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Vegetables and Pulses Outlook

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Dry Bean Yields Set Record High

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The next release is
March 29, 2013.

Approved by the
World Agricultural
Outlook Board.

Beginning in 2012, *Vegetables and Melons Outlook* has been renamed *Vegetables and Pulses Outlook* and will include four issues released in March, June, September, and December. Market analysis for potatoes and mushrooms will be included in the March and September 2012 reports. Market analysis for dry edible beans, dry peas and lentils, and sweet potatoes will be included in the June and December 2012 reports. Market analysis and data coverage for melons is now included in the *Fruit and Tree Nuts Outlook* and *Fruit and Tree Nuts Yearbook*. Market analysis of melons prior to 2012 can still be found in historical *Vegetable and Melon Outlook* reports.

Grower prices for many fresh vegetables continue a gradual recovery from lows of late 2011/early 2012 although the projected average 4th quarter price index for all fresh vegetables is down 6 points from the 3rd quarter 2012 index. During the first 9 months of 2012 (January to September), the volume of fresh-market vegetable imports (excluding potatoes, mushrooms, and pulses) declined 7 percent and the volume of exports rose 3 percent from the corresponding period in 2011.

The United States continued to strengthen its position as a net exporter of processed tomatoes and tomato products, with exports exceeding imports by \$398 million in 2011/12 market year (July-June). The California crop of tomatoes for use in processing totaled 12.6 million short tons in 2012; up 0.7 million short tons from 2011.

Despite hot, dry weather across much of the Midwest in 2012, adverse impacts on overall dry bean production were not large. The national per-acre yield was up almost 10 percent from a year earlier, setting a record at 18.73 hundredweight (cwt) per acre. This yield is almost 6 percent higher than the previous record high of 17.68 cwt set in 2008.

Dry pea and lentil production is estimated at nearly 20 million cwt in 2012, a 51-percent expansion in crop output from 2011, which had been the smallest crop since 2003. Given the larger crop and continued high prices, the total value of 2012 production is expected to exceed \$400 million.

Industry Overview

Fresh Vegetables: Grower prices for many fresh vegetables continue a gradual recovery from lows of late 2011/early 2012, although the projected average 4th quarter price index for fresh vegetables is down 6 points from the 3rd quarter index. The Consumer Price Index (CPI) for all fresh-market vegetables (including potatoes) rose slightly (0.6 percent) between September and October with prices for tomatoes, lettuce, and other vegetables increasing by 3.7 percent, 0.6 percent, and 1.2 percent, respectively.

Processing Vegetables: The United States continued to widen its position as a net exporter of processed tomatoes and tomato products with exports exceeding imports by \$398 million in 2011/12 market year (July-June). The California crop of tomatoes for use in processing (primarily canning and drying/dehydrating) totaled 12.6 million short tons in 2012—up 0.7 million short tons from 2011.

Sweet Potatoes: Based on 12-percent larger shipments thus far in the 2012/13 marketing year, lower corresponding shipping-point prices, and 1-percent smaller harvest area in 2012, U.S. production of sweet potatoes is estimated to be around 26.5 million cwt in 2012. This projection is only 2 percent lower than 2011's crop. Nevertheless, exports are expected to remain at around 227 million pounds, or 2.8 percent smaller.

Dry Beans: The 2012 U.S. dry bean crop is expected to reach 31.8 million cwt, an increase of almost 60 percent from low production levels of 2011. Average national per-acre yield was up almost 10 percent from a year earlier, setting a record at 18.73 cwt per acre. Despite a smaller 2011 crop, exports in some bean classes were up in 2011/12 compared with the previous crop year and have moved strongly upward in the first few months of 2012/13 as crop size rebounded.

Dry Peas and Lentils: As prices for dry peas, lentils, and chickpeas remained high this year, total area planted increased 42 percent in 2012. Combined with a 6-percent climb in yield per acre, production is estimated at nearly 20 million cwt in 2012. This represents a 51-percent expansion in aggregate crop production from 13.2 million cwt in 2011. Given the larger crop for dry peas, lentils, and chickpeas in 2012 and their continued high prices, the total value of production is expected to exceed \$400 million, which is 33 percent more than the 2011 crop.

Retail Vegetable Prices: Since 1990, when general food price inflation in the U.S. slowed considerably, vegetable prices have been far more volatile than average grocery prices. ERS researchers use data from the United States Department of Labor, Bureau of Labor Statistics (BLS) and other sources to forecast fresh vegetable retail prices. In 2011 processed fruit and vegetable prices increased only 2.9 percent, much less than the 5.6 percent for the fresh market. In 2012, prices for fresh vegetables are on track for significant deflation.

Table 1—U.S. vegetable industry at a glance, 2009-12

Item	Unit	2009	2010	2011	2012 1/
<i>Area harvested</i>	1,000 ac.	6,617	6,989	5,709	6,638
<i>Vegetables:</i>					
Fresh (excl melon)	1,000 ac.	1,487	1,486	1,489	1,481
Processing	1,000 ac.	1,264	1,170	1,076	1,100
Potatoes	1,000 ac.	1,044	1,008	1,077	1,137
Dry beans	1,000 ac.	1,464	1,843	1,168	1,696
Other 2/	1,000 ac.	1,358	1,483	899	1,224
<i>Production</i>	Mil. cw t	1,261	1,198	1,190	1,250
<i>Vegetables:</i>					
Fresh (excl melon)	Mil. cw t	360	354	353	354
Processing	Mil. cw t	391	352	340	345
Potatoes	Mil. cw t	433	404	430	467
Dry beans	Mil. cw t	25	32	20	32
Other 2/	Mil. cw t	52	56	47	53
<i>Crop value</i>	\$ mil.	18,217	18,153	18,278	17,469
<i>Vegetables:</i>					
Fresh (excl melon)	\$ mil.	10,009	10,066	10,050	8,573
Processing	\$ mil.	2,141	1,698	1,800	1,863
Potatoes	\$ mil.	3,558	3,722	4,003	3,819
Dry beans	\$ mil.	790	887	694	1,342
Mushrooms	\$ mil.	959	924	1,018	1,099
Other 2/	\$ mil.	760	856	713	773
<i>Unit value 3/</i>	\$/cw t	14.45	15.15	15.35	13.97
<i>Vegetables:</i>					
Fresh (excl melon)	\$/cw t	27.80	28.45	28.44	24.25
Processing	\$/cw t	5.48	4.82	5.29	5.40
Potatoes	\$/cw t	8.22	9.21	9.31	8.18
Dry beans	\$/cw t	31.08	27.88	34.87	42.25
Other 2/	\$/cw t	33.06	31.78	36.83	35.32
<i>Trade</i>					
<i>Imports</i>	\$ mil.	7,969	9,158	10,269	10,192
<i>Vegetables:</i>					
Fresh (excl melon)	\$ mil.	4,061	5,052	5,570	5,095
Processing 4/	\$ mil.	2,149	2,295	2,575	2,650
Potatoes & products	\$ mil.	1,012	997	1,124	1,198
Dry beans	\$ mil.	134	140	165	180
Other 5/	\$ mil.	613	674	835	1,069
<i>Exports</i>	\$ mil.	5,172	5,629	6,072	6,091
<i>Vegetables:</i>					
Fresh (excl melon)	\$ mil.	1,682	1,900	1,960	1,600
Processing 4/	\$ mil.	1,178	1,240	1,395	1,450
Potatoes & products	\$ mil.	1,179	1,255	1,512	1,695
Dry beans	\$ mil.	306	305	285	425
Other 5/	\$ mil.	827	929	919	921
<i>Per capita use</i>	Pounds	392	397	383	395
<i>Vegetables:</i>					
Fresh (excl melon)	Pounds	141	145	143	143
Processing	Pounds	122	120	112	119
Potatoes & products	Pounds	114	114	110	114
Dry beans	Pounds	6	7	6	6
Other 2/	Pounds	10	12	12	13

1/ ERS forecasts. 2/ Includes sweet potatoes, dry peas, lentils, and mushrooms (except for crop value). 3/ Ratio of total value to total production. 4/ Includes canned, frozen, and dried. Excludes potatoes, pulses, and mushrooms. 5/ Other includes mushrooms, dry peas, lentils, sweet potatoes, and vegetable seed. All trade data are on a calendar-year basis.

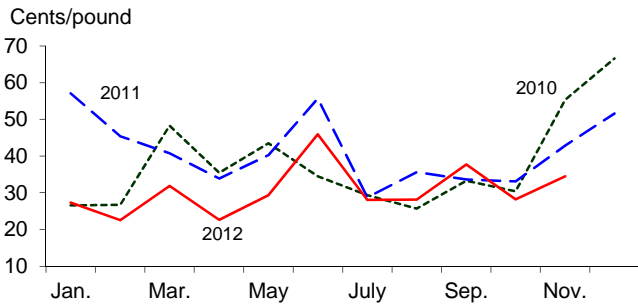
Note: Cw t = hundredweight, a unit of measure equal to 100 pounds.

Sources: USDA Economic Research Service using data from USDA, National Agricultural Statistics Service, *Crop Production, Acreage, Agricultural Prices, Crop Values, Mushrooms, and Potatoes*; and from U.S. trade data from U.S. Dept. of Commerce, U.S. Census Bureau.

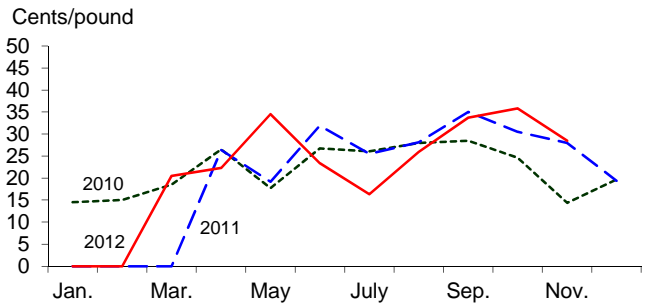
Figure 1

Point-of-first-sale (farm/grower) prices* for fresh-market vegetables

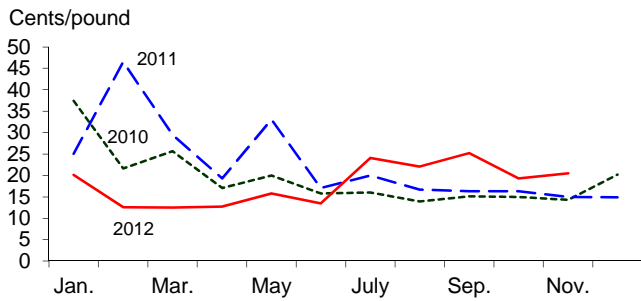
Broccoli



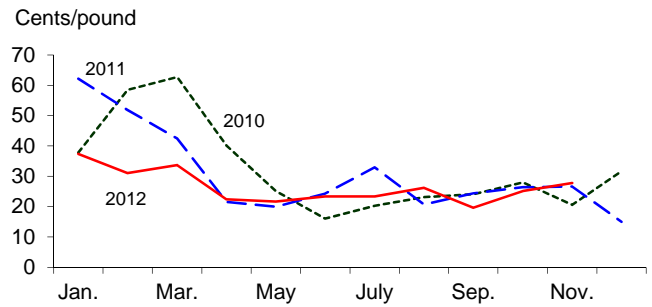
Cucumbers



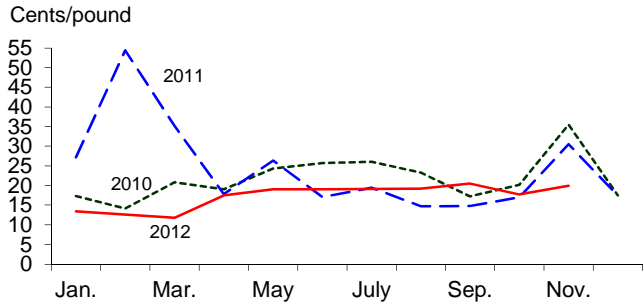
Celery



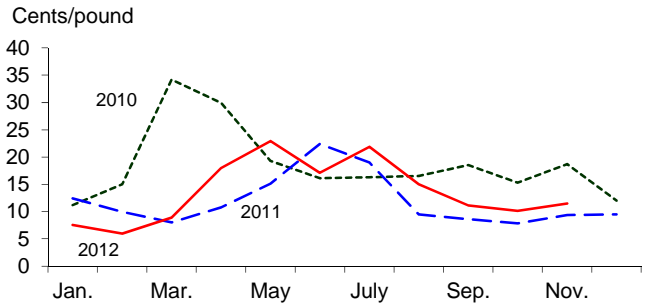
Sweet corn



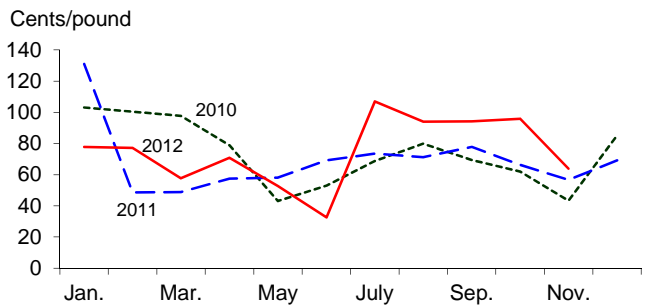
Head lettuce



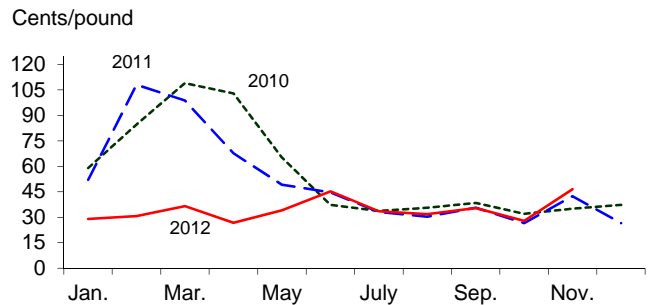
Onions



Snap beans



Tomatoes



Source: USDA, National Agricultural Statistics Service, *Agricultural Prices*.

* Prices for November 2012 are preliminary.

Fresh-Market Vegetables

Overall Vegetable Price Index Continues To Flatten

Grower prices for many fresh vegetables continue a gradual recovery from lows of late 2011/early 2012, although the projected overall 4th quarter price index for fresh vegetables is down 6 points from the 3rd quarter 2012 index. Average October to December 2012 prices for celery, sweet corn, cucumbers, onions, snap beans, and field tomatoes are all above corresponding prices from the previous year.

Even with this gradual improvement, the current 4th quarter price still remains below the 3-year average (2009-11) for both onions and field tomatoes. The overall 4th quarter 2012 grower price index for fresh vegetables is projected to be 6 points lower than the corresponding index for the 3rd quarter 2012.

Grower prices for broccoli, carrots, cauliflower, and lettuce remain below the previous year as well as below the 3-year average. Sweet corn, cucumber, and snap bean markets have shown the strongest recovery with 4th quarter 2012 prices above both the previous year and the 3-year average. Grower prices for snap beans have remained firm through 2012. The overall price index for all vegetables remains 9 percent below the 3-year average.

Shipments of most vegetable items increased between September and October 2012. Volume of snap beans and squash, in particular, has been strong compared to this September. Asparagus shipments from Peru dropped off earlier in 2012 than the previous 2 years, reducing overall shipment volume in October 2012. Increased demand from European and processing markets was reported to cut into the Peruvian supply.

Table 2--U.S. quarterly fresh-market grower (point-of-first-sale) prices, 2011-12

Commodity	2011				2012			Change 4th Q 1/ Percent
	1Q	2Q	3Q	4Q	2Q	3Q	4Q *	
----- Cents/pound -----								Percent
Asparagus	132.00	110.57	--	--	107.43	--	--	--
Broccoli	47.77	43.27	32.63	42.60	32.60	31.27	36.63	-14.0
Carrots	41.10	42.03	28.00	26.60	27.50	24.30	25.91	-2.6
Cauliflower	49.43	50.90	33.00	46.95	34.23	32.23	42.85	-8.7
Celery	33.70	23.17	14.77	13.97	14.00	23.80	20.45	46.4
Sweet corn	52.13	21.80	31.13	22.77	22.43	23.03	26.05	14.4
Cucumbers	--	25.87	28.13	25.97	26.73	25.30	29.37	13.1
Lettuce, head	38.93	20.43	16.30	21.63	18.50	19.60	19.69	-9.0
Onions, dry bulb	10.14	15.30	14.17	9.48	19.33	16.00	10.06	6.1
Snap beans	76.10	55.83	96.20	62.73	52.00	98.43	75.47	20.3
Tomatoes, field	86.20	53.40	33.13	32.60	35.30	33.53	38.31	17.5
All vegetables 2/	226	162	148	144	152	156	150	4.0

-- = not available. * = USDA Economic Research Service forecast.

1/ Change in 4th quarter 2012 over 4th quarter 2011.

2/ Price index with base period of 1990-92 (the period when the index equaled 100).

Source: USDA, Economic Research Service based on data from USDA, National Agricultural Statistics Service, *Agricultural Prices*.

Table 3--Selected U.S. fresh-market vegetable shipments 1/

Item	Annual	September	October		Change previous: 2/	
	2011	2012	2011	2012	Month	Year
	-----1,000 cwt-----				Percent	
Asparagus	3,465	76	296	62	-18	-79
Snap beans	3,087	83	172	190	129	10
Broccoli	9,528	592	777	814	38	5
Cabbage	11,219	797	968	839	5	-13
Chinese cabbage	1,176	66	60	74	12	23
Carrots	11,531	713	1,129	788	11	-30
Cauliflower	4,213	296	396	396	34	0
Celery	16,165	1,034	1,354	1,418	37	5
Sweet corn	12,747	514	542	559	9	3
Cucumbers	16,437	960	1,028	1,163	21	13
Greens	1,942	101	147	128	27	-13
Head lettuce	27,632	2,220	2,353	2,493	12	6
Romaine	17,281	1,270	1,381	1,622	28	17
Leaf lettuce	3,900	210	259	289	38	12
Herbs, misc.	1,829	131	151	135	3	-11
Onions, dry bulb	56,903	3,782	5,516	4,248	12	-23
Onions, green	3,032	214	190	294	37	55
Peppers, bell	18,787	970	1,420	1,166	20	-18
Peppers, chile	7,610	905	728	1,251	38	72
Squash	8,475	279	708	705	153	0
Tomato, field, round	21,681	1,620	1,411	1,678	4	19
Tomato, field, Roma	7,536	271	286	268	-1	-6
Tomato, ghouse 3/	21,893	1,339	2,034	1,620	21	-20
Tomato, small 4/	3,911	200	230	278	39	21
Selected total	239,835	18,643	23,536	22,478	21	-4

1/ 1,000 cwt = 100,000 lbs. Data for 2012 are preliminary and include domestic and partial imports.

2/ Change from July 2012. 3/ All tomatoes produced under cover. 4/ Grape and cherry tomatoes.

Source: USDA, Agricultural Marketing Service, *Fruit and Vegetable Market News*.

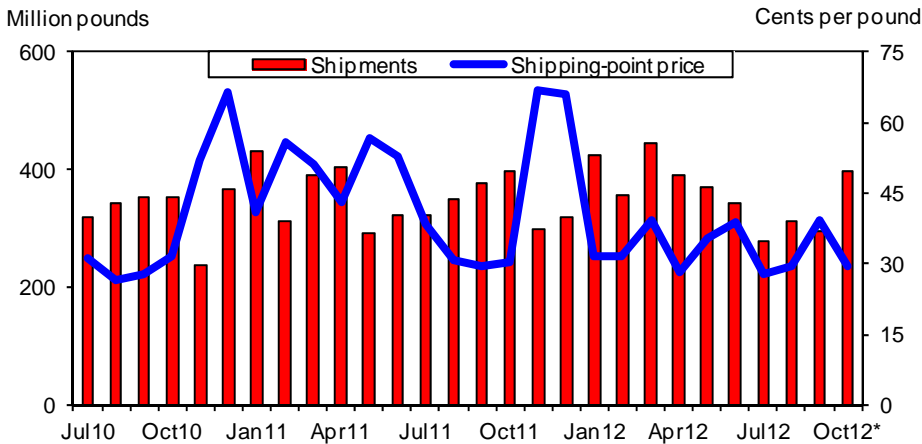
Despite improvement in 4th quarter average prices for broccoli and cauliflower, when compared with the 3rd quarter of 2012, the upswing has not been as strong as the previous year. The reported average 4th quarter 2012 fresh broccoli price is up over 5 cents per pound compared with the 3rd quarter 2012 and cauliflower price is up over 10 cents per pound in the same period. Prices for the two fresh vegetables have weakened late in the 4th quarter. Good weather in California and typical drop-off in demand between Thanksgiving and late December have pushed more recent prices down.

The Producer Price Index (PPI) for fresh-market vegetables (excluding potatoes) continued to experience a sharp decline, with prices falling by 12.5 percent between September and October of this year, and 16.5 percent from last October. With the exception of cabbage, the PPI for most commodities faced a decline in October 2012 (either from last year or last month). The spinach index fell 46.4 percent between October 2011 and October 2012.

Prices for carrots, greens, and squash, however, rose between September and October 2012 but are still below October prices from the previous year. The increased late fall volume of cauliflower is again reflected in October 2012 price index, which decreased almost 22 percent from the previous month, even as cauliflower PPI remains 30.8 percent higher than the previous year.

Figure 2

U.S. cauliflower, all uses: Shipments and shipping-point price, 2010-12 1/



1/ Includes both imports and domestic product. October 2012 data is preliminary. Beginning January 2011, price reflects fresh-on-board (f.o.b.) shipping-point basis. Prior months reflect delivered basis.

Source: USDA, Agricultural Marketing Service, *MarketNews* (shipments) and USDA, National Agricultural Statistics Service (prices).

Retail Prices Up

Despite a downward trend in the PPI for most vegetables, the Consumer Price Index (CPI) for all fresh-market vegetables (including potatoes) rose slightly (0.6 percent) between September and October with prices for tomatoes, lettuce, and other vegetables increasing by 3.7 percent, 0.6 percent, and 1.2 percent, respectively. The CPI for potatoes however declined 3.8 percent during this period. Compared with a year ago from this October, the CPI for fresh vegetables dropped 3.2 percent, driven by downward trends faced by potatoes (10.9 percent), lettuce (4.1 percent), and tomatoes (1.7 percent).

According to USDA’s Market News Service, average advertised retail prices at major national retail supermarket outlets for selected vegetables changed as follows between October and November:

- asparagus fell (less than 1 percent) from October 2012 to \$2.76/lb;
- green beans declined 10 percent to \$1.28/lb;
- baby carrots (peeled) increased (less than 1 percent) to \$1.38/lb;
- broccoli fell 6 percent to \$1.85/bunch;
- sweet corn increased 7 percent to 43 cents/ear;
- iceberg lettuce increased slightly (over 1 percent) to \$1.00/head;
- Romaine lettuce increased almost 4 percent to \$1.10/each;
- green onions rose 8 percent to 56 cents/bunch;
- green bell peppers dropped 2 percent to \$1.53/lb;
- zucchini squash rose 4 percent to \$1.24/lb;
- hothouse tomatoes on the vine increased 11 percent to \$1.89/lb;
- Roma (plum-type) tomatoes increased 7 percent to \$1.22/lb.

Fresh-Market Vegetable Imports Down

During the first 9 months of 2012 (January to September), the volume of fresh-market vegetable imports (excluding potatoes, mushrooms, and pulses) declined 7 percent from the same period a year ago. This drop in imports was mainly

Table 4--Fresh vegetables: Consumer and producer price indexes 1/

Item	2011	2012		Change previous: 2/		
	Oct	Aug	Sept	Oct	Month	Year
	----- Index -----				---- Percent ----	
Consumer Price Indexes (1982/84=100)						
Food at home	230.2	231.7	231.6	232.5	0.4	1.0
Food away from home	233.5	239.1	239.6	239.7	0.0	2.7
Fresh vegetables	314.8	300.4	302.9	304.8	0.6	-3.2
Potatoes	342.7	323.9	317.6	305.4	-3.8	-10.9
Tomatoes, all	313.9	289.3	297.7	308.6	3.7	-1.7
Lettuce, all	299.9	283.1	286.1	287.7	0.6	-4.1
Other vegetables	314.5	305.5	308.6	312.3	1.2	-0.7
Producer Price Indexes (Dec. 1991=100)						
Fresh vegetables (excl. potatoes) 3/	171.4	159.4	163.7	143.2	-12.5	-16.5
Beets	155.5	131.2	152.1	149.0	-2.0	-4.2
Cabbage 3/	203.1	227.3	212.7	225.1	5.8	10.8
Carrots 3/	197.9	193.3	176.9	183.0	3.4	-7.5
Cauliflower	36.7	43.6	61.4	48.0	-21.8	30.8
Greens	180.6	147.2	170.2	178.3	4.8	-1.3
Lettuce 3/	182.7	187.0	180.9	159.3	-11.9	-12.8
Onions, dry bulb 3/	122.1	203.0	157.1	135.2	-13.9	10.7
Peppers, green	222.6	228.9	231.5	223.3	-3.5	0.3
Spinach	565.6	295.9	335.7	303.1	-9.7	-46.4
Squash	248.0	176.8	198.6	201.1	1.3	-18.9
Tomatoes 3/	190.4	156.0	184.6	155.1	-16.0	-18.5

1/ not seasonally adjusted. Data for 2012 are preliminary. 2/ Change in October 2012 from previous month/year.

3/ Index base is 1982=100.

Source: U.S. Department of Labor, Bureau of Labor Statistics.

contributed by dry bulb onions and other vegetables (including carrots, broccoli, celery, etc.), which combined represented a 23-percent share of total import volume.

Import volume of fresh tomatoes (leading fresh-import item by volume) increased 3 percent during this period. Mexico and Canada, which are the largest suppliers of fresh tomatoes to the United States, maintained their position (89-percent and 9-percent shares, respectively) in the first 9 months of 2012. Other leading fresh import commodities by volume, which also rose during this period, include cucumbers (14-percent share of total volume), bell peppers (11 percent), and chile peppers (7 percent). The top five sources of fresh-vegetable imports from January to September were Mexico (77 percent of total volume), followed by Canada (13 percent), Peru (3 percent), China (1 percent), and Costa Rica (1 percent).

In contrast, the volume of fresh-market vegetable exports (between January and September) rose 3 percent from a year ago this September. Exports of dry bulb onions (with 14-percent share of total volume), declined 4 percent while broccoli, celery, lettuce, and tomato exports increased. Broccoli exports noticeably increased by 24 percent during this period, with most of that increase going to top foreign markets like Canada (23 million pounds), Japan (15 million pounds), and Taiwan (4 million pounds). Exports of broccoli to South Korea, the fifth-leading export destination, increased fivefold from last September.

Even with exports on the rise, the United States continued to strengthen its position as a net importer of fresh-market vegetables in 2011. The value of fresh vegetable exports totaled \$2 billion (up 3 percent from 2010) while the value of fresh vegetable imports totaled \$5.6 billion, thus resulting in a gap between imports and exports by \$3.6 billion.

Table 5--Selected fresh-market vegetable trade volume, 2010-12 1/

Item	2011	January - September			Change
	Annual	2010	2011	2012	2011-12
	----- 1,000 cwt -----				Percent
Exports, fresh:					
Onions, dry bulb	7,010	4,146	4,527	4,339	-4
Lettuce, other	4,637	3,042	3,344	3,513	5
Tomatoes	2,526	1,851	1,882	1,947	3
Lettuce, head	2,963	2,138	2,254	2,337	4
Broccoli	2,375	2,414	1,859	2,306	24
Carrots	2,387	1,969	1,928	1,928	0
Celery	2,608	1,875	1,884	2,060	9
Other	14,771	9,842	11,296	11,508	2
Total	39,276	27,277	28,974	29,938	3
Imports, fresh:					
Tomatoes, all	32,871	27,615	25,510	26,192	3
Protected 2/	14,713	10,142	11,359	12,392	9
Roma (plum-type)	12,050	11,064	9,176	9,423	3
Cucumbers	13,100	9,608	9,761	10,938	12
Protected 2/	9,663	1,202	1,395	1,567	12
Peppers, sw eet	9,324	7,738	7,226	8,775	21
Protected 2/	5,056	3,617	3,869	4,161	8
Onions, dry bulb	8,689	6,195	6,406	6,111	-5
Peppers, chile	7,859	4,960	5,461	5,691	4
Protected 2/	205	80	163	201	23
Squash 3/	5,988	4,166	3,992	4,509	13
Asparagus, all	3,850	2,852	2,925	3,255	11
Other	30,812	20,766	22,415	11,973	-47
Total	112,494	83,900	83,695	77,443	-7

1/ Excludes melons, potatoes, mushrooms, dry pulses, and sw eet potatoes. 2/ Grow n under cover.

3/ Excludes chayote.

Source: USDA, Economic Research Service based on data from U.S. Department of Commerce, U.S. Census Bureau.

Table 6--Fresh-market vegetables: Imports by country, 2010-12 1/

Item	2011	January - September			Change
	Annual	2010	2011	2012	2011-12
	----- 1,000 cwt -----				Percent
Mexico	86,174	65,633	64,349	59,888	-7
Canada	12,352	9,494	9,483	9,681	2
Peru	3,870	1,648	1,988	1,953	-2
Costa Rica	2,053	1,598	1,566	828	-47
China	1,724	1,263	1,202	1,139	-5
Others	6,321	4,265	5,107	3,955	-23
Total	112,494	83,900	83,695	77,443	-7

1/ Excludes melons, potatoes, mushrooms, dry pulses, and sw eet potatoes.

Source: USDA, Economic Research Service based on data from U.S. Department of Commerce, U.S. Census Bureau.

Processing Vegetables

Tomato Exports Continue To Grow

The United States continued to bolster its position as a net exporter of processed tomatoes and tomato products, with exports exceeding imports by \$398 million in 2011/12 market year (July-June). The net gain in value surpassed the 2010/11 recorded amount of \$346 million by 15 percent. The value of processed-tomato and tomato-product exports, driven by strong demand for tomato paste and sauce, totaled \$599 million in 2011/12 (up \$37 million from a year earlier).

From July to September of the 2012/13 marketing year, both the volume and value of processed-tomato exports continued to grow from a year ago. The top five foreign destinations during this period included Canada (with 34 percent of all tomato-product volume), followed by Mexico (14 percent), Italy (9 percent), Japan (4 percent), and South Korea (2 percent). Turkey, which was ranked fifth last year, dropped out of the top five.

U.S. exports of tomato paste to Italy rebounded from their lowest amount in 2010/11, but did not reach their pre-2010 levels. In contrast, tomato-paste shipments to Turkey dropped 76 percent from 117 million pounds in 2010/11 to 28 million pounds in 2011/12. Tomato paste continued to remain the export volume leader among tomato products in 2011/12, followed by tomato sauces, whole tomato/tomato piece products (such as stewed and diced), and ketchup.

Exports of tomato sauce (with a 34-percent share of value) also increased the first 3 months of 2012/13 to \$53 million. The value of tomato-sauce exports to Canada decreased \$2.4 million, while the combined value to Mexico and Japan rose \$1.3 million between July and September from the previous year.

Table 7--Value of processed-tomato trade

Item	2011/12	July - September			Change
	Annual 1/	2010	2011	2012	2011-12
----- Million dollars -----					Percent
Imports:	201.2	49.6	44.1	45.7	4
Paste	6.7	1.6	1.1	1.4	18
Sauces/purees	111.7	20.2	23.5	23.8	1
Ketchup	32.6	11.3	8.8	10.7	20
Whole/pieces	9.2	2.8	2.0	2.6	28
Juice	0.3	5.5	0.1	0.1	53
Dried/dehydrated	38.8	8.0	8.0	6.8	-16
Other 2/	1.8	0.3	0.5	0.5	-5
Exports:	599.4	125.5	142.1	190.3	34
Paste	244.1	43.2	56.9	62.1	9
Sauces	205.5	57.5	49.8	52.5	5
Ketchup	61.5	11.4	15.6	11.6	-26
Whole/pieces	52.2	10.2	11.4	10.9	-5
Juice	18.3	0.2	4.1	3.8	-6
Other 2/	17.9	3.0	4.2	6.4	52

1/ July-June marketing year. 2/ Includes tomato preparations not elsew here specified or included.

Source: Derived by ERS from data of the U.S. Department of Commerce, U.S. Census Bureau.

Table 8--Volume of selected processed-tomato product exports by top destinations

Item	2011/12	July - September			Change
	Annual 1/	2010	2011	2012	2011-12
	----- Million pounds -----				Percent
Paste	676.3	106.3	151.9	168.7	11
Italy	121.2	18.5	22.0	30.6	39
Mexico	112.5	17.1	30.6	26.2	-14
Canada	84.6	22.6	19.8	17.0	-14
Turkey	28.2	9.1	9.0	1.3	-85
Sauces	423.0	120.3	101.6	107.2	6
Canada	315.2	80.2	79.0	75.9	-4
Mexico	24.7	6.7	6.6	6.8	4
Japan	22.4	3.2	3.3	5.1	56
Ketchup	132.9	25.6	34.0	24.4	-28
Mexico	26.2	7.2	6.7	4.3	-36
Canada	20.7	3.0	4.7	3.9	-17
Brazil	13.2	3.3	5.5	0.4	-92
Whole/pieces	153.0	28.2	34.2	31.1	-9
Canada	94.5	18.4	22.4	18.3	-18
Mexico	11.9	2.5	2.0	2.6	35
South Korea	6.1	2.1	1.3	0.9	-25

1/ July-June marketing year.

Source: Derived by ERS from data of the U.S. Department of Commerce, U.S. Census Bureau.

California's Production Up

According to the California Processing Tomato Advisory Board, California's crop of tomatoes for use in processing (primarily canning and drying/dehydrating) totaled 12.6 million short tons in 2012—up 0.7 million short tons from 2011. When California's amount, which has historically represented 95-97 percent of the total amount of U.S. tomatoes for processing, is combined with the expected amount of 0.5 million tons coming from the Midwestern states (Ohio, Indiana, and Michigan), the total U.S. crop of tomatoes for processing will likely reach a crop size of 13.1 million tons in 2012.

Wholesale Prices Up for Processed Vegetable Products

Between September and October 2012, the Producer Price Index (PPI) rose moderately for all categories—canned and frozen vegetables and dried/dehydrated fruit and vegetables. In particular, prices for tomato ketchup and sauces increased 3.6 percent, which have mainly driven prices for canned vegetables and juice. The PPI were also up from a year ago this October for all categories with canned dry beans leading the way at 4 percent, followed by frozen vegetables at 3.7 percent, dried/dehydrated fruit and vegetables at 3.2 percent, and canned vegetables at 2.7 percent.

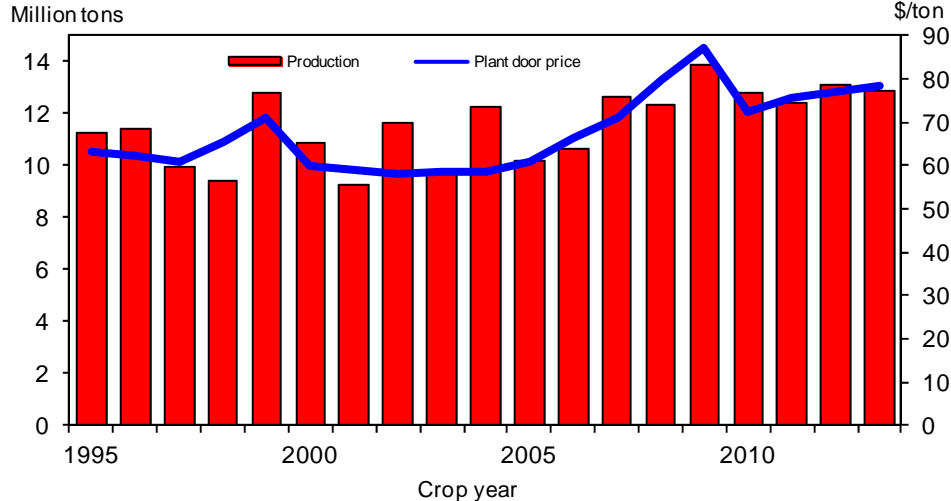
The rise in the Producer Price Index did not necessarily translate into higher retail prices, even as input prices, such as farm machinery, seeds, and energy, continued to rise. The Consumer Price Index (CPI) for processed fruits and vegetables fell 0.3 percent during the same period, driven mainly by a decrease in retail prices for frozen vegetables and pulses (dry beans, peas, lentils). Compared to last October, retail prices rose slightly to 1.1 percent, driven mainly by a 4-percent rise in pulses.

Table 9--Processing vegetables: Consumer and producer price indexes 1/

Item	2011		2012		Change previous: 2/	
	Oct.	Sept.	Oct.	Month	Year	
	----- Index -----			---- Percent ----		
<i>Consumer price indexes (1997=100)</i>						
Processed fruits and vegetables	155.0	157.1	156.7	-0.3	1.1	
Canned vegetables	166.4	167.3	167.6	0.2	0.7	
Frozen vegetables (1982-84=100)	206.4	207.0	204.1	-1.4	-1.1	
Dry beans, peas, lentils	190.3	200.6	198.2	-1.2	4.2	
Olives, pickles, relishes	139.2	137.1	138.4	1.0	-0.5	
<i>Producer price indexes (1982=100)</i>						
Canned vegetables and juices	169.7	171.7	174.3	1.5	2.7	
Pickles and products	217.7	220.8	220.9	0.0	1.5	
Tomato catsup and sauces 3/	153.4	149.2	154.6	3.6	0.8	
Canned dry beans	158.2	164.3	164.6	0.2	4.0	
Vegetable juices 3/	124.8	125.6	125.7	0.1	0.7	
Frozen vegetables	186.5	193.3	193.4	0.1	3.7	
Dried/dehy. fruit & vegetables	203.0	207.9	209.5	0.8	3.2	

1/ Not seasonally adjusted. 2/ Change in October 2012 from the previous month/year.
 3/ Index base year is 1987.
 Source: U.S. Department of Labor, Bureau of Labor Statistics.

Figure 3
U.S. processing tomatoes: Production and delivered (plant-door) price



Sources: USDA, National Agricultural Statistics Service, *Vegetables*, except 2012 and 2013 where numbers, which are projected by USDA, Economic Research Service.

Sweet Potatoes

2012 Crop Expected To Remain Above 2.6 Billion Pounds

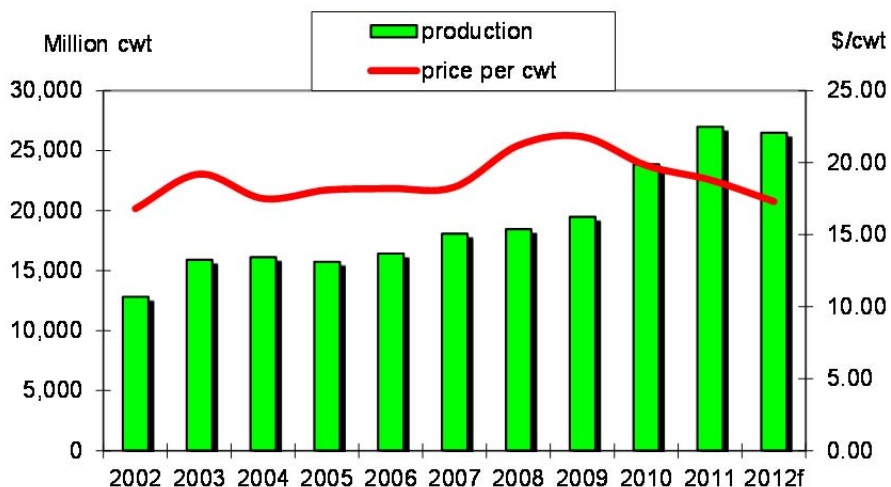
Sweet potato shipments in September and October, the first 2 months of the 2012/13 marketing year, are up 12 percent from 2011/12. Corresponding shipping-point prices are about 1 dollar lower than last year (per 40-pound carton). Together with 1-percent smaller harvest area in 2012, these shipment quantities suggest that the U.S. production of sweet potatoes in 2012 is likely to exceed 26 million cwt (hundredweight) again, as in 2011. The yield that corresponds with this output is estimated at over 200 cwt per acre, a level which has been achieved in each of the past 3 years.

Higher yields and prices since 2010 have encouraged growers in the top-producing States of North Carolina, California, and Mississippi to plant more acreage with sweet potatoes. In North Carolina, which produced almost half of the total U.S. crop in 2011, production value per acre has been at record high levels for the State between 2008 and 2011—\$3,760, \$3,900, \$3,803, and \$4,196 per acre in each year, respectively.

Only California's production value per acre exceeded North Carolina's 4-year average starting in 2008. California's white and Japanese types (U.S. No. 1 Grade) have fetched premium prices, as has New Jersey's crop, which includes white-fleshed varieties as well.

Over the past 5 years, from 2007 to 2011, U.S. production growth of sweet potatoes has expanded by an average 10.7 percent annually. A significant factor underlying this growth is the climb of exports from 96 million pounds in 2007 to a projected 227 million pounds in 2012. In value, these exports jumped from \$39 million in

Figure 4. Sweet potato production and average price



cwt = hundredweight.

Source: USDA, National Agricultural Statistics Service.

2007 to \$75 million in 2012. The \$76-million export value in 2011 is twice as much as \$38 million in 2006. From 2000 to 2005, the average export value was only \$18 million. The top three U.S. export markets are Canada, the United Kingdom, and the Netherlands.

Strong Exports To Slightly Reduce Per Capita Use To Under 7 Pounds

In 2011, U.S. sweet potato exports to the Netherlands (a port of entry to Western Europe) jumped 21 million pounds from 9 million pounds in 2010. Exports to the European Union are rivaling exports to Canada in value and volume and have topped the latter's value in the first three quarters of this year (January to September). The majority of U.S. sweet potato shipments to the EU enter the UK. In the past 3 years, while export unit values to Canada and the UK were 34 and 33 cents respectively, they averaged 40 cents to the Netherlands, which is fast becoming a lucrative U.S. market.

Given a projected national production of 2.6 billion pounds of sweet potatoes in 2012 (compared to 2.7 pounds in 2011), per capita consumption is expected to be close to 7 pounds. Per capita use in 2011 exceeded 7 pounds for the first time over the past decades despite fast climbing exports and comparatively low imports (as a share of use) in recent years. The export share of production in 2012 is anticipated to be over 8 percent, up from 2.8 percent in 2000. The crop's market size has gained annually as more consumers have learned about the nutritional and culinary value of sweet potatoes.

From the record-high price of \$21.80 per cwt in 2009, average prices have drifted downward to \$19.80 in 2010, \$18.80 in 2011, and are forecast at \$17.30 in 2012. The projected 8-percent price decline this year is based on shipping-point prices in the major producing States of North Carolina, California, Louisiana, and Mississippi. Correspondingly, the expected production value per acre for growers will average around \$3,564 in 2012, down \$800 from \$4,372 in 2009, and down \$181 per acre from 2011. Based on prices received by growers (used to estimate value of domestic consumption) average per capita spending on sweet potatoes by Americans is expected to be \$1.10 per person in 2012, down from \$1.20 in 2010 and \$1.18 in 2011.

Table 10 -- Sweet potatoes: Producer prices

Quarter	Marketing years 1/					Change 2010-11 1/
	2007/08	2008/09	2009/10	2010/11	2011/12	
-- 1982=100 --						
Sep-Nov	136.2	117.0	114.5	130.3	121.8	-6.5%
Dec-Feb	114.8	115.3	115.9	121.2	114.5	-5.6%
Mar-May	112.0	116.3	116.2	121.5	117.7	-3.2%
Jun-Aug	113.2	118.0	124.1	125.7	116.3	-7.5%
Year 2/	119.1	116.7	117.7	124.7	117.6	-5.7%

1/ September 1 (indicated year) to August 31.

2/ Not seasonally adjusted average price indexes.

Source: U.S. Department of Labor, Bureau of Labor Statistics.

Dry Edible Beans

Production Levels Rebound from 2011 Lows

On December 11, USDA's National Agricultural Statistics Service (NASS) revised the forecast for 2012 U.S. dry edible bean production upward again to just under 32 million cwt—a rebound of almost 60 percent from the dramatic lows of 2011. Area harvested in 2012 grew over 45 percent in response to the high prices of 2011. Despite hot, dry weather across much of the Midwest, adverse impacts on overall dry bean production were not large. As a result, estimated national per-acre yield is up almost 10 percent from a year earlier, setting a record at 18.73 cwt per acre. The 2012 yield is almost 6 percent higher than the previous record high of 17.68 cwt set in 2008.

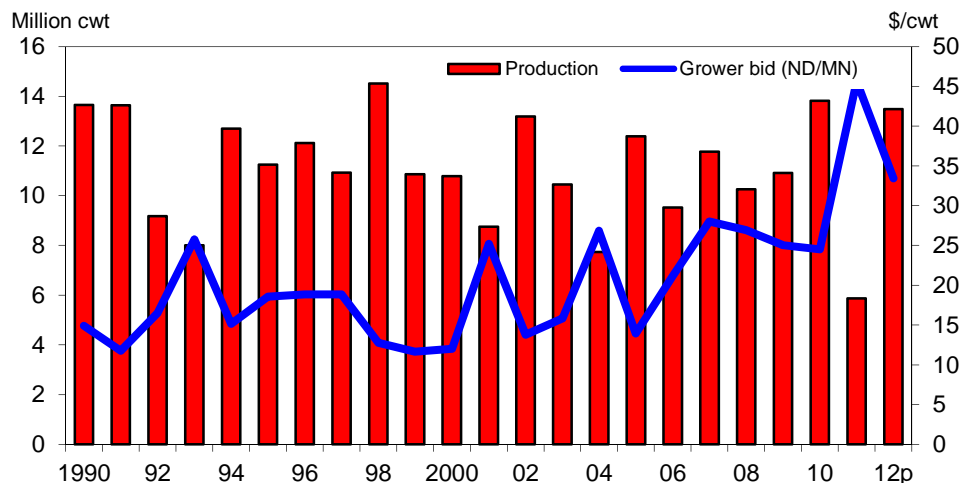
With the exception of Colorado, Texas, and Wisconsin, production levels in all States were at or above levels projected in August. Total U.S. production (31.76 million cwt) is up almost 18 percent over the earlier forecast of 27 million cwt. Production estimates for North Dakota and Nebraska increased 34 and 28 percent, respectively. North Dakota retained the top spot among dry bean-producing States, with 37 percent of the 2012 crop—up sharply from 25 percent a year ago and 36 percent in 2010.

Again in 2012, Michigan was the second-leading State in dry bean production with 3.53 million cwt (11 percent of the 2012 crop), followed closely by Nebraska with 3.19 million cwt and Idaho with 3.02 million cwt (approximately 10 percent of the 2012 crop each). Production in Idaho increased over 60 percent from 2011 levels to surpass Minnesota as the fourth-largest producing State in 2012. Dry bean output in Minnesota increased 30 percent from 2011 lows to reach 2.98 million pounds in 2012.

Output Increases in All Identified Bean Classes

The first estimate of 2012 dry bean production by class was released by USDA on December 11. With the total dry bean crop up substantially from a year ago, most

Figure 5
U.S. pinto beans: Production & average grower price



Source: USDA, National Agricultural Statistics Service and USDA, AMS, *Market News*.
2012 is preliminary. cwt = hundredweight.

Table 11 -- U.S. dry beans: Production by class, 2008-12

Item	2008	2009	2010	2011	2012	Change 2010-11
	-----1,000 cwt-----					<i>Percent</i>
Pinto	10,257	10,914	13,814	5,874	13,491	129.7
Navy	4,542	3,332	4,766	3,248	4,830	48.7
Black	2,923	3,010	4,661	3,018	3,721	23.3
Garbanzo	1,118	1,444	1,939	2,202	3,322	50.9
Sml chickpeas	129	202	345	569	1,158	103.5
Lrg chickpeas	989	1,242	1,594	1,633	2,164	32.5
Great Northern	1,598	999	1,403	1,196	1,231	2.9
Lt. red kidney	1,023	967	966	642	788	22.7
Dk. red kidney	992	850	833	790	887	12.3
Blackeye	394	771	585	337	589	74.8
Small red	816	703	478	737	837	13.6
Pink	557	497	586	408	610	49.5
Baby lima	239	352	304	236	270	14.4
Large lima	317	400	399	232	280	20.7
Cranberry	141	84	66	68	75	10.3
Others	641	1,104	1,001	902	826	-8.4
United States	25,558	25,427	31,801	19,890	31,757	59.7

cwt = hundred weight.

Source: USDA, National Agricultural Statistics Service, *Crop Production*.

classes of dry beans experienced increased output in 2012. Production in all identified bean classes was up from a year earlier, with the biggest percentage increases for pinto, small chickpeas, blackeye, pink, and navy beans.

Output of Great Northern beans rose just 3 percent as a 3.64-cwt increase in yield partially offset a 13 percent reduction in harvested area. The crop of small chickpeas jumped over 100 percent from a year earlier. Small chickpeas accounted for one-third of the total chickpea crop in 2012—up from just 9 percent 6 years ago. Demand remains strong even as the U.S. and Canadian crop size has increased.

Production of navy beans, the second-leading dry bean class, rose almost 50 percent as output rebounded strongly in North Dakota (up 97 percent). Navy beans are projected to account for approximately 15 percent of U.S. total dry bean output in 2012, down from 18 percent in 2008.

National output of black beans is also projected to rise (23 percent). North Dakota production is expected to reach 134 million pounds in 2012 (64 percent higher compared to 2011). Michigan production is projected to remain flat at 160 million pounds as increased 2012 acreage harvested is offset by a reduction in yield per acre.

Pinto bean projected 2012 output is a gain of almost 130 percent from a year earlier as harvested area was up 94 percent over 2011 to 710,500 acres and average yield per acre is forecast to increase by 2.9 cwt. Pinto beans remained the top bean class with 42 percent of the 2012 crop—up from 29 percent a year earlier. Despite smaller Pinto yields projected for some states (Arizona, Michigan, Montana, and New Mexico), yields are expected to be almost 33 percent higher in North Dakota where approximately one-half of the national crop is produced annually. Pinto bean output is up in each of the 12 reporting States with the exception of Michigan and New Mexico.

Table 12 -- U.S. dry beans: Monthly grower prices for selected classes, 2011-12

Commodity	State	2011		2012		Chg. prev. year:	
		Nov.	Dec.	Nov.	Dec. 1/	Nov.	Dec.
		--- Cents per pound ---				--- Percent ---	
All dry beans	US	39.90	41.80	35.70	--	-10.5	--
Pinto	ND-MN	42.33	43.00	32.88	33.00	-22.3	-23.3
Navy	ND-MN	46.00	45.00	32.00	--	-30.4	--
Black	MI	49.00	49.00	34.50	35.00	-29.6	-28.6
Great Northern	NE-WY	42.00	42.00	38.50	40.00	-8.3	-4.8
Garbanzo	ID-WA	47.75	46.17	41.00	41.00	-14.1	-11.2
Light red kidney	CO-NE	50.00	50.00	50.00	50.00	0.0	0.0
Dark red kidney	MN-WI	53.50	53.50	52.00	52.00	-2.8	-2.8
Pink	ID-WA	45.00	45.00	41.00	41.00	-8.9	-8.9
Small red	ID-WA	45.50	45.67	41.00	41.00	-9.9	-10.2
Baby lima	CA	51.13	52.67	45.75	45.50	-10.5	-13.6
Large lima	CA	--	55.00	55.00	55.00	--	0.0
Blackeye	CA	64.00	64.00	52.63	52.50	-17.8	-18.0

-- = not available. 1/ Partial month price.

Source: USDA, National Agricultural Statistics Service, *Agricultural Prices* and USDA, Agricultural Marketing Service, *Bean Market News*.

Table 13 -- U.S. dry beans: Monthly grower prices for selected States, 2011-12

Commodity	2011		2012		Chg. prev. year:		
	Oct.	Nov.	Oct.	Nov. 1/	Oct.	Nov.	
		--- Cents per pound ---				--- Percent ---	
United States	41.60	39.90	37.70	35.70	-9.4	-10.5	
California	57.90	67.40	51.70	--	-10.7	--	
Colorado	44.40	44.70	45.40	--	2.3	--	
Idaho	30.20	37.90	32.80	38.30	8.6	1.1	
Michigan	45.80	46.80	39.00	35.90	-14.8	-23.3	
Minnesota	43.70	34.20	--	--	--	--	
Nebraska	43.00	42.20	38.10	37.30	-11.4	-11.6	
North Dakota	36.30	39.40	35.90	32.30	-1.1	-18.0	

-- = not available. 1/ Partial month estimate.

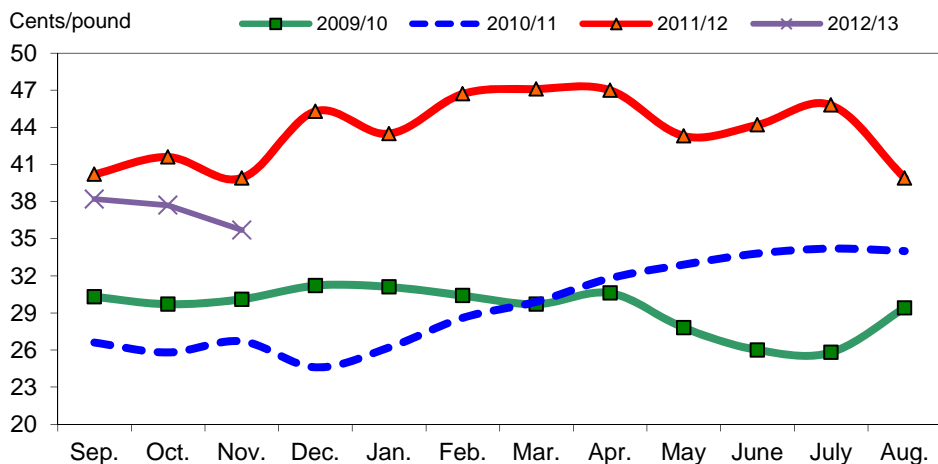
Source: USDA, National Agricultural Statistics Service, *Agricultural Prices*.

Prices Weaken Compared To High Levels of 2011

Although dry bean prices have weakened compared to the historical high levels received for the 2011 crop, they remain above prices prior to that record-setting year. Despite the increase in 2012 production, low stocks from 2011 and the impact of uncertainty in world commodity markets have provided support for prices in dry bean markets.

Recently released 2012 crop estimates from Canada were higher than anticipated and may dampen the market somewhat for smaller caliber beans moving forward. Still dry bean prices remain above their longrun averages. The hot dry weather of 2012 has pushed the price of alternative crops higher as well. As a result, the dry bean industry continues to face a substantial challenge from traditional rotational crops such as corn, soybeans, barley, and wheat.

Figure 6
U.S. dry edible beans: Average monthly grower price



Source: USDA, National Agricultural Statistics Service, *Agricultural Prices*.
 Nov. 2012 is preliminary.

Grower prices (ND/MN) for pinto beans began the marketing year in September at \$35.25 per cwt, below the \$42.33 per cwt from September 2011 but still well above most prices offered in the four previous crop years (2007/08-2010/11) which averaged just over \$26 per cwt. In November 2012, grower prices for pintos were reported at \$32.88 per cwt.

After holding steady at \$42 per cwt. for most of the 2012 calendar year, grower price for Great Northern beans fell slightly early in the 2012/13 crop year. In September average monthly grower bids were reported at \$39.75 and had not yet broken back through the \$40 mark by early December.

During September-October, the Producer Price Index (PPI) for canned dry beans was 4 percent above a year earlier. In contrast, the PPI for dry Great Northern and dried pinto beans were 4 percent and 15 percent below comparable prices from September-October 2011.

September-October Exports Rise

Despite the small 2011 crop, export demand remained strong for most bean classes in 2011/12 compared with the previous year and overall export volume rose over 20 percent when compared with 2010/11. Exceptions were black beans and baby lima beans where export volumes dropped by almost 40 and 60 percent, respectively, in the short crop year. Increased 2011/12 exports of pinto, garbanzo, and other beans more than offset these declines.

With 2012 production returning to more normal levels, export volume moved strongly upward. During the initial 2 months of the 2012/13 marketing year, U.S. dry edible bean export volume increased 14 percent over the same 2-month period of 2010/11 and almost 30 percent over September-October 2011/12 levels. While the majority of dry bean classes experienced increased export volume in this

Table 14 -- U.S. dry bean crop-year export volume to date 1/

Bean class	Crop year		September - October		Change
	2011/12	2010/11	2011/12	2012/13	2011/12-12/13
	----- 1,000 cwt (bags) -----				Percent
Navy (pea)	2,186	468	549	670	22
Black	1,448	439	286	175	-39
Pinto	2,939	242	177	507	186
Garbanzo	1,611	258	335	213	-36
Great Northern	452	42	32	51	59
Light-red kidney	125	16	24	15	-38
Dark-red kidney	374	57	21	46	121
Small red	147	28	20	28	43
Large lima	272	15	17	20	20
Babylima	81	29	14	17	18
Pink	31	1	2	1	-73
Mung & urd	39	4	1	3	137
Cranberry	78	11	12	9	-24
Other	1,195	196	81	304	274
Total	10,979	1,806	1,572	2,059	31

1/ Crop year is September - August. cwt = hunderweight.

Source: Compiled by ERS from data of U.S. Department of Commerce, U.S. Census Bureau.

Table 15 -- U.S. dry bean crop year export volume to date, by selected destination 1/ 2/

Destination	Crop year		September - October		Change
	2011/12	2010/11	2011/12	2012/13	2011/12-12/13
	----- 1,000 cwt (bags) -----				Percent
Canada	1,227	385	413	442	7
Mexico	4,641	522	311	647	108
Spain	446	91	103	60	-42
Italy	481	120	98	61	-38
United Kingdom	919	144	92	196	113
India	211	89	87	58	-34
Dominican Rep.	510	73	73	131	79
Guatemala	126	33	56	221	297
Other	3,054	455	467	594	27
Total	10,979	1,806	1,572	2,059	31

1/ Crop year is September - August.

2/ Includes commercial sales and movement under food aid programs such as PL-480.

Source: Prepared by ERS using data of the U.S. Dept. of Commerce, U.S. Census Bureau.

early part of 2012/13, growth has been strongest in pinto, dark red kidney beans, and mung beans. The top destinations were Mexico, Canada, Guatemala, and the United Kingdom. Export volume to India, Italy, and Spain continues to trend downward in early 2012/13.

Mexico is a major market for U.S. black-bean exports and reduced shipments to Mexico contributed to a significant decrease in total black bean exports in 2011/12. Black bean shipments to Mexico remain low in early 2012/13 at just over 14.2 million pounds in September and October (compared to 26.6 million pounds in the same 2 months of 2011/12). Black bean exports to Guatemala and Dominican Republic have increased from 1.3 million pounds in the first 2 months of 2011/12 to 2.9 million pounds in the same period of 2012/13.

Likewise, U.S. dry bean exports to Canada rebounded in the first two months of 2012/13 reaching 442 million cwt. The 68-percent increase in overall Canadian dry bean production (not including garbanzo beans) and 83-percent increase in

Canadian garbanzo bean production reported for 2012 may dampen exports to this market as the crop year progresses.

As expected, high prices and limited stocks drew world interest in supplying the U.S. dry bean market in 2011/12. Dry bean import volume from China (up 19 percent), Peru (up 500 percent), and Argentina (up 621 percent) was larger than 2010/11, although imports from Mexico were down 14 percent. Import volume from Canada and Thailand was relatively steady between the two crop years.

These import patterns have not held in early 2012/13. Dry bean import volume from September to October is down 27 percent compared to the previous year, led by decreases kidney, pinto, and black beans. Dry bean imports from Canada are up a modest 2 percent compared to the previous year, while volumes from China, Mexico, Thailand, and Argentina are down substantially.

Table 16 -- U.S. dry bean crop-year import volume to date 1/

Bean class	Crop year		September - October		Change
	2011/12	2010/11	2011/12	2012/13	2011/12-12/13
	----- 1,000 cwt (bags) -----				Percent
Black	511	56	105	62	-41
Garbanzo, all	354	57	65	59	-10
Mung & urd	285	37	49	50	2
Pinto	94	82	21	12	-45
Small red	100	8	14	16	15
Navy	90	5	14	23	61
Dark-red kidney	208	7	28	14	-49
Light-red kidney	163	8	30	13	-56
Other 2/	1,741	196	241	168	-30
Total	3,544	457	567	417	-27

1/ Crop year is September - August. cwt = hunderweight. 2/ excludes guar seeds

Source: Prepared by ERS using data from U.S. Dept. of Commerce, U.S. Census Bureau.

Table 17 -- U.S. dry bean crop year import volume to date, by selected destination 1/ 2/

Destination	Crop year		September - October		Change
	2011/12	2010/11	2011/12	2012/13	2011/12-12/13
	----- 1,000 cwt (bags) -----				Percent
China	893	7	16	7	-52
Canada	740	177	111	112	2
Mexico	471	113	86	72	-17
Thailand	108	18	17	13	-22
Peru	557	6	57	57	-1
Argentina	115	9	26	8	-70
Other	660	127	255	147	-42
Total	3,544	457	567	417	-27

1/ Crop year is September - August. cwt = hunderweight.

2/ Includes commercial sales and movement under food aid programs such as PL-480.

Source: Prepared by ERS using data of the U.S. Dept. of Commerce, U.S. Census Bureau.

Dry Peas, Lentils, and Chickpeas

Production is Up 51 Percent in 2012 as Prices Remained High

As prices for dry peas, lentils, and chickpeas remained high this year, the total area planted jumped 42 percent from 940,900 acres in 2011 to 1.3 million acres in 2012. Combined with an overall 6.4-percent climb in yield per acre, production is estimated at nearly 20 million cwt in 2012. This represents a 51-percent expansion in crop output from 13.2 million cwt in 2011, which was the smallest since 2003. Eighty-seven percent of the 6.7-million cwt gain in aggregate production is attributed to the dry pea crop, which more than doubled in 2012. The corresponding lentil crop gain is 522,000 cwt and chickpeas are expected to climb by 268,000 cwt.

In general, prices in the 2012/13 marketing year are expected to be moderately lower than the preceding year. The average price of all dry peas, lentils, and chickpeas is projected to remain above \$20 per cwt (weighted by production volumes). This is a 12-percent decline from \$23 per cwt aggregate price in 2011/12, but still significantly higher than prices in prior years. Furthermore, considering that competing prices for wheat and corn are anticipated to be somewhat higher than in 2011/12, prices for these pulse crops are faring relatively well. Conditions for winter wheat deteriorated recently as dry and cold weather slowed seed germination and early plant growth, which are likely to further raise wheat prices.

For dry peas and lentils, the top producing States are Montana and North Dakota. These two States accounted for 77 percent of lentil production and 81 percent of dry pea production in 2012. Average bid prices received by dry pea farmers for whole yellow peas climbed from \$7.45 per cwt in 2010 to \$14 in 2011 and \$15.05 in 2012 (January to October). For whole green peas, the price moved from \$9 in 2010 to \$13.57 in 2011 and \$16 in 2012. With respect to growers of Richlea lentils, however, the direction of bid prices is the reverse of dry peas—from \$29 per cwt in 2010 to \$28.59 in 2011 and \$19 thus far in 2012. Average bid prices by dealers and merchandisers follow similar patterns as producer bid prices, albeit with markups of up to \$5 per cwt for dry peas and \$7 to \$9 per cwt for lentils.

Table 18 -- Dry edible pea and lentil production by major State

State	2000	2005	2009	2010	2011	2012
-- 1000 cwt --						
Montana						
Dry peas	208	2,196	3,006	4,140	2,655	4,736
Lentils	210	1,869	1,601	3,359	2,717	2,145
North Dakota						
Dry peas	1,345	9,785	11,520	8,120	1,160	4,485
Lentils	616	1,971	2,543	3,927	824	1,880
Washington						
Dry peas	1,365	1,326	1,700	1,292	1,386	1,540
Lentils	1,275	756	1,050	858	840	845

cwt = hundredweight.

Source: USDA, National Agricultural Statistics Service.

Table 19 -- Dry edible pea and lentil prices, Montana and North Dakota

	2010	2011	2012 1/
<i>\$ per cwt</i>			
Producer bid prices			
Dry peas			
Whole yellow	7.45	14.03	15.05
Whole green	8.96	13.57	15.96
Lentils			
Richlea	28.97	28.59	19.00
Dealer bid prices			
Dry peas			
Whole yellow	12.80	14.31	17.00
Whole green	13.05	16.71	20.11
Lentils			
Richlea	38.30	36.65	25.75

1/ January to October mid-range price in 2012.

Sources: USDA, National Agricultural Statistics Service, *Agricultural Prices*;
Agricultural Marketing Service, *Livestock and Grain Market News* .

The direction of dry pea and lentil prices for the smaller producing States of Idaho and Washington has a similar pattern as Montana and North Dakota. Dealer bid prices in 2012 (January to October) were all higher than in the same period in 2011 and 2010 for Austrian winter peas, split green, split yellow, whole green, and whole yellow dry peas. On the other hand, dealer bid prices for Brewer and Pardina lentils were both lower in 2012 compared to 2011.

Given the larger crop for dry peas, lentils, and chickpeas in 2012 and their continued high prices, the total value of production is expected to exceed \$400 million, which is 33 percent more than the 2011 crop. This amount was exceeded only by the aggregate value of the 2010 crop. The \$402.6 million overall production value estimate for the 2012 crop corresponds to an average crop value of \$317 per acre harvested. Because of the 42-percent acreage expansion in 2012, the \$317 per acre value is more than 6 percent lower than \$337 per acre for the 2011 crop, whose average producer price was 14 percent higher. The value per acre of the 2012 large chickpea crop is expected to be at least twice as large as dry peas' and lentils' projected \$278 and \$269 per acre, respectively.

Retail Vegetable Prices: Recent Developments and Forecasting¹

Retail food prices have experienced more volatile swings in the past five years as compared to most of the previous two decades. Some of the recent volatility has been due to weather conditions, both domestically and globally, and few food prices are more susceptible to the weather than those for fresh vegetables. Many fresh-vegetable prices can also feature a strong seasonality component due to shifts among growing regions, minimal storage times, and shifting consumer demand throughout the year. Researchers at ERS analyze and forecast retail vegetable prices that are commonly used by industry and government decision makers, academic and private sector researchers, and U.S. consumers.

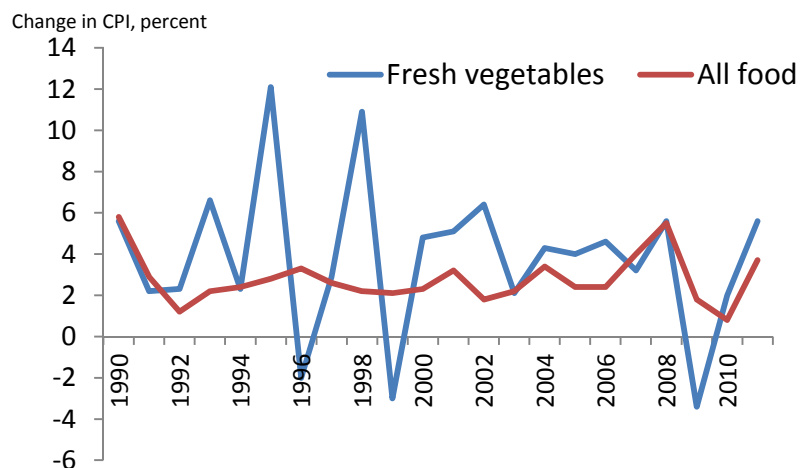
¹Richard Volpe is an economist with the Food Markets Branch, Food Economics Division, Economic Research Service, USDA.

Fresh Vegetable Retail Price Patterns

To study retail food prices at the national level, ERS researchers rely primarily on the Consumer Price Index (CPI), a data product of the U.S. Bureau of Labor Statistics (BLS). A measure of overall supermarket prices is the food-at-home CPI, a weighted index of grocery prices encompassing the entire supermarket. The BLS also publishes CPIs for sub-categories of retail foods, for example fresh vegetables. ERS uses the Fresh Vegetable CPI to measure the dynamics of retail vegetable prices over time.

Since 1990, when general food price inflation in the United States moderated compared with the previous two decades, vegetable prices have been far more volatile than average grocery prices (fig. 1A). By a common measure of variability, known as the coefficient of variation (defined as the sample standard deviation of divided by the sample mean), annual average vegetable prices have been more than twice as volatile as aggregated grocery prices. The standard deviation for the annual change in vegetable prices is 3.7 percentage points, compared to 1.2 percentage points for food at home.

Figure 1A. Annual changes in the Consumer Price Index (CPI), 1990-2011



Source: USDA Economic Research Service based on data from the U.S. Department of Labor, Bureau of Labor Statistics.

Fresh-vegetable prices have also increased more than average grocery prices over time. Overall, between 1990 and 2011, retail vegetable prices rose by 113 percent while the price of a typical household grocery shopping basket rose 71 percent. The average annual change for retail fresh-vegetable prices since 1990 is +3.8 percent, compared to +2.8 percent for all food-at-home.

Seasonality is an important consideration in vegetable pricing, particularly for fresh vegetables for which storage options are often limited. Prices can fluctuate in a fairly predictable pattern throughout the calendar year due to supply or demand factors (fig. 2A).

Historically vegetable price fluctuations were more closely related to supply-side changes as production shifted in and out of available growing regions. Domestic production areas and product availability changed systematically across the course of a year. More sophisticated supply chains and integrated global markets have mitigated some, but not all, of these seasonal impacts. Transportation costs or other systemic factors that vary across geographic regions are supply-side factors that can still influence recurring, seasonal price patterns.

Fluctuations in demand also influence seasonal price patterns. Ice cream, for example, is a food with strong seasonal demand influence, as consumers purchases typically rise in the summer and fall in the winter. Pumpkins are a vegetable whose prices are strongly influenced by seasonal demand.

Forecasting Retail Prices

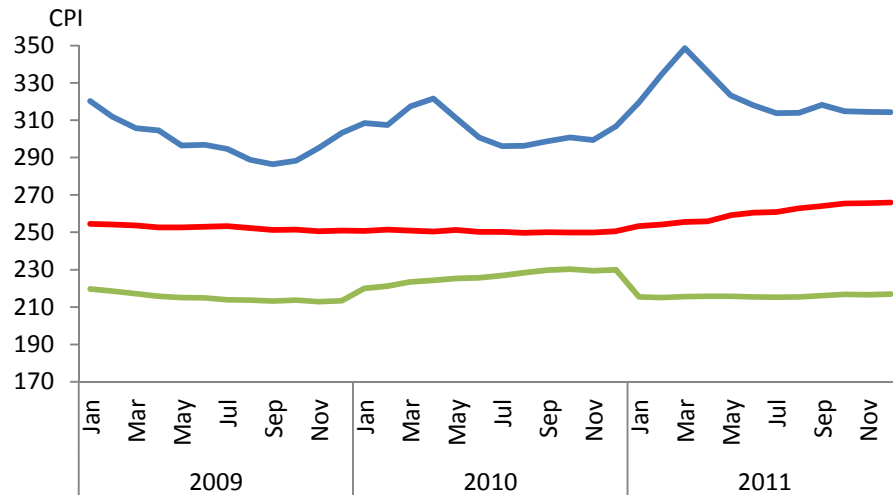
Forecasting fresh vegetable retail prices begins with the Fresh and Dry Vegetables Producer Price Index (PPI), another data product of BLS. The PPI is an index of selling prices received by domestic producers of fresh and dry vegetables. Depending on the time of year, ERS researchers forecast this PPI out as far as 18 months into the future.

The forecasting procedure draws upon historical data, taking into account season of the year, a series of lagged prices, and key events that have shaped the structure and movement of vegetable prices over time. These events may include, for example, changes in domestic policy governing Federal marketing orders or the initiation of trade agreements or relationships that cover vegetable crops.

In a similar fashion, researchers also forecast other major cost components of retail vegetable pricing, such as fuel prices and grocery-store labor wages. Finally, the Fresh Vegetables CPI is then forecast as a function of current, lagged, and projected PPI values, major cost factors, seasonality, and a history of CPI values.

Weather, the acknowledged driver of so much volatility for fresh-vegetable prices, cannot be forecasted statistically and is therefore a major cause of forecast error. In an average year, weather varies more than real wages or even fuel costs, factors that are amenable to forecasting. For this reason, among others, ERS food price forecasts are revisited on a monthly basis and updated as necessary. Historically, forecast errors have been within 0.5 percent once information on the extent of severe weather phenomena is incorporated into the statistical models.

Figure 2A. Monthly Consumer Price Index (CPI), 2009-2011



Source: USDA, Economic Research Service based on data from U.S. Department of Labor, Bureau of Labor Statistics.

Vegetable Retail Prices

The fresh-vegetable forecast underwent a number of revisions from mid-2010 through mid-2012 as weather events resulted in tumultuous price swings. In each case, ERS updated the forecasts as the weather information became available.

In early 2011, freezes in California and western Mexico damaged many vegetable crops and set inflation on an accelerated track for the year. Taking into account surging fuel prices and other weather-related issues, the vegetable CPI increased 5.6 percent in 2011, factors not anticipated in the price forecasts of July 2010. One year later in the winter of 2011-12, the weather was mild in many winter-vegetable producing areas resulting in a bumper crop of many major vegetables. As a result, the outlook for prices decreased substantially diverging from ERS expectations in July 2011.

The 2012 drought in the Midwest had very little effect on produce crops, and fresh-vegetable retail prices are currently on track to be about 5 percent lower than the previous year. Lower vegetable prices are one of the primary reasons why consumers can expect moderate food price inflation in 2012 despite the damages to the field corn crop.

For many vegetable crops, a substantial portion of total production is slated for freezing, canning, and juicing. Many of these products are produced and delivered under contracts. Once processed, the products can be stored, thus reducing some of the uncertainty over availability. The prices of these vegetables are measured in the Processed Fruit and Vegetables CPI, and in more disaggregated BLS indexes, but ERS does not forecast these prices.

Price dynamics for processed vegetables are somewhat different. Production or pricing contracts and/or stocks tend to mitigate the impacts of major weather events. For example, in 2011 processed fruit and vegetable prices increased only 2.9

percent, much less than the 5.6 percent increase for fresh vegetables. Alternatively, in 2012, while prices for fresh vegetables are on track for significant deflation, processed-vegetable prices are likely to increase.

For More Information

The current forecasts and latest analysis for the Fresh Vegetable CPI, as well as for several other major food categories, are available at the ERS Food Outlook Topic Page: <http://www.ers.usda.gov/data-products/food-price-outlook.aspx>.

Monthly historical data for the food, fresh vegetable, processed fruit and vegetable, and food-at-home CPI series can be found at the ERS Vegetable and Pulses Data Page: <http://www.ers.usda.gov/data-products/vegetables-and-pulses-data/by-category.aspx>.

Monthly historical data for the fresh vegetable PPI, and individual PPIs for specific fresh and processed vegetable products can be found at the ERS Vegetable and Pulses Data Page: <http://www.ers.usda.gov/data-products/vegetables-and-pulses-data/by-category.aspx>.

Further background on definitions and calculations of the CPI and PPI data are available from the BLS at www.bls.gov/cpi and <http://www.bls.gov/ppi/>.



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Vegetables and Pulses Data

Vegetable and Pulses Data provides users with comprehensive statistics on fresh and processed vegetables and pulses in the United States, as well as global production and trade data for these sectors. It harmonizes and integrates data from the ERS market outlook program with data collected by different Federal and international statistical agencies to facilitate analyses of economic performance over time, and across domestic and foreign markets.

The data are currently organized in four sections:

[Outlook Tables](#), in Excel and PDF format, contain recent data on fresh and processing per capita use, acreage, production, prices, cash receipts, and U.S. trade, as well as data on potatoes, sweet potatoes, mushrooms, dry edible beans, and dry peas and lentils. Tables are grouped into 13 subsections and a summary table. Eventually, all data contained in the Vegetables and Pulses Outlook tables will be encompassed in the Data by Category and Data by Commodity series.

[Yearbook Tables](#), in Excel and a single PDF file, contain a time series of annual and monthly data for U.S. farm acreage, production, prices, trade, per capita use, and more. Eventually, all data currently contained in the Vegetables and Pulses Yearbook tables will be encompassed in the Data by Category and Data by Commodity series.

[Data by Category](#) (e.g. price, production, etc.) provides current producer and retail price indexes, and a few retail prices.

[Data by Commodity](#) provides current import and export data for more than 40 individual fresh and processed vegetable and pulse commodities on a marketing year basis.

E-mail Notification

Readers of ERS outlook reports have two ways they can receive an e-mail notice about release of reports and associated data.

- Receive timely notification (soon after the report is posted on the web) via USDA's Economics, Statistics and Market Information System (which is housed at Cornell University's Mann Library). Go to <http://usda.mannlib.cornell.edu/MannUsda/aboutEmailService.do> and follow the instructions to receive e-mail notices about ERS, Agricultural Marketing Service, National Agricultural Statistics Service, and World Agricultural Outlook Board products.

- Receive weekly notification (on Friday afternoon) via the ERS website. Go to <http://www.ers.usda.gov/subscribe-to-ers-e-newsletters.aspx> and follow the instructions to receive notices about ERS outlook reports, *Amber Waves* magazine, and other reports and data products on specific topics. ERS also offers RSS (really simple syndication) feeds for all ERS products. Go to <http://www.ers.usda.gov/rss.aspx> to get started.

Web Sites

- A. Vegetables and Pulses Outlook:** The home page of this report.
<http://www.ers.usda.gov/topics/crops/vegetables-pulses/market-outlook.aspx>
- B. U.S. Trade Data—GATS:** This recently revised online application allows the user to freely access and download detailed U.S. export and import data.
<http://www.fas.usda.gov/gats/default.aspx>
- C. ERS Vegetables and Pulses Data:** Monthly and annual data for U.S. imports and exports, monthly Producer and Consumer Price Indexes, and monthly average retail prices.
<http://www.ers.usda.gov/data-products/vegetables-and-pulses-data.aspx>
- D. Vegetables and Pulses Topics Page:** This ERS site contains special articles, data sets, and links (the dry beans and potatoes pages are found here).
<http://www.ers.usda.gov/topics/crops/vegetables-pulses.aspx>
- E. USDA Market News:** Agricultural Marketing Service’s web site containing fresh shipments, f.o.b. and terminal market prices, weekly truck rates, annual reports, and more.
<http://www.marketnews.usda.gov/portal/fv>
- F. NASS Vegetables:** Links to USDA, National Agricultural Statistics Service’s annual and quarterly reports on vegetables & melons.
<http://usda.mannlib.cornell.edu/MannUsda/viewDocumentInfo.do?documentID=1177>
- G. Organic Farming and Marketing:** USDA, ERS Briefing Room contains articles, data, graphics, and links. <http://www.ers.usda.gov/data-products/organic-production.aspx>
- H. FAS Fruit and Vegetable Page:** USDA, Foreign Agricultural Services page with special articles, country horticultural reports, presentation and charts, data, and links.
http://www.fas.usda.gov/http/fruit_veg.asp

Appendix Tables

Appendix Tables from *Vegetable and Pulses Outlook* newsletters will no longer be attached to the report. The appendix tables, along with many other data series for Vegetables and Pulses, are still available as part of the *Vegetable and Pulses Data* at <http://www.ers.usda.gov/data-products/vegetables-and-pulses-data/outlook-tables.aspx>. The specific tables, previously appended to the newsletters, can be found in the Outlook Tables under “Vegetable Prices.”

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