenience packaging (light processing). Packaging lettuce and other salad items for ready use appeals to U.S. consumers and has made inroads into traditional bulk selling strategies. As with foreign markets, new techniques of packaging and selling produce expand the total potential for growth in the horticulture industry.

By adding value to fruits and vegetables--whether through traditional processing, light processing, brand identification, or marketing through food service channels--the horticulture industry will increase the demand for consistency and high quality. Innovators who develop technologies and new sources to meet this demand will profit the greatest in the next 10 years.

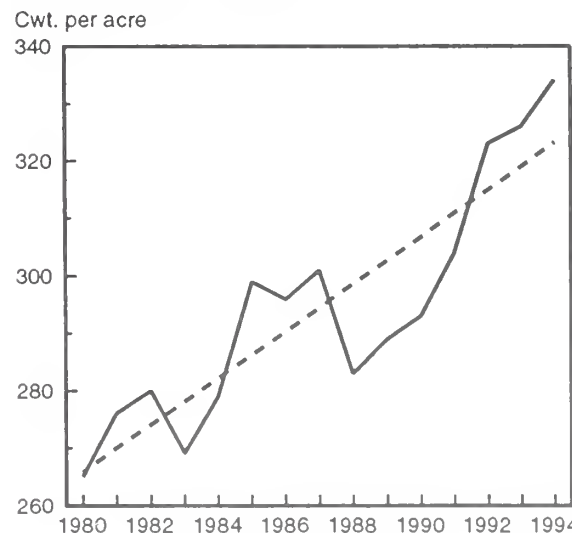
### U.S. Fruit Yield



### U.S. Vegetable Yield



### U.S. Potato Yield





**Appendix: Baseline Estimates Procedure**

The major economic indicators of production, prices, and trade were projected from recent trends to the year 2000 and 2005. Trends in per capita consumption, imports, and exports, were used to project U.S. production. Projections were made on aggregate categories, such as fresh vegetables, processed vegetables, potatoes, citrus and noncitrus fruits, and dry edible beans. Domestic prices and average values of imports and exports were projected from long run trends. The following tables show baseline projections to the year 2000.

Appendix Table 1—Fruits, tree nuts, and vegetables: Summary of annual average growth rates, 1990-94 and 1995-2000

	-----Period-----			-----Period-----	
	1990- 1994	1995- 2000		1990- 1994	1995- 2000
Fruits and nuts	--Percent per year--		Vegetables	--Percent per year--	
<u>Per capita consumption:</u>			<u>Per capita consumption:</u>		
<u>Fruits</u>			<u>Vegetables</u>		
Citrus			Fresh	-0.3	0.5
Fresh	2.9	-0.4	Processed	-0.7	0.2
Processed	2.6	0.5	Potatoes		
Non citrus			Fresh	1.7	-1.0
Fresh	0.1	0.7	Frozen	0.9	2.1
Processed	0.7	0.1	Dry beans	0.0	0.7
Nuts	-1.8	0.4	Mushrooms	1.3	0.5
Total	1.8	0.5	Total	0.2	0.5
<u>Production:</u>			<u>Production:</u>		
<u>Fruits</u>			<u>Vegetables</u>		
Citrus	7.2	1.6	Fresh	0.7	1.4
Non citrus	2.1	1.2	Processed	2.0	1.4
Nuts	-1.9	1.4	Potatoes	3.3	1.1
Total	4.2	1.4	Dry beans	-1.1	2.0
			Mushrooms	1.6	1.6
			Total	1.9	1.3
<u>Import value:</u>			<u>Import value:</u>		
<u>Fruits and nuts</u>			<u>Vegetables</u>		
Fresh	3.7	4.0	Fresh	3.9	4.5
Processed	6.1	2.9	Processed	4.8	5.9
Other	-1.1	2.0	Potatoes	4.7	7.9
Total	1.5	2.9	Dry beans	-2.7	3.9
			Other	0.4	3.6
			Total	3.6	5.0
<u>Export value:</u>			<u>Export value:</u>		
<u>Fruits and nuts</u>			<u>Vegetables</u>		
Fresh	7.1	4.5	Fresh	8.4	6.1
Processed	5.4	2.9	Processed	11.4	8.0
Other	8.9	4.0	Potatoes	16.8	7.0
Total	7.6	4.1	Dry beans	-5.9	4.7
			Other	-2.7	2.3
			Total	7.1	6.1

Appendix Table 2 –U.S. fruit industry: Area, production, value, unit value, and trade, 1992-1995, 2000

Item	Unit	1992	1993	1994 1/	1995 1/	2000 1/	Growth
							1995-2000
							Percent
							per year
Bearing area	1,000 ac.	3,580	3,650	3,620	3,685-3,725	3,708	0.0
Citrus	1,000 ac.	886	947	979	980-1000	973	-0.3
Oranges	1,000 ac.	640	688	712	740-770		
Other	1,000 ac.	246	259	267	230-240		
Noncitrus	1,000 ac.	2,018	2,027	1,953	2,030-2,040	2,032	-0.0
Apples	1,000 ac.	453	460	458	455-460		
Other	1,000 ac.	1,565	1,567	1,495	1,575-1,580		
Tree nuts	1,000 ac.	676	676	688	680-685	676	-0.2
Production	S. tons	30,183	32,490	32,004	33,000-34,000	35,961	1.6
Citrus	S. tons	12,452	15,274	14,508	15,778	17,081	1.6
Oranges	S. tons	8,909	10,992	10,281	11,364		
Other	S. tons	3,543	4,282	4,227	4,414		
Noncitrus	S. tons	17,287	16,732	17,030	16,750-17,250	18,372	1.6
Apples	S. tons	5,237	5,303	5,367	5,450-5,550		
Other	S. tons	12,049	11,429	11,663	11,300-11,700		
Tree nuts	S. tons	445	484	467	475-500	509	0.9
Value	\$ mil.	9,844	10,012	9,746	10,000-11,000	12,457	3.6
Citrus	\$ mil.	2,401	2,161	2,276	2,100-2,300	2,845	5.0
Oranges	\$ mil.	1,545	1,490	1,582	1,400-1,600		
Other	\$ mil.	856	671	695	600-700		
Noncitrus	\$ mil.	6,025	6,143	6,022	6,000-7,000	7,835	4.0
Apples	\$ mil.	1,431	1,370	1,323			
Other	\$ mil.	4,594	4,773	4,699			
Tree nuts	\$ mil.	1,417	1,708	1,447	1,700-1,900	1,776	0.1
Unit value	\$/ton	326	308	305	300-325	346	2.0
Citrus	\$/ton	193	141	157	140-150	167	2.8
Oranges	\$/ton	173	136	154	130-140		
Other	\$/ton	242	157	164	150-160		
Noncitrus	\$/ton	349	367	354	365-390	426	2.4
Apples	\$/ton	273	258	247			
Other	\$/ton	381	418	403			
Tree nuts	\$/ton	3,188	3,528	3,101	3,500-3,750	3,492	-0.7
Trade 2/							
Imports	\$ mil.	4,733	4,419	4,624	4,600-5,200	5,758	3.3
Fresh	\$ mil.	1,840	1,824	1,899	2,000-2,300	2,483	2.9
Bananas	\$ mil.	1,097	1,071	1,070	1,050-1,150	1,299	3.3
Other	\$ mil.	743	753	829	1,000-1,100	1,184	2.4
Processed	\$ mil.	532	503	514	500-525	615	3.6
Juices	\$ mil.	808	649	664	700-800	808	1.5
Wine	\$ mil.	1,087	976	1,051	900-1,000	1,121	2.3
Nuts	\$ mil.	467	467	496	450-500	731	8.6
Exports	\$ mil.	3,754	3,850	4,347	4,125-4,800	5,430	3.9
Fresh	\$ mil.	1,613	1,633	1,886	1,875-2,200	2,470	3.8
Citrus	\$ mil.	627	629	653	625-700	782	3.3
Noncitrus	\$ mil.	986	1,004	1,233	1,250-1,500	1,688	4.1
Processed	\$ mil.	628	627	648	650-700	755	2.2
Juices	\$ mil.	420	430	488	450-525	494	0.2
Wine	\$ mil.	166	166	179	160-180	191	2.4
Nuts	\$ mil.	927	994	1,146	1,000-1,200	1,520	6.5

1/ ERS forecasts include all ranges, 1994 trade and 2000 point estimates. 2/ Excludes melons. Nuts exports excludes peanuts.

Sources: Economic Research Service (forecasts and trade) and National Agricultural Statistics Service, USDA.

Appendix Table 3--U.S. vegetable industry: Area, production, value, unit value, and trade, 1992-1995, 2000

Item 1/	Unit	1992	1993	1994 2/	1995 2/	2000 2/	Growth 1995-2000 3/ Percent per year
Area harvested	1,000 ac.	6,254	6,236	6,700	6,200-6,700	6,420	-0.8
Vegetables							
Fresh-market	1,000 ac.	1,877	1,838	1,834	1,775-1,850	1,730	-0.9
Processing	1,000 ac.	1,446	1,376	1,563	1,400-1,500	1,336	-1.8
Potatoes	1,000 ac.	1,397	1,397	1,458	1,470-1,500	1,457	-0.4
Dry edible beans	1,000 ac.	1,530	1,622	1,845	1,800-1,900	1,894	-0.4
Mushrooms	Mil. sq. ft.	142	136	135-145	130-150	150	1.4
Production	Mil. cwt	1,143	1,143	1,261	1,120-1,250	1,293	1.7
Vegetables							
Fresh-market	Mil. cwt	393	387	392	375-400	424	1.8
Processing	Mil. cwt	285	288	355	280-325	322	1.4
Potatoes	Mil. cwt	437	440	472	440-490	502	1.4
Dry edible beans	Mil. cwt	27	28	34	28-32	36	3.0
Mushrooms	Mil. cwt	8	8	8	7.6-8.2	8	1.1
Value	\$ mil.	11,223	12,176	11,757	12,000-12,500	14,256	3.0
Vegetables							
Fresh-market	\$ mil.	6,428	6,920	6,279	6,700-7,100	8,061	3.1
Processing	\$ mil.	1,126	1,157	1,428	1,250-1,300	1,437	2.4
Potatoes	\$ mil.	2,483	2,807	2,647	2,500-2,900	3,202	3.5
Dry edible beans	\$ mil.	516	607	684	550-650	770	4.0
Mushrooms	\$ mil.	670	686	721	710-740	786	1.7
Unit value 4/	\$/cwt	9.82	10.65	9.25	9.00-10.50	11	1.3
Vegetables							
Fresh-market	\$/cwt	16.34	17.90	16.03	17-18	19	1.6
Processing	\$/cwt	3.96	4.01	4.02	4.00-4.25	4	1.6
Potatoes	\$/cwt	5.68	6.38	5.60	5.50-6.50	6	0.7
Dry edible beans	\$/cwt	18.87	21.50	20.05	20-25	23	0.6
Mushrooms	\$/lb.	0.86	0.90	0.94	0.91-0.93	1	0.5
Trade 5/							
Imports	\$ mil.	1,791	2,147	2,309	2,300-2,700	3,060	4.4
Vegetables							
Fresh & melons	\$ mil.	880	1,158	1,249	1,300-1,450	1,486	2.4
Canned, frozen	\$ mil.	488	491	575	500-600	817	6.9
Potatoes	\$ mil.	101	154	160	150-175	219	5.8
Dry beans	\$ mil.	26	25	30	30-40	52	4.6
Other	\$ mil.	297	319	296	300-400	486	6.4
Exports	\$ mil.	2,234	2,465	2,613	2,500-2,900	3,613	5.4
Vegetables							
Fresh & melons	\$ mil.	854	936	969	900-1,000	1,276	5.5
Canned, frozen	\$ mil.	478	523	544	500-600	837	7.3
Potatoes	\$ mil.	365	435	566	550-650	722	4.4
Dry beans	\$ mil.	192	213	279	250-300	392	5.0
Other	\$ mil.	346	357	255	300-350	386	3.6

1/ Sweet potatoes included with potatoes. Dry peas and lentils included with dry edible beans.

2/ ERS forecasts include all ranges, 1994 trade, and 2000 point estimates. 3/ From mid-point of 1995 range.

4/ Ratio of total value to total quantity produced. 5/ Other includes mushrooms, dehydrated vegetables and vegetable seed.

Sources: Economic Research Service, National Agricultural Statistics Service, USDA and U.S. Department of Commerce.

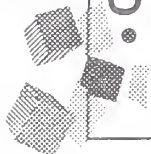
Appendix Table 4--U.S. greenhouse and nursery industry: Area, value of production, and trade, 1992-1995, 2000

Item	Unit	1992	1993	1994 1/	1995 1/	2000 1/	Growth 1995-2000  Percent per year
Area in production							
Under protection	1,000 sq. ft.	788,265	797,300	821,500	848,800	985,000	3.0
In the open	Acres	621,283	634,600	652,000	669,600	750,000	2.3
Cut flowers							
Under protection	1,000 sq. ft.	129,542	132,000	135,000	138,000	160,000	3.0
In the open	Acres	25,806	27,000	28,000	30,000	36,000	3.6
Cut greens							
Under protection	1,000 sq. ft.	7,921	8,300	8,500	8,800	10,000	2.6
In the open	Acres	6,452	6,600	6,800	7,000	8,000	2.7
Potted flowering plants							
Under protection	1,000 sq. ft.	139,158	140,000	145,000	150,000	175,000	3.1
In the open	Acres	4,614	4,800	5,000	5,200	6,000	2.9
Foliage plants							
Under protection	1,000 sq. ft.	150,996	153,000	155,000	157,000	175,000	2.2
In the open	Acres	10,418	10,500	10,700	10,900	12,000	1.9
Bedding plants							
Under protection	1,000 sq. ft.	228,236	230,000	240,000	250,000	300,000	3.6
In the open	Acres	13,816	14,200	14,500	15,000	18,000	3.6
Sod (turfgrass)							
In the open	Acres	218,161	221,500	227,000	231,500	250,000	1.5
Nursery plants							
Under protection	1,000 sq. ft.	132,412	134,000	138,000	145,000	165,000	2.6
In the open	Acres	342,016	350,000	360,000	370,000	420,000	2.5
Value of production							
	\$1,000	9,128,799	9,262,077	9,500,000	9,700,000	12,000,000	4.3
Cut flowers							
	\$1,000	518,881	473,644	480,769	509,050	650,000	4.9
Cut greens							
	\$1,000	126,223	131,028	135,747	141,403	175,000	4.3
Potted flowering plants							
	\$1,000	823,246	805,436	812,568	839,653	1,050,000	4.5
Foliage plants							
	\$1,000	623,256	661,687	671,533	686,131	800,000	3.1
Bedding plants							
	\$1,000	1,391,175	1,505,068	1,681,196	1,743,462	2,200,000	4.7
Sod (turfgrass)							
	\$1,000	471,640	478,715	490,680	500,500	575,000	2.8
Nursery plants							
	\$1,000	5,174,378	5,206,499	5,227,507	5,279,801	6,550,000	4.3
Imports							
	\$1,000	561,872	581,730	632,392	650,000	775,000	3.5
Cut flowers							
	\$1,000	312,028	310,410	340,580	350,000	450,000	5.0
Nursery, greenhouse							
	\$1,000	249,844	271,320	291,812	300,000	325,000	1.6
Exports							
Nursery, greenhouse	\$1,000	216,222	230,946	230,299	250,000	300,000	3.6

1/ ERS estimates (1994), forecasts (1995, 2000).

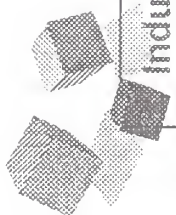
Source: Economic Research Service and National Agricultural Statistics Service, USDA.





## Key Issues

- Consumption
- Globalization
- Role of Governments




Industry Perspectives in an Era of Globalization of Markets and Growing Regulatory Requirements

Bryan Silbermann  
Executive Vice President  
Produce Marketing  
Association



## Consumption

- Will F&V consumption continue to rise?
  - Convenience
    - Fresh cut salads
    - Ready meals with vegetables
    - Fruit next
    - F&V as snack food
    - What the numbers don't tell you:  processed = no waste



## Consumption

- Will F&V consumption continue to rise?
  - Nutrition
    - Lowering fat
    - Reduced cancer risk
    - "Feeling better"
    - Rising vegetarianism

## Consumption

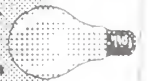
- Will F&V consumption continue to rise?
  - ▶ Better Taste
  - Varieties
  - Bioengineering
  - Riper fruit to market
  - New distribution technologies

## Consumption

- Will F&V consumption continue to rise?
  - ▶ Greater availability
  - Offshore sourcing
  - U.S. involvement in production/distribution
  - Alternative store formats
  - Foodservice growth

## Produce Variety Grows

- ▶ Variety Growth
  - ▶ 1975 - 65 SKUs
  - ▶ 1985 - 200 SKUs
  - ▶ 1995 - 300+ SKUs
  - ▶ Space will grow 20%+ by 2000
  - ▶ What the numbers don't tell you, part 2 -
    - ...eating differently



## Answer - YES

- But building consumption means innovative promotion strategies, new products and distribution channels, not new acreage
- And tracking consumption means watching the marketplace, not the farm gate



## Behind the success ....

...the critical element in  
produce growth at all levels



## Consumption

• Are consumers really more  
health conscious in their  
eating habits?

- YES ... and
- NO

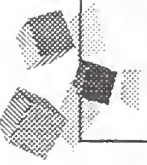


Yes .... they are  
really more health  
conscious.





**Feast and famine  
approach to eating:  
we are masters of  
self delusion**



**No .... this often  
doesn't translate  
into their eating  
habits.**



### **Five A Day: Is It Achievable?**

- Current levels around 3.5 servings
- As a long-term goal - Absolutely!
- Current spending by industry minimal
- Needs ongoing funding commitment: HOW?



**Our diet has too much  
fat and too little fiber**

- Processed food industry has built our food culture through \$million advertising campaigns
- We're becoming a society largely unfamiliar with food preparation/cooking: "out of the box" eating rules






## Globalization

- Can exports continue to grow?
  - F&V exports great success story
  - U.S. a high quality producer
  - Mexico and South America
  - Pacific Rim




## Globalization

- Can exports continue to grow?
  - The 3 Cs:
    - Crop conditions
    - Currency
    - Competition



## Is U.S. industry prepared for an international marketplace?

- Vast improvements
- Export "consolidators" doing very well
- Our best are very good
- Bigger crops (e.g. apples) are forcing greater export orientation



## Government/industry partnerships

- In exports:
  - MPP has been a vital effort for produce
  - Getting trade barriers down is crucial (Japan, Mexico, etc.)
  - Government role is to "run interference"

## Globalization

- Declining U.S. consumer spending on food is driving some highest quality produce to export. Same is true with our offshore suppliers. Our cheap food supply means U.S. consumers sometimes won't pay for the best.

## Governments can help

- Market information services
- Minor use pesticide registration
- Opening foreign markets (government to government)
- Continue initiative to get more fresh produce into school lunch programs
- Give horticultural crops their proper due: 20% of exports!

Will the recent trend to increasing regulatory burdens continue?

- Areas where most pressing:
  - Environmental
  - Access to minor use
  - OSHA
  - Farm labor
  - Concern over HACCP