

## **V. FOOD ACQUISITIONS BY PUBLIC UNIFIED SCHOOL DISTRICTS**

### **A. Introduction**

In this chapter, we summarize findings of the study with regard to national estimates of food acquisitions by public unified NSLP school districts in SY 1996/97. We begin with a brief review of some methodological points that should be considered in interpreting study results. This is followed by an examination of study findings for each of the three categories to which the acquisitions are assigned: commercial purchases, donated commodities, and processed foods containing donated commodities. Finally, the results for SY 1996/97 are compared to the results of the 1984/85 study.

### **B. Methodological Considerations**

The estimates presented in this Chapter are national estimates of foods acquired by public unified NSLP school districts in the continental United States. As noted earlier, these districts are a subset of the total number of school districts in the nation since not all districts participate in the NSLP. Furthermore, they are also a subset within the universe of districts that participate in the NSLP since private schools and nonunified school systems were excluded from the study, as were school districts in Alaska, Hawaii, and the US possessions.

For this study, food acquisitions were assigned to one of 842 general food descriptions. Information on brands, flavors, grades, varieties, cuts, and unit sizes is generally not reflected in these descriptions. The principal exceptions are for foods that the USDA commonly purchases for donation, such as different varieties of dry beans. Distinctions are made among different product forms (e.g., fresh, canned, frozen, dried) and for some foods (e.g., fluid milk), distinctions are made among different levels of fat content. Given the generic nature of these descriptions, each food item should be viewed as representing a collection of closely related foods.

Estimates of volume or weight are net weights measured in pounds of the food as it is delivered to the school district. Since foods arrive at districts in many different forms and states of preparation, when aggregated by group or subgroup they generally contain foods that are not equivalent. For example, while the "milk" subgroup is comprised largely of fluid milk, it also includes such related foods as evaporated milk, condensed milk, eggnog, nonfat dry milk, and

dry buttermilk, for example. The aggregated weight estimate for this subgroup should therefore not be considered as an estimate of whole milk equivalent.

While care should be exercised in interpreting aggregations of food items, distortions of this nature are less of an issue for individual food items. Individual items are much more homogeneous, though some aggregation has been required at this level too.

For ease of comparability with results from the 1984/85 study, data were aggregated into the same 16 groups and 65 subgroups as used in preparing summary tables for the earlier study, with slight modification. The principal change in classification is the adoption of a "prepared foods" group. Since no record could be found of the assignment of individual food items to their respective subgroups in the earlier study, it is possible that there is some slight inconsistency between the two, though any differences are thought to be small.

As described earlier, each food acquisition record fell into one of the following categories: purchased foods, processed foods containing donated commodities, or donated commodities. Of the three categories, the processed foods containing donated commodities is the most difficult to identify from school district records. A wide range of foods are processed under agreements between processors and Federal and State governments as well as between processors and some school districts. Though particular care was exercised to identify these foods, to the extent underreporting occurred, it was probably for foods in this category. Furthermore, any underreporting in this category was probably matched by overreporting in the purchased foods category.

As noted in Chapter II, commercial values rather than USDA values were assigned to all donated commodities and all processed foods containing donated commodities. The value of foods assigned to both these categories therefore exceeds values reported by USDA and are therefore not comparable to USDA reported expenditures.

### **C. School Food Acquisitions, SY 1996/97**

School food acquisitions for SY 1996/97 are summarized by dollar value in Table V-1 and by weight in Table V-2. Dollar value and weight information for each of the 842 food items represented in the summary tables appears in the Statistical Appendix Report.

Public unified NSLP school districts acquired foods valued at more than \$4.6 billion in SY 1996/97. This is equivalent to 86.9 percent of trade estimates of total food purchases by primary and secondary school systems in 1996 and 3.8 percent of food purchases by all foodservice operations, commercial and noncommercial, the same year.<sup>1</sup>

Of the total value of foods acquired, 82.9 percent were foods purchased from commercial sources and 12.7 percent were donated by the USDA. The remaining 4.4 percent were commercially processed foods containing donated commodities as ingredients. On the basis of weight, an even larger share (89.4 percent) of all school food acquisitions were commercially purchased.

In value terms, the largest single component of the school food bill is the dairy group which is dominated by commercial expenditures for fluid milk. Collectively, dairy products accounted for 22.7 percent of total acquisitions. There are several other food groups that each account for around 10 percent of the total. This includes bakery products, red meats, poultry, fruits, vegetables, and prepared foods.

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1/ The Food Institute, Food Industry Review, June 1997, p. 477.

**Table V-1: Summary of Dollar Value of Food Acquisitions by Public Unified NSLP School Districts, SY 1996/97**

Food group/subgroups	All Foods		Purchased foods		Processed foods containing donated commodities		Donated commodities	
	Dollar Value (\$)	Percent of total (%)	Dollar Value (\$)	Percent of total (%)	Dollar Value (\$)	Percent of total (%)	Dollar Value (\$)	Percent of total (%)
<b>All Foods</b>	<b>4,642,667,312</b>	<b>100.00</b>	<b>3,850,762,224</b>	<b>100.00</b>	<b>202,642,630</b>	<b>100.00</b>	<b>589,262,458</b>	<b>100.00</b>
<b>Grain products</b>	<b>166,735,494</b>	<b>3.59</b>	<b>143,495,902</b>	<b>3.73</b>	<b>391,860</b>	<b>0.19</b>	<b>22,847,733</b>	<b>3.88</b>
Breakfast cereals	79,239,667	1.71	78,727,234	2.04	0	0.00	512,433	0.09
Prepared flour mixes	13,600,668	0.29	13,107,549	0.34	0	0.00	493,120	0.08
Flours & other milled grains	25,256,707	0.54	12,010,797	0.31	0	0.00	13,245,910	2.25
Mixtures with grain	24,654,471	0.53	24,262,611	0.63	391,860	0.19	0	0.00
Pasta & noodles	15,286,116	0.33	8,941,622	0.23	0	0.00	6,344,494	1.08
Rice, barley, and grains	8,697,865	0.19	6,446,089	0.17	0	0.00	2,251,776	0.38
<b>Bakery products</b>	<b>529,081,323</b>	<b>11.40</b>	<b>518,030,010</b>	<b>13.45</b>	<b>11,051,314</b>	<b>5.45</b>	<b>0</b>	<b>0.00</b>
Biscuits, muffins, pancakes, and waffles	116,095,388	2.50	111,898,906	2.91	4,196,482	2.07	0	0.00
Bread & rolls	177,490,523	3.82	175,016,251	4.54	2,474,272	1.22	0	0.00
Cakes & other bakery desserts	110,146,103	2.37	106,602,237	2.77	3,543,866	1.75	0	0.00
Pretzels and snack chips	95,187,925	2.05	94,733,392	2.46	454,533	0.22	0	0.00
Crackers	30,161,384	0.65	29,779,224	0.77	382,161	0.19	0	0.00
<b>Fats/oils</b>	<b>85,880,799</b>	<b>1.85</b>	<b>63,751,872</b>	<b>1.66</b>	<b>4,947,800</b>	<b>2.44</b>	<b>17,181,127</b>	<b>2.92</b>
Butter	7,438,648	0.16	6,572,306	0.17	0	0.00	866,342	0.15
Lard and other animal fats	1,005	0.00	1,005	0.00	0	0.00	0	0.00
Margarine	14,229,274	0.31	13,615,781	0.35	198,029	0.10	415,464	0.07
Salad dressings & mayonnaise	35,076,384	0.76	30,326,613	0.79	4,749,771	2.34	0	0.00
Vegetable oils & shortenings	29,135,488	0.63	13,236,167	0.34	0	0.00	15,899,321	2.70
<b>Red meats</b>	<b>455,585,528</b>	<b>9.81</b>	<b>239,568,138</b>	<b>6.22</b>	<b>60,012,922</b>	<b>29.62</b>	<b>156,004,468</b>	<b>26.47</b>
Beef and veal	280,132,876	6.03	121,636,477	3.16	49,573,320	24.46	108,923,079	18.48
Mixed meats	47,203,563	1.02	46,295,737	1.20	907,826	0.45	0	0.00
Pork	126,140,605	2.72	69,758,474	1.81	9,300,742	4.59	47,081,389	7.99
Recipe mix	2,108,484	0.05	1,877,450	0.05	231,034	0.11	0	0.00
<b>Poultry</b>	<b>444,036,307</b>	<b>9.56</b>	<b>272,144,144</b>	<b>7.07</b>	<b>60,030,352</b>	<b>29.62</b>	<b>111,861,812</b>	<b>18.98</b>
Chicken	314,933,136	6.78	216,729,313	5.63	43,952,528	21.69	54,251,296	9.21
Recipe mix	339,880	0.01	339,880	0.01	0	0.00	0	0.00
Turkey	128,763,291	2.77	55,074,951	1.43	16,077,824	7.93	57,610,516	9.78

**Table V-1: Summary of Dollar Value of Food Acquisitions by Public Unified NSLP School Districts, SY 1996/97 (continued)**

Food group/subgroups	All Foods		Purchased foods		Processed foods containing donated commodities		Donated commodities	
	Dollar Value (\$)	Percent of total (%)	Dollar Value (\$)	Percent of total (%)	Dollar Value (\$)	Percent of total (%)	Dollar Value (\$)	Percent of total (%)
<b>Eggs</b>	<b>26,532,606</b>	<b>0.57</b>	<b>15,375,674</b>	<b>0.40</b>	<b>1,662,994</b>	<b>0.82</b>	<b>9,493,937</b>	<b>1.61</b>
Eggs	19,125,736	0.41	9,502,282	0.25	129,517	0.06	9,493,937	1.61
Mixtures with eggs	7,406,870	0.16	5,873,392	0.15	1,533,477	0.76	0	0.00
<b>Fish</b>	<b>52,963,516</b>	<b>1.14</b>	<b>47,109,069</b>	<b>1.22</b>	<b>952,322</b>	<b>0.47</b>	<b>4,902,125</b>	<b>0.83</b>
Fish	50,728,120	1.09	44,873,673	1.17	952,322	0.47	4,902,125	0.83
Shellfish	2,235,396	0.05	2,235,396	0.06	0	0.00	0	0.00
<b>Milk &amp; other dairy products</b>	<b>1,052,305,120</b>	<b>22.67</b>	<b>932,061,878</b>	<b>24.20</b>	<b>8,757,060</b>	<b>4.32</b>	<b>111,486,181</b>	<b>18.92</b>
Cheese	213,099,022	4.59	98,139,520	2.55	8,674,155	4.28	106,285,347	18.04
Cream	3,189,740	0.07	3,189,740	0.08	0	0.00	0	0.00
Ice cream & ice milk	64,154,232	1.38	64,071,327	1.66	82,905	0.04	0	0.00
Milk	764,250,783	16.46	759,049,948	19.71	0	0.00	5,200,834	0.88
Yogurt	7,611,343	0.16	7,611,343	0.20	0	0.00	0	0.00
<b>Fruits/juices</b>	<b>513,941,696</b>	<b>11.07</b>	<b>433,499,418</b>	<b>11.26</b>	<b>2,127,356</b>	<b>1.05</b>	<b>78,314,923</b>	<b>13.29</b>
Fruits	342,678,950	7.38	264,325,502	6.86	1,947,229	0.96	76,406,219	12.97
Juices	171,262,746	3.69	169,173,916	4.39	180,127	0.09	1,908,704	0.32
<b>Vegetables</b>	<b>423,484,868</b>	<b>9.12</b>	<b>371,873,377</b>	<b>9.66</b>	<b>1,763,598</b>	<b>0.87</b>	<b>49,847,893</b>	<b>8.46</b>
Green vegetables	86,998,841	1.87	82,797,000	2.15	0	0.00	4,201,841	0.71
Mixed vegetables	29,845,164	0.64	28,619,932	0.74	0	0.00	1,225,232	0.21
Mixtures with vegetables	5,794,199	0.12	5,794,199	0.15	0	0.00	0	0.00
Other vegetables	11,080,745	0.24	10,950,008	0.28	0	0.00	130,737	0.02
Potato & potato products	179,135,576	3.86	157,985,092	4.10	0	0.00	21,150,484	3.59
Tomato & tomato products	49,545,676	1.07	38,621,144	1.00	1,481,709	0.73	9,442,823	1.60
Yellow vegetables	61,084,667	1.32	47,106,002	1.22	281,889	0.14	13,696,776	2.32
<b>Legumes/nuts/seeds</b>	<b>43,166,005</b>	<b>0.93</b>	<b>21,744,001</b>	<b>0.56</b>	<b>54,045</b>	<b>0.03</b>	<b>21,367,958</b>	<b>3.63</b>
Dry beans/peas	20,908,670	0.45	14,665,261	0.38	54,045	0.03	6,189,364	1.05
Other nuts	475,256	0.01	475,256	0.01	0	0.00	0	0.00
Peanuts/peanut butter	17,899,114	0.39	2,720,519	0.07	0	0.00	15,178,594	2.58
Seeds	682,297	0.01	682,297	0.02	0	0.00	0	0.00
Soybeans & soy products	3,200,668	0.07	3,200,668	0.08	0	0.00	0	0.00

Table V-1: Summary of Dollar Value of Food Acquisitions by Public Unified NSLP School Districts, SY 1996/97 (continued)

Food group/subgroups	All Foods		Purchased foods		Processed foods containing donated commodities		Donated commodities	
	Dollar Value (\$)	Percent of total (%)	Dollar Value (\$)	Percent of total (%)	Dollar Value (\$)	Percent of total (%)	Dollar Value (\$)	Percent of total (%)
<b>Sugar/desserts</b>	<b>91,220,610</b>	<b>1.96</b>	<b>90,344,347</b>	<b>2.35</b>	<b>832,722</b>	<b>0.41</b>	<b>43,540</b>	<b>0.01</b>
Candies/toppings	23,157,738	0.50	23,157,738	0.60	0	0.00	0	0.00
Gelatins	5,854,186	0.13	5,854,186	0.15	0	0.00	0	0.00
Jellies, jams, and preserves	5,504,136	0.12	5,504,136	0.14	0	0.00	0	0.00
Puddings/pie filling	9,656,786	0.21	9,035,957	0.23	620,828	0.31	0	0.00
Sherbert/ices	13,372,019	0.29	13,160,125	0.34	211,894	0.10	0	0.00
Sugars	24,732,220	0.53	24,732,220	0.64	0	0.00	0	0.00
Syrups, molasses, and honey	8,943,525	0.19	8,899,985	0.23	0	0.00	43,540	0.01
<b>Non dairy drinks</b>	<b>154,392,548</b>	<b>3.33</b>	<b>154,392,548</b>	<b>4.01</b>	<b>0</b>	<b>0.00</b>	<b>0</b>	<b>0.00</b>
Carbonated	33,247,612	0.72	33,247,612	0.86	0	0.00	0	0.00
Dry beverage	1,093,534	0.02	1,093,534	0.03	0	0.00	0	0.00
Fruit drinks	105,818,292	2.28	105,818,292	2.75	0	0.00	0	0.00
Water	14,233,110	0.31	14,233,110	0.37	0	0.00	0	0.00
<b>Soups/gravies</b>	<b>23,460,341</b>	<b>0.51</b>	<b>23,317,098</b>	<b>0.61</b>	<b>143,243</b>	<b>0.07</b>	<b>0</b>	<b>0.00</b>
Gravies	5,325,558	0.11	5,274,498	0.14	51,060	0.03	0	0.00
Soups	18,134,783	0.39	18,042,600	0.47	92,183	0.05	0	0.00
<b>Condiments</b>	<b>95,918,974</b>	<b>2.07</b>	<b>89,099,392</b>	<b>2.31</b>	<b>908,820</b>	<b>0.45</b>	<b>5,910,761</b>	<b>1.00</b>
Catsup & other sauces	67,984,992	1.46	61,165,410	1.59	908,820	0.45	5,910,761	1.00
Flavorings	11,358,777	0.24	11,358,777	0.29	0	0.00	0	0.00
Pickles/olives	16,575,205	0.36	16,575,205	0.43	0	0.00	0	0.00
<b>Prepared foods</b>	<b>483,961,578</b>	<b>10.42</b>	<b>434,955,357</b>	<b>11.30</b>	<b>49,006,220</b>	<b>24.18</b>	<b>0</b>	<b>0.00</b>
Burritos/tacos	51,680,566	1.11	49,698,525	1.29	1,982,041	0.98	0	0.00
Meat or cheese filled pastry	18,759,286	0.40	18,077,448	0.47	681,838	0.34	0	0.00
Pizza	322,787,618	6.95	304,009,324	7.89	18,778,294	9.27	0	0.00
Prepared meals	52,043,183	1.12	34,348,352	0.89	17,694,830	8.73	0	0.00
Prepared sandwiches	38,690,925	0.83	28,821,708	0.75	9,869,217	4.87	0	0.00

Source: School Food Purchase Study, 1998.

Table V-2: Summary of Volume of Food Acquisitions by Public Unified NSLP School Districts, SY 1996/97

Food group/subgroups	All Foods	Purchased foods	Processed foods containing donated commodities	
			Donated commodities	Donated commodities
	----- (pounds) -----			
<b>All Foods</b>	<b>7,229,240,725</b>	<b>6,464,378,318</b>	<b>122,338,272</b>	<b>642,524,135</b>
<b>Grain products</b>	<b>212,216,761</b>	<b>138,041,187</b>	<b>233,457</b>	<b>73,942,117</b>
Breakfast cereals	25,931,447	25,181,997	0	749,450
Prepared flour mixes	15,145,632	14,566,508	0	579,124
Flours & other milled grains	114,276,377	56,598,452	0	57,677,925
Mixtures with grain	20,563,391	20,329,934	233,457	0
Pasta & noodles	23,026,886	14,079,056	0	8,947,830
Rice, barley & other grains	13,273,028	7,285,240	0	5,987,788
<b>Bakery products</b>	<b>457,789,211</b>	<b>449,242,705</b>	<b>8,546,504</b>	<b>0</b>
Biscuits, muffins, pancakes, & waffles	85,312,949	83,121,416	2,191,533	0
Bread & rolls	232,871,185	229,494,904	3,376,280	0
Cakes & other bakery deserts	65,994,368	63,537,181	2,457,186	0
Pretzels & snack chips	55,804,421	55,566,681	237,740	0
Crackers	17,806,288	17,522,523	283,765	0
<b>Fats/oils</b>	<b>141,535,211</b>	<b>100,236,262</b>	<b>9,278,260</b>	<b>32,020,690</b>
Butter	4,609,743	4,119,956	0	489,787
Lard & other animal fats	1,996	1,996	0	0
Margarine	33,041,471	31,598,230	478,370	964,872
Salad dressings & mayonnaise	49,258,201	40,458,311	8,799,890	0
Vegetable oils & shortenings	54,623,800	24,057,769	0	30,566,031
<b>Red meats</b>	<b>313,851,922</b>	<b>159,597,200</b>	<b>36,517,098</b>	<b>117,737,625</b>
Beef & veal	206,052,532	82,377,631	30,713,595	92,961,306
Mixed Meats	36,843,744	36,198,473	645,271	0
Pork	69,262,203	39,460,172	5,025,713	24,776,319
Recipe mix	1,693,443	1,560,924	132,519	0
<b>Poultry</b>	<b>287,820,550</b>	<b>177,837,879</b>	<b>32,331,379</b>	<b>77,651,294</b>
Chicken	188,274,516	130,182,736	22,855,017	35,236,764
Recipe mix	193,167	193,167	0	0
Turkey	99,352,867	47,461,976	9,476,362	42,414,530
<b>Eggs</b>	<b>27,095,529</b>	<b>17,425,084</b>	<b>790,410</b>	<b>8,880,035</b>
Eggs	22,936,164	13,906,117	150,012	8,880,035
Mixtures with eggs	4,159,365	3,518,967	640,398	0

Table V-2: Summary of Volume of Food Acquisitions by Public Unified NSLP School Districts, SY 1996/97 (continued)

Food group/subgroups	All Foods	Purchased foods	Processed foods containing donated commodities	
			Donated commodities	Donated commodities
(pounds)				
<b>Fish</b>	<b>30,078,191</b>	<b>27,765,833</b>	<b>428,048</b>	<b>1,884,310</b>
Fish	29,097,405	26,785,047	428,048	1,884,310
Shellfish	980,786	980,786	0	0
<b>Milk &amp; other dairy products</b>	<b>2,751,646,524</b>	<b>2,687,318,142</b>	<b>4,850,185</b>	<b>59,478,197</b>
Cheese	126,874,983	65,841,190	4,665,269	56,368,524
Cream	3,354,298	3,354,298	0	0
Ice cream & ice milk	69,394,912	69,209,996	184,916	0
Milk	2,544,674,203	2,541,564,530	0	3,109,673
Yogurt	7,348,128	7,348,128	0	0
<b>Fruits/juices</b>	<b>976,464,876</b>	<b>845,029,759</b>	<b>2,300,282</b>	<b>129,134,834</b>
Fruits	621,103,031	492,220,034	1,984,441	126,898,556
Juices	355,361,845	352,809,725	315,841	2,236,278
<b>Vegetables</b>	<b>890,084,727</b>	<b>780,619,710</b>	<b>1,923,328</b>	<b>107,541,689</b>
Green vegetables	201,959,039	194,060,537	0	7,898,502
Mixed vegetables	48,917,341	47,702,880	0	1,214,461
Mixtures with vegetables	7,260,239	7,260,239	0	0
Other vegetables	16,460,827	16,359,280	0	101,547
Potato & potato products	394,516,913	345,616,126	0	48,900,787
Tomato & tomato products	99,425,257	76,393,695	1,656,418	21,375,144
Yellow vegetables	121,545,111	93,226,953	266,910	28,051,248
<b>Legumes/nuts/seeds</b>	<b>69,316,833</b>	<b>41,270,146</b>	<b>106,894</b>	<b>27,939,792</b>
Dry beans/peas	51,402,972	35,066,201	106,894	16,229,876
Other nuts	195,828	195,828	0	0
Peanuts/peanut butter	13,995,314	2,285,398	0	11,709,916
Seeds	390,090	390,090	0	0
Soybeans & soy products	3,332,629	3,332,629	0	0
<b>Sugar/desserts</b>	<b>135,500,350</b>	<b>134,884,538</b>	<b>586,855</b>	<b>28,957</b>
Candies/toppings	12,095,944	12,095,944	0	0
Gelatins	6,500,689	6,500,689	0	0
Jellies, jams & preserves	7,848,723	7,848,723	0	0
Puddings/pie filling	15,704,725	15,305,969	398,756	0
Sherbet/ices	16,442,460	16,254,361	188,099	0
Sugars	61,758,637	61,758,637	0	0
Syrups, molasses & honey	15,149,172	15,120,215	0	28,957



**Table V-2: Summary of Volume of Food Acquisitions by Public Unified NSLP School Districts, SY 1996/97 (continued)**

Food group/subgroups	All Foods	Purchased foods	Processed foods containing donated commodities	
			Processed foods containing donated commodities	Donated commodities
	----- (pounds) -----			
<b>Non dairy drinks</b>	<b>410,974,590</b>	<b>410,974,590</b>	<b>0</b>	<b>0</b>
Carbonated	91,848,704	91,848,704	0	0
Dry beverage	1,273,204	1,273,204	0	0
Fruit drinks	271,336,475	271,336,475	0	0
Water	46,516,207	46,516,207	0	0
<b>Soups/gravies</b>	<b>21,158,031</b>	<b>21,054,778</b>	<b>103,253</b>	<b>0</b>
Gravies	2,941,133	2,914,339	26,794	0
Soups	18,216,898	18,140,439	76,459	0
<b>Condiments</b>	<b>172,937,933</b>	<b>165,710,887</b>	<b>942,449</b>	<b>6,284,598</b>
Catsup & other sauces	114,493,920	107,266,874	942,449	6,284,598
Flavorings	13,869,040	13,869,040	0	0
Pickles/olives	44,574,973	44,574,973	0	0
<b>Prepared foods</b>	<b>330,769,487</b>	<b>307,369,621</b>	<b>23,399,867</b>	<b>0</b>
Burritos/tacos	41,952,631	40,678,952	1,273,679	0
Meat or cheese filled pastry	10,532,947	10,071,125	461,823	0
Pizza	227,310,018	215,035,866	12,274,152	0
Prepared meals	34,956,406	28,758,133	6,198,273	0
Prepared sandwiches	16,017,485	12,825,545	3,191,940	0

Source: *School Food Purchase Study, 1998.*

Within the myriad of detail contained in these data, several themes become evident on closer inspection. The remainder of this section is devoted to briefly identifying and discussing some of these themes.

**1. Diversity of Foods**

The most obvious feature of the complete list of school food acquisitions is the diversity of the list. Though food items were described in general terms – ignoring the composition of jams and jellies and of cookies and cakes, for example – the list still numbers 842. Of this number, 147 were acquired in donated form while another 141 contained donated commodities as ingredients.

**2. Universal Appeal of Selected Foods**

Despite the wide variety of foods available to school feeding programs as evidenced by the long list of items acquired, the universal appeal of certain foods in these programs is striking.<sup>1</sup> The ten leading foods acquired by schools and their share of the total value of acquisitions in SY 1996/97 are shown in Table V-3.

**Table V-3: Share of The Total Value of Acquisitions for the Ten Leading Food Categories Acquired by Public Unified NSLP School Districts, SY1996/97**

Food category	Share of total value of acquisitions
fluid milk	16.1
pizza	7.0
ground beef	5.1
cheese	4.4
potatoes	3.8
chicken nuggets	2.4
oranges	2.1
hamburger/hot dog buns	2.1
apples (fresh, sauce, and juice)	2.0
fruit drinks	1.7
Total	46.7

Source: *School Food Purchase Study*, 1998.

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1/ Fluid milk is the one food that must be offered to students at lunch and breakfast as required by the National School Lunch Act. Thus, its high rate of use is due to a combination of its appeal and the requirement that it be offered.

These 10 food categories, represented by only 58 of the 842 food items included in the study, account for nearly half of the value of all school food acquisitions.

Another view of the same phenomenon can be achieved by tabulating the number of school districts that acquire each food item. Results of this tabulation are displayed in Table V-4. For example, of 842 purchased foods, it indicates that 30.9 percent were purchased by 100 or fewer school districts nationally.

There are a couple methodological points to be made regarding these estimates. The first point relates to the seasonality of procurement. For those foods that are acquired throughout the school year and were reported by respondents in each of the quarterly subsamples, the methodology used here yields an accurate national estimate. However, to the extent the food item is highly seasonal with acquisitions occurring in only a portion of the year, the numbers reported here underestimate the number of school districts acquiring these foods. As an illustration of the seasonality of acquisitions, 69 of the 87 *first quarter* districts participating in the study reported no deliveries of donated frozen potato products while all but 5 of the 74 *third quarter* districts received donations of these same products. Thus, the estimated number of school districts (5,287) receiving donated frozen potatoes in SY 1996/97 is believed to underestimate the actual number that received this product.

This effect is particularly evident among USDA donated commodities, for which the results in Table V-4 indicate that over half (51.7 percent) of all donated commodities were acquired by no more than 500 school districts, or 5.0 percent of the total. While this finding is consistent with results of the 1984/85 study, it is thought to underestimate the true value for the reasons cited above.<sup>1</sup>

A second methodological point concerns the way in which individual food items are defined. The more detailed the definition, the fewer the number of school districts acquiring the food; and vice versa. For example, there are nearly 20 different fluid milk items for which acquisition records have been collected. On average, these items were each acquired by just over 3,000 school districts. Had these items been combined in a single fluid milk item, the number of

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1/ Results of an earlier study of the distribution of donated commodities reinforce this belief. It revealed that for one or more quarters in SY 1990/91, school districts in the study received no deliveries of several canned fruits and vegetables due to the seasonal nature of USDA procurement and distribution. See: USDA, FNS, Commodity Letter of Credit Modification Demonstration Evaluation: Final Report, March 1992, p. V-57.

acquiring school districts would have been 10,083, the total number of districts in the universe. Thus, the way in which individual food items are defined affects the results as well.

Despite these methodological limitations, there are some useful insights to be gained from these estimates. First, just as some foods have nearly universal acceptance, other foods are acquired by a very narrow segment of the school district market. Even after allowing for the maximum degree of under-reporting due to the seasonality of acquisitions, it is evident that many foods are acquired by a relatively small share of all school districts.<sup>1</sup> Assuming the reported numbers are under-reported to the maximum extent possible, 30.9 percent of all purchased food items, 33.3 percent of all donated foods, and 48.9 percent of all processed foods containing donated commodities were acquired by no more than 400 school districts, 4.0 percent of the total number. Results of the 1984/85 study indicated that an even larger share of all food items were acquired by no more than 400 school districts (again allowing for maximum under-reporting.)

There are a number of explanations for this. The most obvious reason is that school districts are highly diverse in the types of foods they offer their students. The differences are not always large. For example, a few districts add cheese to their pollock nuggets. Although a small difference, it is a difference nonetheless. These differences can be driven by many factors including regional and ethnic tastes, not to mention the creativity of school food program staff.

Donated commodities are a special case and are discussed at greater length later in this chapter. Donated commodities are especially prone to under-reporting since the distribution of many donated foods occurs during relatively limited periods of time with the greatest concentration of deliveries in the second and third quarters of the school year. Also, school districts are permitted to refuse donated commodities and, within limits, to substitute other donated foods that they can make better use of. Since some donated commodities are clearly preferred over others, this results in a relatively limited distribution of certain donated foods.

Another possible reason that so few school districts acquire some donated commodities results from the effect of carryover from one year to the next. This occurs if a commodity is purchased by USDA for donation in a given year, but a limited quantity is carried-over for distribution in the following year. This happens, but with limited frequency.

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<sup>1/</sup> Due to the collection of acquisition data on a quarterly basis with the sample school districts evenly divided among the four quarters, the maximum degree of under-reporting would be by a factor of three-quarters. Thus, an estimate of 500 school districts could actually be as large as 2,000 school districts. Thus, multiplying the reported number by 4 provides an upper limit on the true value, recognizing that it can not exceed 10,083, the total number of districts.

Many of the processed foods containing donated commodities reach a limited number of school districts because they are processed under contracts negotiated at the state or school district level and, therefore, are more likely to be unique to that jurisdiction. Although processed foods containing donated commodities are more difficult to identify from procurement records (and a few might have eluded the transcription process), this is not believed to have contributed to this result in any significant measure.

**Table V-4: Individual Food Items by Frequency of Acquisition  
by Public Unified NSLP School Districts, SY 1996/97**

Number of school districts acquiring food item	Processed foods containing donated commodities		
	Purchased foods	Donated commodities	Donated commodities
	-----percent of food items-----		
100 or fewer	30.9	48.9	33.3
101 – 500	18.9	36.9	18.4
501 – 1,000	9.3	9.2	9.5
1,001 – 2,500	15.6	5.0	19.0
2,501 – 5,000	12.9	0.0	15.6
5,001 – 10,000	12.1	0.0	4.1
10,000 or more	0.4	0.0	0.0
Total	100.0	100.0	100.0
Total number of food items	828	141	147

Source: *School Food Purchase Study*, 1998.

### 3. Importance of Donated Commodities

As noted earlier, the USDA makes a relatively wide selection of foods available to schools through its Commodity Donation Program. For certain foods and food subgroups, the USDA has become the principal source of supply, at least in those years in which supply of the commodity merits a large purchase by USDA. Table V-5 lists, for certain food categories, the share of total value of school district acquisitions that is accounted for by USDA donated commodities and processed foods containing donated commodities in SY 1996/97.

**Table V-5: Share of the Total Value of Acquisitions by Public Unified NSLP School Districts that is Accounted for by USDA Donated Commodities and Processed Foods Containing Donated Commodities, SY 1996/97**

Food category	Share of total category value that is donated or processed
peanuts and peanut butter	84.8
turkey products	57.2
beef products	56.6
vegetable oils and shortening	54.6
cheese	54.0
flour	52.4
eggs	50.3

Source: *School Food Purchase Study, 1998.*

By comparing the number of school districts that receive individual food items in the form of commodity donations to those that buy the items commercially, it is possible to see which food items are being provided primarily through USDA donations. Those 42 food items for which half or more of the acquiring school districts received them in the form of donated commodities are listed in Table V-6. As can be seen, six of these items were acquired exclusively as donations with four of the six acquired by a very small number of school districts. Since canned pork was not purchased by USDA in SY 1996/97, this was probably a carryover item.

When a large share of those districts that acquire a food receive it in donated form, it generally indicates one of two things. (1) The item is popular among SFAs and was offered in sufficient quantities to satisfy a large share of the demand. Or (2), that the item is not widely sought by SFAs and was accepted as a donation by a relatively small number of school districts and was purchased by few if any districts.

**Table V-6: Share of School Districts Acquiring Food Item that Received it as a Donated Commodity, Selected Food Items, SY 1996/97**

Food Description	Of school districts acquiring food item, percent acquiring as a donated commodity <sup>1/</sup>	Estimated number of school districts receiving item as donated commodity
Frozen blackberries	100.0	11
Dates	100.0	827
Canned pork	100.0	5
Prune puree	100.0	1,254
Canned plums, light syrup	100.0	50
Figs	100.0	39
Frozen apples	98.2	938
Frozen blueberries	97.9	1,313
Individual serving size peaches	97.2	1,955
Salmon patties/nuggets	96.8	350
Frozen red tart cherries	96.6	2,536
Mashed sweet potatoes	93.7	723
Fresh prunes	93.4	425
Canned sweet potatoes, light syrup	93.1	1,726
Canned pineapple, light syrup	92.8	3,999
Ground pork	92.0	3,508
Salmon fillet	90.5	154
Frozen peaches	89.7	1,332
Canned salmon	89.2	274
Mixed turkey roasts	85.7	3,911
Canned tart cherries	81.9	920
Bread flour	80.9	2,454
Low fat cheese	80.1	752
Ground turkey/ turkey sausage	77.1	3,691
Canned chicken	76.1	1,445
Individual servings of strawberries	74.4	78
Whole turkeys	74.2	2,173
Canned vegetarian beans	72.5	2,932
Peanut butter	71.3	4,503
Dry eggs	67.8	1,213
Ground beef	67.7	7,926
Turkey ham/turkey Canadian bacon	60.3	3,887
Raw cut up chicken parts	58.5	3,150
Breaded chicken parts	58.4	2,046
Frozen sweet potatoes	57.4	51
Raw eggs, no shell	56.7	3,014
Frozen strawberries	56.7	2,389
Vegetable shortening	56.4	4,526
Vegetable oil	55.8	3,195
Salsa	54.5	3,384
Whole wheat flour	52.7	1,026
Beef patties	50.9	4,222

<sup>1/</sup>Calculated as percentage that the number of school districts receiving the item as donated commodity is of the sum of the number purchasing the item and the number receiving as a donated commodity.

Source: School Food Purchase Study, 1998.

#### **D. Comparison of Acquisitions in SY 1984/85 and SY 1996/97**

The volume of school food acquisitions in SYs 1984/85 and 1996/97 is compared in Table V-7 below. Although these estimates are for the same population (public unified NSLP school districts), the studies from which these results were drawn followed substantially different approaches in the collection of food procurement data. These differences are discussed at greater length elsewhere in this report. Beyond using a different data collection technique, authors of the earlier study indicate in their final report that due to a systematic underestimation of known population values of about 20 percent, it was necessary to make an off-setting adjustment in the sample weights.<sup>1</sup> What effect this adjustment might have had on the study's food acquisition estimates is not known.

A comparison of the known volume of donated commodities to the estimated volume of donated commodities (including processed foods containing donated commodities) for the two study periods suggests that the two sets of estimates might not be comparable, at least in certain dimensions. As shown in Table IV-3 in the previous Chapter, USDA reported donations totaling 1.182 billion pounds in SY 1984/85. However, the estimated acquisitions of donated commodities (including processed foods containing donated commodities) reported in the earlier study totaled 1.351 billion pounds, or 14.3 percent above the level reported by USDA. In contrast, the total volume of donated commodities (including processed foods containing donated commodities) estimated in the current study is 17.4 percent *less than* the volume of total acquisitions reported by USDA.<sup>2</sup>

It was anticipated that the estimated volume of donations would fall below the actual volume since USDA's numbers include school districts that are not part of the universe under study here (or in the study conducted in SY 1984/85.) This includes private schools, nonunified school districts, and all SFAs in Alaska, Hawaii, and the US possessions. Collectively, these exclusions are estimated to account for a difference of around 11.0 percent. The effect of including processed foods containing donated commodities is harder to judge. To the extent commodities contained in these foods were cut-up, de-boned, or cooked, for example, their processed weight

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1/ *School Food Purchase Study*, 1987, p. 2.10.

2/ A comparison of the estimated quantities of individual donated foods from the 1984/85 study with USDA's records of the quantities of these foods delivered to schools that year reveals a highly variable relationship. For some foods the estimated quantities are very close to the actual quantities as reported by USDA. For other foods, the estimated quantities are as much as 50 percent greater than USDA's reported number.



underestimates their commodity weight and could account for some of the difference.<sup>1</sup> Conversely, to the extent the donated commodity ingredients are combined with purchased ingredients, the processed weight overestimates the commodity weight. Since the former is thought to be at least as likely as the latter (especially given the relative importance of processed meat and poultry products in 1996/97), this is believed to have contributed to an estimated weight that is less than the reported weight.

Another potential reason for differences between USDA reported donations and study estimates is due to differences in data collection methodology. USDA reports deliveries to State Distributing Agencies while the estimates generated in this study are based on deliveries to school districts. It is therefore possible that some degree of difference is due to commodities reaching the State but not the school districts within the school year under study, though the amounts of such carryover are generally small.

For these reasons, readers are urged to exercise caution in comparing these data sets and in interpreting the changes they imply.

These caveats notwithstanding, a comparison of the results of these studies reveals several important changes that have occurred during the twelve year interval. While we suggest treating the absolute numbers reported for SY 1984/85 with caution, changes in the composition of the market basket and in the relative importance of major categories remain useful indicators of the direction and magnitude of change. Some of the more striking changes are described below.

### **1. Overall Changes in the Composition of the School Food Market Basket**

Perhaps the most remarkable finding to come out of this comparison is the magnitude of change that has occurred between these two periods, periods separated by only 12 years. As indicated earlier, enrollment in public unified NSLP school districts increased an estimated 20.9 percent between SY 1984/85 and SY 1996/97. Other things being equal, therefore, an increase in

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1/ The impact of commodity processing on weight loss can be illustrated with the numbers for bulk chicken and cut-up chicken pieces distributed through the donation program in SY 1996/97. USDA distributed 69.021 mil. lbs. of bulk and cut-up chicken that year. If this is reduced by 11.0 percent to account for school districts not included in the universe under study, 61.429 mil. lbs. remain. We estimate that of this amount, 22.541 mil. lbs. reached school districts in the form in which it was purchased by USDA while another 38.888 mil. lbs. went to processors for further processing. Assuming a standard weight loss of 40.0 percent due to deboning, a total weight loss of approximately 15.6 mil. lbs. (1.7 percent of the total weight of USDA donated commodities) would have resulted.

Another commodity that was processed extensively was ground beef. Of the 136.9 mil. lbs. of ground beef that we estimate public unified districts received, about one-third (32.4 percent) was further processed. Of the amount further processed, at least 22.6 mil. lbs. was cooked. Assuming an average weight loss of 20 percent in cooking, a total weight loss of about 4.5 mil. lbs. would have resulted. Thus, the loss in weight of processing these two commodities alone could have been comparable to 2.4 percent of the total weight of USDA donated commodities.

absolute quantities of approximately this magnitude would be expected. However, as a comparison of the quantities displayed in Table V-7 indicates, other things are clearly not equal. Also, some of the differences in utilization are probably due to short-term market conditions, although these impacts are believed to be limited to only a few foods.

There were significant increases in the acquisition of certain foods between 1984/85 and 1996/97; this, despite the fact that the 1984/85 estimates are thought to be inflated by as much as 15 to 20 percent. Among the major food groups demonstrating *increased* food use are the following:

- prepared foods<sup>1</sup>
- breakfast cereals
- pretzels and snack chips
- crackers
- margarine
- carbonated beverages
- fruit drinks
- soy products
- candy
- sherbert/ices
- yogurt

Utilization of each of these food groups increased by a substantially larger percentage than the rate of increase in overall national school enrollment and many increased by a multiple of this rate. For example, breakfast cereals increased 61 percent, prepared foods 55.6 percent, yogurt 173.5 percent, fruit drinks 180.9 percent, and margarine by a multiple of over 27.

There are several possible reasons for the increased utilization of these foods. Convenience of preparation and serving, the increased number of breakfasts being served, changing food preferences, and increased a la carte sales are some of the possible explanations. The increased acquisition of margarine is clearly a result of the virtual disappearance of butter as a donated commodity. Interestingly, the increased quantity of margarine purchased was equal to only 39.8 percent of the decrease in butter donations. The increased acquisition of some of these foods, e.g.

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<sup>1/</sup> Classified as "mixtures with grain" in 1984/85.

soy products, yogurt, and sherbert/ices, might also have been driven in part by nutritional considerations.<sup>1</sup>

There are also several food categories that experienced significant *declines* in the quantity that was acquired between these periods. The most notable of these were:

- fluid milk
- butter
- salad dressings and mayonnaise
- vegetable oils and shortening
- lard and other animal fats

In terms of absolute quantity, the more than 1.0 billion pound drop in fluid milk acquisitions is the largest decline by far. This represents a drop of 29.2 percent. On a per NSLP reimbursable meal basis, this represents a decline of 42.2 percent. Nationally, the per capita consumption of fluid milk has been declining for several years, though at a far slower rate than measured here. Between 1985 and 1997, the per capita consumption of fluid milk and cream fell 7.9 percent. And while some of this decline is offset by the increased consumption of other beverages (as discussed below), we suspect that the 1984/85 estimate is inflated by a substantial but unknown amount.

This problem aside, it will be noted that the food categories on this list share a common characteristic: at least some of the foods in each category have a high fat content. Thus, increased attention to the nutritional content of food acquisitions has almost certainly been a central influence. As noted earlier, the reduced acquisition of butter is almost entirely a function of the sharp curtailment in USDA donations of butter that occurred over this period. It is noteworthy that as this occurred, school district *purchases* of butter increased as school districts replaced a portion of the lost donations with commercial purchases. However, the additional purchases were equivalent to only 4.9 percent of the decline in the quantity of butter that had been donated in 1984/85, suggesting that school districts did not place an especially high premium on replacement of the lost product.

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1/ Regulations governing the meal pattern requirements to allow yogurt to be credited as a meat alternate were amended during this period though the rule did not become final until March 1997, near the end of the study period.

This is in sharp contrast to the changes that occurred in the procurement of cheese. The USDA substantially reduced the quantity of cheese donations between 1984/85 and 1996/97 for the same reason that donations of other dairy products were curtailed. But in the case of cheese, school districts off-set the loss of donations with increased commercial purchases on a nearly pound-for-pound basis.

The large discrepancies in the quantities estimated in 1984/85 and 1996/97 for two of the food categories – “other nuts” and “catsup and other sauces” – are difficult to explain. In fact, the differences in the estimates for these two categories in combination with the differences for fluid milk described above are equivalent to nearly the entire difference (98.3 percent) in the total weight of all foods between the two study years. It is suspected that these three food categories in particular were substantially over-estimated in the earlier study.

## **2. Price Effect on Acquisitions**

Though differences in relative market prices between the two years have almost certainly been responsible for some of the differences in acquisition levels between the two years, the association is not an easy one to document. To a major extent, off-setting price movements occur within food categories and are therefore not evident at the relatively aggregated level of presentation found in Table V-7.

There are two food categories for which the impact of short-term prices is fairly evident, however. They are pork and turkey. In the case of pork, very high prices in 1996/97 were a major deterrent to the use of pork and are thought to be the principal reason that the quantity of acquisitions was off by 67.1 percent compared to the level in 1984/85.

Operating in the opposite direction, abundant supplies and low prices are responsible in large measure for the substantially higher level of turkey acquisitions in 1996/97. In this case, there were both increased commercial purchases and increased donations in response to the lower prices.

**Table V-7: Comparison of Summary Volume of Food Acquisitions by  
Public Unified NSLP School Districts, SYs 1984/85 and 1996/97**

Food group/subgroups	All Foods		Purchased Foods		Processed Foods Containing Donated Commodities		Donated Commodities	
	1984/85	1996/97	1984/85	1996/97	1984/85	1996/97	1984/85	1996/97
	(thou. lbs.)		(thou. lbs.)		(thou. lbs.)		(thou. lbs.)	
<b>All Foods</b>	<b>9,643,140</b>	<b>7,229,241</b>	<b>8,292,481</b>	<b>6,464,378</b>	<b>213,928</b>	<b>122,338</b>	<b>1,136,731</b>	<b>642,524</b>
<b>Grain products</b>	<b>416,553</b>	<b>212,216</b>	<b>145,068</b>	<b>138,041</b>	<b>95,484</b>	<b>233</b>	<b>176,001</b>	<b>73,942</b>
Breakfast cereals	16,108	25,931	11,617	25,182	8	0	4,482	749
Prepared flour mixes	110	15,146	110	14,567	0	0	0	579
Flours & other milled grains	181,122	114,276	31,547	56,598	2,594	0	146,981	57,678
Mixtures with grain	183,926	20,563	91,848	20,330	91,879	233	200	0
Pasta & noodles	23,893	23,027	8,528	14,079	780	0	14,585	8,948
Rice, barley & other grains	11,394	13,273	1,418	7,285	223	0	9,753	5,988
<b>Bakery products</b>	<b>436,779</b>	<b>457,788</b>	<b>373,509</b>	<b>449,243</b>	<b>58,229</b>	<b>8,547</b>	<b>5,041</b>	<b>0</b>
Biscuits, muffins, pancakes & waffles	6,740	85,313	6,602	83,121	138	2,192	0	0
Bread & rolls	276,601	232,871	229,447	229,495	47,154	3,376	0	0
Cakes & other bakery desserts	109,903	65,994	97,317	63,537	7,545	2,457	5,041	0
Pretzels & snack chips	32,395	55,804	30,741	55,567	1,654	238	0	0
Crackers	11,140	17,806	9,402	17,523	1,738	284	0	0
<b>Fats/oils</b>	<b>234,113</b>	<b>141,535</b>	<b>85,021</b>	<b>100,236</b>	<b>9,130</b>	<b>9,278</b>	<b>139,962</b>	<b>32,021</b>
Butter	77,567	4,610	337	4,120	0	0	77,230	490
Lard & other animal fats	280	2	280	2	0	0	0	0
Margarine	1,156	33,041	1,052	31,598	0	478	104	965
Salad dressings & mayonnaise	77,437	49,258	65,869	40,458	8,447	8,800	3,121	0
Vegetable oils & shortenings	77,673	54,624	17,483	24,058	683	0	59,507	30,566
<b>Red meats</b>	<b>642,137</b>	<b>313,852</b>	<b>430,353</b>	<b>159,597</b>	<b>17,944</b>	<b>36,518</b>	<b>193,841</b>	<b>117,737</b>
Beef & veal	391,909	206,053	200,951	82,378	8,442	30,714	182,517	92,961
Lamb	47	n/a	47	n/a	0	n/a	0	n/a
Mixed meats	39,894	36,844	39,206	36,198	686	645	2	0
Pork	210,287	69,262	190,149	39,460	8,816	5,026	11,322	24,776
Recipe mix	n/a	1,693	n/a	1,561	n/a	133	n/a	0
<b>Poultry</b>	<b>256,821</b>	<b>287,821</b>	<b>126,130</b>	<b>177,838</b>	<b>8,511</b>	<b>32,331</b>	<b>122,179</b>	<b>77,652</b>
Chicken	199,867	188,275	95,675	130,183	5,773	22,855	98,418	35,237
Game birds	14	n/a	14	n/a	0	n/a	0	n/a
Recipe mix	n/a	193	n/a	193	n/a	0	n/a	0
Turkey	56,940	99,353	30,441	47,462	2,738	9,476	23,761	42,415

**Table V-7: Comparison of Summary Volume of Food Acquisitions by  
Public Unified NSLP School Districts, SYs 1984/85 and 1996/97 (continued)**

Food group/subgroups	All Foods		Purchased Foods		Processed Foods Containing Donated Commodities		Donated Commodities	
	1984/85	1996/97	1984/85	1996/97	1984/85	1996/97	1984/85	1996/97
	(thou. lbs.)		(thou. lbs.)		(thou. lbs.)		(thou. lbs.)	
<b>Eggs</b>	<b>27,691</b>	<b>27,095</b>	<b>26,179</b>	<b>17,425</b>	<b>0</b>	<b>790</b>	<b>1,512</b>	<b>8,880</b>
Eggs	27,172	22,936	25,660	13,906	0	150	1,512	8,880
Mixtures with eggs	519	4,159	519	3,519	0	640	0	0
<b>Fish</b>	<b>61,588</b>	<b>30,078</b>	<b>55,374</b>	<b>27,766</b>	<b>588</b>	<b>428</b>	<b>5,625</b>	<b>1,884</b>
Fish	59,293	29,097	53,215	26,785	452	428	5,625	1,884
Shellfish	2,295	981	2,159	981	136	0	0	0
<b>Milk &amp; other dairy products</b>	<b>3,798,426</b>	<b>2,751,646</b>	<b>3,652,657</b>	<b>2,687,318</b>	<b>14,359</b>	<b>4,850</b>	<b>131,410</b>	<b>59,479</b>
Cheese	127,282	126,875	8,061	65,841	2,149	4,665	117,072	56,369
Cream	914	3,354	914	3,354	0	0	0	0
Ice cream & ice milk	71,681	69,395	65,159	69,210	6,522	185	0	0
Milk	3,595,862	2,544,674	3,575,836	2,541,565	5,688	0	14,338	3,110
Yogurt	2,687	7,348	2,687	7,348	0	0	0	0
<b>Fruits/juices</b>	<b>895,499</b>	<b>976,465</b>	<b>753,367</b>	<b>845,030</b>	<b>2,240</b>	<b>2,300</b>	<b>139,891</b>	<b>129,135</b>
Fruits	623,592	621,103	483,306	492,220	2,240	1,984	138,045	126,899
Juices	271,907	355,362	270,061	352,810	0	316	1,846	2,236
<b>Vegetables</b>	<b>985,211</b>	<b>890,084</b>	<b>835,965</b>	<b>780,620</b>	<b>3,536</b>	<b>1,923</b>	<b>145,710</b>	<b>107,542</b>
Green	18,484	201,959	18,484	194,061	0	0	0	7,899
Mixed vegetables	40,393	48,917	22,025	47,703	1	0	18,367	1,214
Mixtures with vegetables	41,785	7,260	41,771	7,260	14	0	0	0
Other vegetables	348,972	16,461	299,826	16,359	1,543	0	47,603	102
Potato & potato products	316,600	394,517	291,665	345,616	530	0	24,405	48,901
Tomato & tomato products	176,167	99,425	124,861	76,394	832	1,656	50,474	21,375
Yellow	42,810	121,545	37,333	93,227	616	267	4,861	28,051
<b>Legumes/nuts/seeds</b>	<b>889,194</b>	<b>69,317</b>	<b>822,879</b>	<b>41,270</b>	<b>523</b>	<b>107</b>	<b>65,791</b>	<b>27,940</b>
Dry beans/peas	98,390	51,403	56,023	35,066	60	107	42,307	16,230
Other nuts	769,400	196	764,617	196	247	0	4,536	0
Peanuts/peanut butter	20,570	13,995	1,405	2,285	216	0	18,948	11,710
Seeds	181	390	181	390	0	0	0	0
Soybeans & soy products	625	3,333	625	3,333	0	0	0	0
Lentils	28	n/a	28	n/a	0	n/a	0	n/a
<b>Sugar/desserts</b>	<b>159,766</b>	<b>135,501</b>	<b>148,589</b>	<b>134,885</b>	<b>2,839</b>	<b>587</b>	<b>8,338</b>	<b>29</b>
Candies/toppings	1,914	12,096	1,914	12,096	0	0	0	0
Gelatins	8,150	6,501	8,093	6,501	58	0	0	0
Jellies, jams & preserves	5,838	7,849	5,838	7,849	0	0	0	0
Puddings/pie filling	22,744	15,705	19,504	15,306	2,190	399	1,049	0

**Table V-7: Comparison of Summary Volume of Food Acquisitions by  
Public Unified NSLP School Districts, SYs 1984/85 and 1996/97 (continued)**

Food group/subgroups	Processed Foods Containing Donated							
	All Foods		Purchased Foods		Commodities		Donated Commodities	
	1984/85	1996/97	1984/85	1996/97	1984/85	1996/97	1984/85	1996/97
	(thou. lbs.)		(thou. lbs.)		(thou. lbs.)		(thou. lbs.)	
Sherbet/ices	4,036	16,442	3,522	16,254	514	188	0	0
Sugars	101,718	61,759	101,718	61,759	0	0	0	0
Syrups, molasses & honey	15,366	15,149	8,000	15,120	77	0	7,289	29
<b>Non dairy drinks</b>	<b>109,020</b>	<b>410,974</b>	<b>107,242</b>	<b>410,975</b>	<b>478</b>	<b>0</b>	<b>1,300</b>	<b>0</b>
Carbonated	7,636	91,849	7,636	91,849	0	0	0	0
Dry beverage	4,799	1,273	4,799	1,273	0	0	0	0
Fruit drinks	96,585	271,336	94,807	271,336	478	0	1,300	0
Water	n/a	46,516	n/a	46,516	n/a	0	n/a	0
<b>Soups/gravies</b>	<b>23,198</b>	<b>21,158</b>	<b>23,173</b>	<b>21,055</b>	<b>0</b>	<b>103</b>	<b>25</b>	<b>0</b>
Gravies	824	2,941	812	2,914	0	27	12	0
Soups	22,374	18,217	22,361	18,140	0	76	13	0
<b>Condiments</b>	<b>707,146</b>	<b>172,938</b>	<b>706,975</b>	<b>165,711</b>	<b>65</b>	<b>942</b>	<b>105</b>	<b>6,285</b>
Catsup & other sauces	667,433	114,494	667,368	107,267	65	942	0	6,285
Flavorings	6,029	13,869	6,029	13,869	0	0	0	0
Pickles/olives	33,684	44,575	33,578	44,575	0	0	105	0
<b>Prepared foods<sup>1/</sup></b>	<b>n/a</b>	<b>330,769</b>	<b>n/a</b>	<b>307,370</b>	<b>n/a</b>	<b>23,400</b>	<b>n/a</b>	<b>0</b>
Burritos/tacos	n/a	41,953	n/a	40,679	n/a	1,274	n/a	0
Meat or cheese filled pastry	n/a	10,533	n/a	10,071	n/a	462	n/a	0
Pizza	n/a	227,310	n/a	215,036	n/a	12,274	n/a	0
Prepared meals	n/a	34,956	n/a	28,758	n/a	6,198	n/a	0
Prepared sandwiches	n/a	16,017	n/a	12,826	n/a	3,192	n/a	0

<sup>1/</sup>A portion of the foods classified as "prepared foods" in 1996/97 were classified as "mixtures with grain" in 1984/85.

Note: "n/a" indicates category was not used; "0" indicates category was used but no volume was reported.

Source: *School Food Purchase Study*, 1998.

### 3. Changes in Beverage Use

From these data, it would appear that there has been a virtual revolution in beverage use within these school food programs. A comparison of the volume of acquisitions for major beverage categories is shown in Table V-8. As indicated, the volume of fluid milk purchases dropped sharply, offset partially by strong growth in fruit juices and drinks and carbonated beverages (and probably bottled water). While these changes are more pronounced than those found in the general population, they are consistent in direction. Between 1980 and 1992, for example, it is estimated that the per capita quantity of household purchases of beverages changed as follows: fluid milk and cream – 18.3 percent, carbonated drinks +21.0 percent, noncarbonated drinks and beverages (other than coffee) +34.1 percent, and fresh and canned fruit juices +15.5 percent.<sup>1</sup>

**Table V-8: Comparison of the Volume of Acquisitions for Major Beverage Categories in Public Unified NSLP School Districts, SYs 1984/85 and 1996/97**

Beverage	1984/85	1996/97	Percent change
	-----thousand pounds-----		%
Fluid milk	3,595,862	2,544,674	-29.2
Fruit juices	271,907	355,362	+30.7
Fruit drinks	96,585	271,336	+180.9
Carbonated sodas <sup>1/</sup>	7,636	91,849	+1,102.8
Dry beverage mix	4,799	1,273	-73.5
Bottled water	n/a	46,516	-
<b>Total</b>	<b>3,976,789</b>	<b>3,311,010</b>	<b>-16.7</b>

<sup>1/</sup>Districts in 34 states reported the acquisition of carbonated sodas. Of those sample districts purchasing carbonated sodas, 30 percent were in 2 states.

Sources: *School Food Purchase Study, 1987* and *School Food Purchase Study, 1998*.

<sup>1/</sup> David M. Smallwood, et. Al. *Food Spending in American Households, 1980-92*, USDA, ERS, Statistical Bulletin Number 888, October 1994.



#### 4. Increased Acquisition of Fresh Fruits and Vegetables

The relative importance of fresh produce (in terms of volume) was 28.5 percent greater in SY 1996/97 than in the earlier period. Approximately half of this difference is due to the increased acquisition of two items – fresh apples and fresh potatoes – in SY 1996/97, which is due in part to their attractive prices that year. However, there is a relatively consistent pattern of increased acquisitions across the entire list.

It will also be noted that a far larger number of fresh fruits and vegetables are now reaching school districts as donated commodities. This is a result of the Fresh Fruit and Vegetable Pilot Project that was active in 11 states at the time of the study. Under this program, districts in these states are able to use a portion of their entitlement funds to purchase fresh produce through a nationwide procurement system operated by the Department of Defense.

**Table V-9: Comparison of Fresh Fruit and Vegetable Acquisitions  
in SY 1984/85 and SY 1996/97**

Food Item	Acquisition weight as percent of total acquisition weight		Percent of item weight acquired as donated commodity	
	1984/85	1996/97	1984/85	1996/97
	-----percent-----			
Apples, fresh	0.73	1.23	14.1	15.0
Avocado, fresh	(1)	(1)	0.0	0.0
Bananas, fresh	0.50	0.61	0.0	1.3
Plantains, fresh	0.00	(1)	0.0	0.0
Blueberries, fresh	0.00	0.00	6.7	0.0
Coconut, fresh	0.01	0.00	0.0	0.0
Grapefruit, fresh	0.01	0.01	0.0	38.6
Grapes, fresh	0.08	0.17	0.0	2.6
Jicama	0.00	(1)	0.0	0.0
Kiwi	(1)	0.03	0.0	4.4
Lemons, fresh	(1)	0.01	0.0	0.6
Mangoes, fresh	(1)	0.00	0.0	0.0
Melons, watermelons	0.07	0.20	0.0	4.4
Melons, cantaloupes	0.07	0.09	0.0	7.0
Melons, honeydew	0.01	0.03	0.0	3.4
Melons, other	0.00	(1)	0.0	0.0
Nectarines, fresh	0.02	0.04	0.0	0.8
Oranges, fresh	0.54	0.90	0.0	9.9
Oranges, mandarin, fresh	(1)	(1)	0.0	0.0
Peaches, fresh	0.02	0.02	13.6	8.1
Pears, fresh	0.09	0.18	61.8	33.2

**Table V-9: Comparison of Fresh Fruit and Vegetable Acquisitions  
in SY 1984/85 and SY 1996/97 (continued)**

Food Item	Acquisition weight as percent of total acquisition weight		Percent of item weight acquired as donated commodity	
	1984/85	1996/97	1984/85	1996/97
	-----percent-----			
Pineapple, fresh	(1)	0.01	0.0	8.8
Plums, fresh	0.02	0.03	0.0	0.8
Prunes, fresh	0.00	(1)	0.0	98.2
Strawberries, fresh	0.01	0.03	0.0	4.0
Tangelos, fresh	0.01	(1)	0.0	0.0
Mixed fruit, fresh	0.00	(1)	0.0	0.0
Bean sprouts, fresh	(1)	(1)	0.0	0.5
Green beans, fresh	(1)	0.00	0.0	0.0
Broccoli, fresh (includes florets)	0.02	0.07	0.0	0.9
Cabbage, head	0.45	0.14	0.0	0.9
Cabbage, shredded	0.00	0.01	0.0	1.7
Cabbage, shredded w/other vegetables	0.00	0.03	0.0	0.2
Carrots, fresh	0.32	0.12	0.0	1.9
Carrots sticks/baby carrots/shredded carrots	0.00	0.18	0.0	6.5
Cauliflower, heads	0.02	0.03	0.0	0.1
Cauliflower, florets	0.00	0.01	0.0	7.8
Celery, fresh	0.24	0.08	0.0	0.7
Celery sticks/diced celery	0.00	0.05	0.0	4.4
Cilantro	0.00	(1)	0.0	0.8
Corn on the cob, fresh	(1)	(1)	0.0	16.7
Cucumbers, fresh	0.06	0.13	0.0	1.0
Eggplant, fresh	(1)	0.00	0.0	0.0
Kale, fresh	0.00	0.01	0.0	0.0
Lettuce, heads	1.12	0.85	0.0	0.4
Lettuce, shredded/chopped	0.13	0.23	0.0	2.2
Lettuce, salad mix	0.10	0.36	0.0	2.9
Mushrooms, fresh	(1)	(1)	0.0	1.3
Mustard greens, fresh	(1)	0.00	0.0	0.0
Okra, fresh	(1)	0.00	0.0	0.0
Onions, green, fresh	0.00	(1)	0.0	0.0
Onions, fresh	0.14	0.09	0.0	0.4
Parsley, fresh	(1)	(1)	0.0	0.5
Peas, green, fresh	(1)	0.00	0.0	0.0
Peppers, fresh	0.05	0.06	0.0	0.9
Potatoes, fresh	0.27	0.55	0.0	8.6
Radishes, fresh	0.02	0.01	0.0	3.0
Spinach, fresh	0.01	0.01	0.0	2.0
Alfalfa sprouts	(1)	(1)	0.0	3.8
Squash, fresh	(1)	0.01	0.0	0.1
Sweet potatoes, fresh	0.01	(1)	0.0	0.0
Tomatoes, fresh	0.38	0.43	0.0	1.1
Tomatoes, cherry, fresh	0.03	0.02	0.0	6.6
Mixed vegetables, fresh	(1)	0.01	0.0	79.0
<b>Total</b>	<b>5.57</b>	<b>7.16</b>	<b>2.9</b>	<b>6.7</b>
Number of items	51	54	4	47

(1) Less than .005 percent.

Source: *School Food Purchase Study, 1998.*

## **5. Changing Role of Donated Commodities**

As noted elsewhere in this report, USDA spending on the commodity donation component of the NSLP has declined over the last several years. This diminished financial support is evident in this comparison. Results of the 1984/85 study indicated that donated commodities (excluding processed foods containing donated commodities) accounted for 11.8 percent of the total volume of all foods acquired (by weight) and 29.6 percent of the total dollar value of food acquisitions. The comparable shares in 1996/97 were 8.9 percent and 12.7 percent, respectively.<sup>1</sup> USDA donations of butter, one of the foods most affected by the changes taking place over this period, fell from \$193.9 million in SY 1984/85 to \$0.9 million in SY 1996/97.

Another noteworthy change that has occurred over this period is the form in which donated commodities reach the school districts. As noted earlier, donated commodities are received by districts in one of two forms. They are either still in the form in which they were initially acquired by USDA, i.e., as "donated commodities" or they occur as an ingredient in further processed foods, e.g., as ground beef in a taco or flour in a pizza. Although we do not have information on the volume or value of donated commodities used as ingredients in processed foods from this study, we can compare those foods that reach school districts as donated commodities with those processed foods that contain donated commodities as ingredients.

In 1984/85, the value of processed foods containing donated commodities was equivalent to 12.1 percent of the value of donated commodities; in 1996/97, it was equivalent to 34.4 percent. That is, a much higher share of all donated commodities are being further processed before reaching the school districts. Of course, this is a larger share of a smaller quantity since the total quantity of commodity donations was nearly cut in half between these two periods.

It should be noted that this further processing often results in a relatively slight change in form (e.g. deboning chicken) rather than preparation of an entirely new food. These changes are especially evident among meat and poultry. In 1984/85, the value of processed products containing donated beef reaching school districts was equivalent to only 3.3 percent of the value of beef in its donated form and the comparable level for all donated chicken was 3.2 percent. In 1996/97, the processed forms of these donations had climbed to 45.5 percent for beef and 81.0 percent for poultry.

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1/ As noted earlier, donated commodities are valued at commercial price levels. If these commodities were priced at USDA-assigned values, the shares would be slightly lower.

**E. Comparison of the Mean Number of Food Items  
Acquired in SY 1984/85 and SY 1996/97**

As noted earlier, estimates of the number of food items acquired are subject to underestimation when the pattern of acquisition is highly seasonal. This results from the use of a methodology based on quarterly subsamples. The same methodology was used in the earlier study. Thus, while the absolute numbers appearing in Table V-10 should be interpreted with caution, a comparison of results from the two study years is appropriate.

As in 1984/85, larger school districts were found to have purchased a greater variety of food items than smaller districts in 1996/97 (Table V-10). Though the direction of the relationship was the same in both periods, the number of foods purchased has increased significantly within each size class.

In contrast to the increased number of foods purchased by larger districts, the number of donated foods and the number of processed foods containing donated commodities is essentially the same regardless of district size. Since the same list of donated commodities are made available to districts of all sizes, this is what one would expect. However, two changes with regard to donated commodities are to be seen in these numbers. One is the increased number of donated commodities received by districts of all sizes. The other change is the uniform number of processed foods containing donated commodities that has emerged since the last study when the number of these foods was strongly tilted in favor of the largest districts. Whether this is a result of the SOC processing or increased use of state processing agreements, it appears to have leveled access to processed foods.

**Table V-10: Comparison of the Mean Number of Individual Food Items  
Acquired by Public Unified NSLP School Districts,  
SYs 1984/85 and 1996/97, by School District Enrollment**

School district enrollment	<u>Purchased foods</u>		Processed foods containing donated <u>commodities</u>		<u>Donated commodities</u>	
	1984/85	1996/97	1984/85	1996/97	1984/85	1996/97
	-----number of food items-----					
Less than 1,000	65	101	1	6	17	19
1,000 to 4,999	96	150	3	5	17	20
5,000 to 24,999	120	186	4	5	17	20
25,000 or more	150	208	8	6	16	21

Source: *School Food Purchase Study, 1987* and *School Food Purchase Study, 1998*.