



United States  
Department of  
Agriculture

National  
Agricultural  
Statistics  
Service



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# Capacity of Refrigerated Warehouses 1999 Summary

## January 2000

# USDA



## General Refrigerated Warehouse Capacity Up 6 Percent

**General refrigerated storage capacity** in the United States totaled 2.90 billion gross cubic feet on October 1, 1999, an increase of 6 percent since the previous survey was conducted two years ago. While most of the increase was due to new construction, some was due to the increased survey coverage of existing warehouses. This was the 41st biennial survey of refrigerated warehouses. The five States with the largest gross general warehouse capacity (million cubic feet) were: California with 393; Florida 233; Washington, 187; Wisconsin and Texas each had 155.

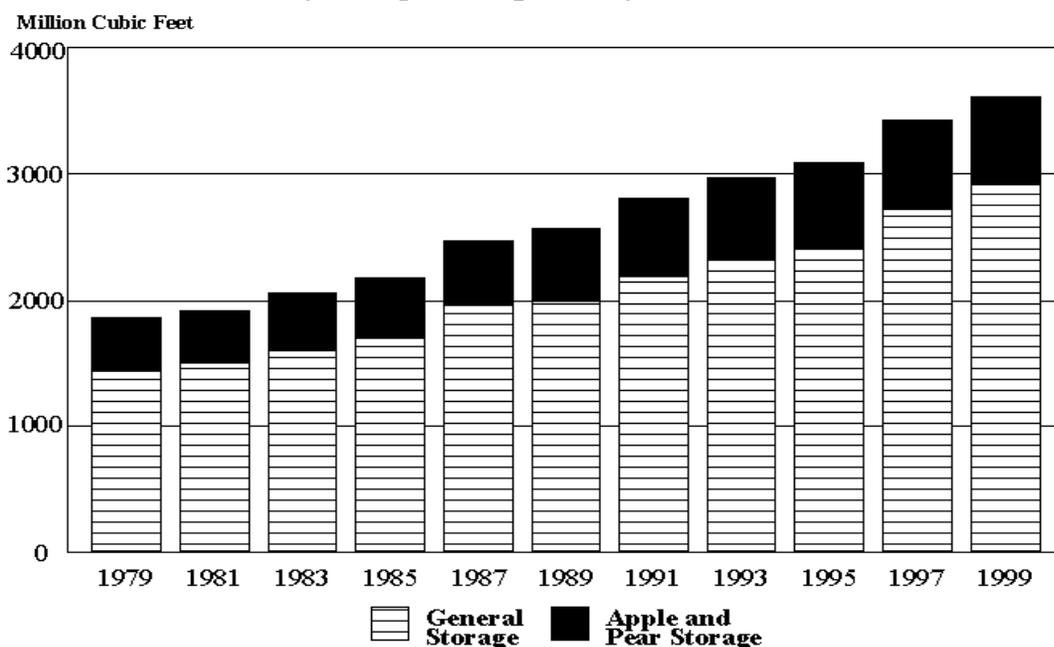
**Usable refrigerated space** in general storages was 2.28 billion cubic feet, or 79 percent of the gross space. Usable freezer space was 78 percent of the usable refrigerated space with the remaining 22 percent used as cooler space. Convertible refrigerated space was classified as usable freezer space.

**Public general warehouse capacity** totaled 2.15 billion gross cubic feet in 1999, accounting for 74 percent of the general storage. Public general storage capacity has increased 36 percent since 1991 and is over twice the capacity of 1981.

**Private and semiprivate general warehouse capacity** totaled 757 million gross cubic feet, or 26 percent of the general gross refrigerated space.

**Apple and pear storage** totaled 702 million gross cubic feet, up slightly from October 1, 1997. Controlled atmosphere (CA) capacity totaled 155 million bushels, up 3 percent from 1997. The State of Washington had 80 percent of the Nation's CA capacity.

**Gross Refrigerated Storage Capacity  
by Principal Storage Activity, U. S. 1979 - 1999**



**Refrigerated Warehouses: Number by Type, State,  
and United States, October 1, 1999**

State	General Storages			Apple & Pear Storages			Total
	Public	Private & Semiprvt	Total	Regular	CA	All <sup>1</sup>	
	<i>Number</i>	<i>Number</i>	<i>Number</i>	<i>Number</i>	<i>Number</i>	<i>Number</i>	<i>Number</i>
AL	14	10	24				24
AK		27	27				27
AZ	5	2	7	1	2	2	9
AR	15	8	23				23
CA	119	93	212	33	6	34	246
CO	14	4	18	8	1	8	26
CT	3	5	8	30	8	31	39
DE	4	6	10	2		2	12
FL	36	38	74				74
GA	32	30	62				62
HI	5	1	6				6
ID	6	15	21	9	7	9	30
IL	21	12	33	15	1	15	48
IN	15	4	19	28	3	30	49
IA	25	9	34	2		2	36
KS	8	5	13	1		1	14
KY	4		4	4		4	8
LA	12	9	21				21
ME	1	18	19	29	19	31	50
MD	5	6	11	7	3	8	19
MA	20	15	35	55	27	59	94
MI	28	18	46	155	102	181	227
MN	26	23	49	13	1	13	62
MS	7	4	11				11
MO	17	8	25	4		4	29
MT	5	1	6				6
NE	15	6	21	2	1	2	23
NV	2	3	5				5
NH	1	1	2	23	13	23	25
NJ	28	10	38	21	5	24	62
NM	1	2	3	1	1	2	5
NY	37	48	85	147	93	156	241
NC	18	5	23	19	3	21	44
ND	3	1	4				4
OH	20	6	26	55	13	55	81
OK	4	3	7	1		1	8
OR	14	27	41	47	18	51	92
PA	34	10	44	117	16	118	162
RI		2	2	4	3	7	9
SC	9	4	13	4		4	17
SD	3	4	7				7
TN	14	4	18				18
TX	38	33	71				71
UT	9	7	16	23	9	24	40
VT		2	2	12	6	12	14
VA	22	12	34	40	10	40	74
WA	37	32	69	229	206	267	336
WV	2	2	4	11	5	15	19
WI	43	78	121	17	2	18	139
WY	1		1				1
US	802	673	1,475	1,169	584	1,274	2,749

<sup>1</sup> Firms with both regular and CA storage are counted once.

**General Refrigerated Warehouses: Number by Size Group,  
United States, October 1, 1999**

Size (Cubic Feet)	Public	Private	All
	<i>Number</i>	<i>Number</i>	<i>Number</i>
0-499,999	135	341	476
500,000-999,999	123	120	243
1,000,000-2,499,999	237	131	368
2,500,000-4,999,999	194	56	250
5,000,000 and Over	113	25	138

**Apple and Pear Refrigerated Warehouses: Number by Size Group,  
United States, October 1, 1999**

Size (Bushels)	Regular <sup>1</sup>	CA <sup>1</sup>	All
	<i>Number</i>	<i>Number</i>	<i>Number</i>
0-49,999	776	217	689
50,000-99,999	140	103	193
100,000-499,999	210	179	257
500,000-999,999	34	41	68
1,000,000 and Over	9	44	67

<sup>1</sup> Number of operations with regular or CA storage. Many operators have both types in the same building, thus the count of regular plus CA does not equal "All".

**Refrigerated Storage: Gross Capacity by Type of Warehouse,  
United States, October 1, 1981-99**

Year	Public	Private and Semi-private	Total <sup>1</sup>
	<i>Million Cubic Feet</i>	<i>Million Cubic Feet</i>	<i>Million Cubic Feet</i>
1981	983	942	1,925
1983	1,047	1,019	2,067
1985	1,130	1,056	2,186
1987	1,306	1,171	2,476
1989	1,414	1,158	2,571
1991	1,600	1,208	2,808
1993	1,700	1,272	2,972
1995	1,765	1,323	3,088
1997	2,068	1,359	3,427
1999	2,168	1,437	3,606

<sup>1</sup> Totals may not add due to rounding.

**Refrigerated Space: By Type of Warehouse, United States, October 1, 1999<sup>1</sup>**

Type	Number	Gross Space			Usable Space		
		Cooler	Freezer	Total	Cooler	Freezer	Total
		<i>1,000 Cubic Feet</i>					
General							
Public	798	354,935	1,791,708	2,146,643	276,610	1,421,984	1,698,594
Private & Semiprvt	673	298,599	457,906	756,505	225,790	357,194	582,984
Total	1,471	653,537	2,249,615	2,903,152	502,401	1,779,175	2,281,576
Apple							
Public	18	21,315	375	21,690	17,378	325	17,703
Private & Semiprvt	1,257	670,874	9,862	680,736	542,785	7,295	550,080
Total	1,275	692,189	10,237	702,426	560,163	7,620	567,783
Total	2,746	1,345,726	2,259,852	3,605,578	1,062,564	1,786,795	2,849,359

<sup>1</sup> Totals may not add due to rounding.

**Gross Refrigerated Space: By Type of Warehouse, United States, October 1, 1981-99<sup>1</sup>**

Type	1981	1983	1985	1987	1989
	<i>1,000 Cubic Feet</i>				
General					
Public	956,153	1,028,300	1,110,394	1,285,860	1,391,901
Private and Semiprivate	539,992	573,463	589,132	676,369	603,402
Total	1,496,145	1,601,763	1,699,526	1,962,229	1,995,303
Apple					
Public	26,940	18,871	19,383	19,750	21,945
Private and Semiprivate	401,889	445,996	466,768	494,404	554,150
Total	428,829	464,867	486,151	514,154	576,095
Total, All	1,924,973	2,066,631	2,185,677	2,476,384	2,571,397
	1991	1993	1995	1997	1999
	<i>1,000 Cubic Feet</i>				
General					
Public	1,572,879	1,678,461	1,741,585	2,043,908	2,146,643
Private and Semiprivate	624,005	658,893	674,649	683,372	756,505
Total	2,196,884	2,337,354	2,416,234	2,727,280	2,903,152
Apple					
Public	27,227	21,645	23,419	23,907	21,690
Private and Semiprivate	584,296	613,093	647,993	675,838	680,736
Total	611,523	634,737	671,412	699,745	702,426
Total, All	2,808,407	2,972,092	3,087,646	3,427,025	3,605,578

<sup>1</sup> Totals may not add due to rounding.

**General Storages: Gross and Usable Refrigerated Space  
by State and United States, October 1, 1999<sup>1 2</sup>**

State	Gross Space			Usable Space		
	Public	Private & Semiprvt	Total	Public	Private & Semiprvt	Total
	<i>1,000 Cubic Feet</i>					
AL	28,450	1,855	30,305	23,551	1,568	25,120
AK	*	*	2,200	*	*	2,051
AZ	*	*	*	*	*	*
AR	64,232	13,089	77,321	54,374	9,204	63,578
CA	274,009	119,236	393,245	211,114	95,241	306,355
CO	14,778	1,846	16,623	10,428	1,481	11,909
CT	5,017	241	5,258	3,847	190	4,037
DE	12,156	14,006	26,162	8,017	10,585	18,602
FL	93,035	140,036	233,072	76,005	114,336	190,341
GA	111,456	12,543	123,999	89,701	10,446	100,146
HI	1,586	2,967	4,553	1,139	1,187	2,326
ID	32,730	22,863	55,593	29,295	18,759	48,053
IL	86,253	25,851	112,105	63,121	19,747	82,869
IN	40,840	1,287	42,128	32,600	954	33,555
IA	60,264	9,175	69,441	50,462	6,045	56,508
KS	57,058	23,787	80,845	47,005	17,495	64,500
KY	15,029	*	15,029	11,905	*	11,905
LA	6,198	3,009	9,208	5,146	1,823	6,969
ME	1,834	10,549	12,383	1,391	7,709	9,100
MD	18,672	5,483	24,155	14,287	3,689	17,977
MA	43,220	5,445	48,664	34,721	4,291	39,012
MI	69,417	14,768	84,185	54,363	11,921	66,283
MN	41,434	18,131	59,565	32,024	12,472	44,495
MS	20,030	1,852	21,882	15,660	1,292	16,952
MO	87,374	8,579	95,953	71,012	7,204	78,216
MT	*	*	*	*	*	*
NE	34,378	3,510	37,889	27,574	2,736	30,310
NV	3,330	4,640	7,970	3,186	3,257	6,441
NH	*	*	*	*	*	*
NJ	67,318	6,131	73,449	51,449	4,794	56,243
NM	*	*	935	*	*	848
NY	51,096	33,111	84,206	35,197	23,884	59,082
NC	51,544	8,880	60,424	42,273	7,024	49,297
ND	4,564	3,562	8,126	3,597	2,625	6,222
OH	50,783	11,582	62,365	40,680	8,562	49,241
OK	6,514	2,190	8,704	4,295	1,749	6,044
OR	75,686	38,181	113,867	63,196	29,488	92,684
PA	113,522	18,586	132,108	90,956	14,797	105,753
RI	*	*	*	*	*	*
SC	19,967	1,375	21,343	16,095	888	16,983
SD	3,865	8,819	12,684	2,934	3,827	6,760
TN	31,016	8,122	39,138	25,295	5,058	30,352
TX	125,049	29,483	154,532	82,824	24,975	107,800
UT	17,106	8,980	26,086	14,060	7,336	21,396
VT	*	*	*	*	*	*
VA	39,723	17,776	57,499	32,302	14,896	47,198
WA	139,199	47,891	187,090	114,924	36,364	151,287
WV	*	*	2,420	*	*	1,096
WI	115,998	38,599	154,596	97,818	26,532	124,350
WY	*	*	*	*	*	*
Oth Sts	10,913	8,489	13,847	8,771	6,553	11,330
US	2,146,643	756,505	2,903,152	1,698,594	582,984	2,281,576

\* Not published to avoid disclosure of individual operations. Included in "Other States" and U.S. totals.

<sup>1</sup> Totals may not add due to rounding.

<sup>2</sup> Includes frozen juice tank storage capacity.

**General Storages: Gross and Usable Cooler Space  
by State and United States, October 1, 1999<sup>1 2</sup>**

State	Gross Space			Usable Space		
	Public	Private & Semiprvt	Total	Public	Private & Semiprvt	Total
	<i>1,000 Cubic Feet</i>					
AL	*	*	5,178	*	*	4,455
AK	*	*	245	*	*	238
AZ	*	*	*	*	*	*
AR	*	*	2,840	*	*	2,180
CA	65,583	81,279	146,862	51,564	64,696	116,259
CO	*	*	4,358	*	*	3,133
CT	*	*	1,026	*	*	719
DE	*	*	*	*	*	*
FL	16,528	49,403	65,932	13,403	39,782	53,185
GA	30,910	8,181	39,091	24,305	6,849	31,153
HI	*	*	*	*	*	*
ID	*	*	1,182	*	*	889
IL	14,930	9,192	24,122	11,335	6,444	17,780
IN	4,021	495	4,517	3,351	360	3,712
IA	6,326	5,413	11,740	5,105	3,153	8,258
KS	*	*	*	*	*	*
KY	*	*	*	*	*	*
LA	1,053	824	1,878	877	510	1,387
ME	*	*	360	*	*	274
MD	*	*	1,215	*	*	942
MA	5,294	884	6,178	4,319	713	5,032
MI	8,489	5,199	13,688	7,008	4,443	11,451
MN	7,524	8,078	15,602	5,980	5,128	11,108
MS	*	*	*	*	*	*
MO	*	*	30,167	*	*	24,778
MT	*	*	*	*	*	*
NE	*	*	8,630	*	*	7,076
NV	*	*	1,841	*	*	1,067
NH	*	*	*	*	*	*
NJ	22,428	3,728	26,156	17,456	2,916	20,372
NM	*	*	*	*	*	*
NY	10,248	14,611	24,859	7,370	10,456	17,827
NC	2,051	2,763	4,814	1,863	1,994	3,857
ND	*	*	*	*	*	*
OH	5,168	1,112	6,280	3,814	911	4,725
OK	*	*	2,545	*	*	2,076
OR	*	*	3,036	*	*	2,312
PA	*	*	16,581	*	*	11,647
RI	*	*	*	*	*	*
SC	*	*	1,203	*	*	883
SD	*	*	6,772	*	*	3,189
TN	*	*	927	*	*	724
TX	19,287	18,449	37,736	11,696	15,348	27,045
UT	*	*	3,080	*	*	2,341
VT	*	*	*	*	*	*
VA	11,120	7,225	18,345	9,227	5,806	15,033
WA	6,171	8,833	15,004	5,133	5,942	11,074
WV	*	*	*	*	*	*
WI	32,802	30,591	63,392	27,015	20,663	47,679
WY	*	*	*	*	*	*
Oth Sts	85,002	42,339	36,155	65,789	29,676	26,541
US	354,935	298,599	653,537	276,610	225,790	502,401

\* Not published to avoid disclosure of individual operations. Included in "Other States" and U.S. totals.

<sup>1</sup> Totals may not add due to rounding.

<sup>2</sup> Includes frozen juice tank storage capacity.

**General Storages: Gross and Usable Freezer Space  
by State and United States, October 1, 1999<sup>1,2</sup>**

State	Gross Space			Usable Space		
	Public	Private & Semiprvt	Total	Public	Private & Semiprvt	Total
	<i>1,000 Cubic Feet</i>					
AL	*	*	25,127	*	*	20,665
AK	*	*	1,955	*	*	1,813
AZ	*	*	*	*	*	*
AR	*	*	74,481	*	*	61,398
CA	208,426	37,957	246,383	159,550	30,545	190,096
CO	*	*	12,265	*	*	8,776
CT	*	*	4,232	*	*	3,318
DE	*	*	*	*	*	*
FL	76,507	90,633	167,140	62,602	74,554	137,156
GA	80,546	4,362	84,908	65,396	3,597	68,993
HI	*	*	*	*	*	*
ID	*	*	54,411	*	*	47,164
IL	71,323	16,659	87,983	51,786	13,303	65,089
IN	36,819	792	37,611	29,249	594	29,843
IA	53,938	3,762	57,701	45,357	2,892	48,250
KS	*	*	*	*	*	*
KY	*	*	*	*	*	*
LA	5,145	2,185	7,330	4,269	1,313	5,582
ME	*	*	12,023	*	*	8,826
MD	*	*	22,940	*	*	17,035
MA	37,926	4,561	42,486	30,402	3,578	33,980
MI	60,928	9,569	70,497	47,355	7,478	54,832
MN	33,910	10,053	43,963	26,044	7,344	33,387
MS	*	*	*	*	*	*
MO	*	*	65,786	*	*	53,438
MT	*	*	*	*	*	*
NE	*	*	29,259	*	*	23,234
NV	*	*	6,129	*	*	5,374
NH	*	*	*	*	*	*
NJ	44,890	2,403	47,293	33,993	1,878	35,871
NM	*	*	*	*	*	*
NY	40,848	18,500	59,347	27,827	13,428	41,255
NC	49,493	6,117	55,610	40,410	5,030	45,440
ND	*	*	*	*	*	*
OH	45,615	10,470	56,085	36,866	7,651	44,516
OK	*	*	6,159	*	*	3,968
OR	*	*	110,831	*	*	90,372
PA	*	*	115,527	*	*	94,106
RI	*	*	*	*	*	*
SC	*	*	20,140	*	*	16,100
SD	*	*	5,912	*	*	3,571
TN	*	*	38,211	*	*	29,628
TX	105,762	11,034	116,796	71,128	9,627	80,755
UT	*	*	23,006	*	*	19,055
VT	*	*	*	*	*	*
VA	28,603	10,551	39,154	23,075	9,090	32,165
WA	133,028	39,058	172,086	109,791	30,422	140,213
WV	*	*	*	*	*	*
WI	83,196	8,008	91,204	70,803	5,869	76,671
WY	*	*	*	*	*	*
Oth Sts	594,805	171,232	137,644	486,081	129,001	107,240
US	1,791,708	457,906	2,249,615	1,421,984	357,194	1,779,175

\* Not published to avoid disclosure of individual operations. Included in "Other States" and U.S. totals.

<sup>1</sup> Totals may not add due to rounding.

<sup>2</sup> Includes frozen juice tank storage capacity.

**Apple and Pear Storages: Gross and Usable Refrigerated Space, Regular  
and CA Capacity by State and United States, October 1, 1999<sup>1,2</sup>**

State	Refrigerated Space		Apple Storage Capacity		
	Gross	Usable	Regular	Controlled Atmosphere	Total
	<i>1,000 Cubic Feet</i>	<i>1,000 Cubic Feet</i>	<i>1,000 Bushels</i>	<i>1,000 Bushels</i>	<i>1,000 Bushels</i>
CA	30,697	23,226	6,503	1,557	8,060
CO	2,584	2,115	646	163	809
CT	1,738	1,389	408	157	565
ID	5,978	5,053	1,719	1,034	2,753
IL	1,231	1,030	355	80	435
IN	2,324	1,817	414	185	599
KY	139	110	36	0	36
ME	4,337	3,729	776	904	1,680
MD	1,529	1,214	208	354	562
MA	4,377	3,600	972	587	1,559
MI	32,838	28,787	4,718	7,733	12,451
MN	796	683	272	33	305
NH	2,004	1,752	329	492	821
NJ	5,787	4,870	565	183	747
NY	35,251	29,886	5,835	7,053	12,888
NC	5,098	4,421	1,621	480	2,101
OH	3,393	2,777	800	328	1,129
OR	49,673	39,486	7,996	3,774	11,769
PA	23,998	19,358	4,537	2,785	7,323
RI	181	167	32	25	57
SC	608	482	193	0	193
UT	4,206	3,599	533	565	1,099
VT	2,611	2,220	353	607	960
VA	14,088	12,243	3,149	1,612	4,761
WA	456,040	364,804	59,171	123,254	182,424
WV	7,135	5,859	1,923	494	2,417
WI	795	690	253	77	330
Oth Sts	2,991	2,415	575	339	914
US	702,427	567,782	104,892	154,855	259,747

\* Not published to avoid disclosure of individual operations. Included in "Other States" and U.S. totals.

<sup>1</sup> Totals may not add due to rounding.

<sup>2</sup> Firms in this table store only apples or pears. Nearly all the storages are private and nearly all the space is cooler, thus public use and freezer space breakouts are not presented at the State level. See page 4 for U.S. totals.



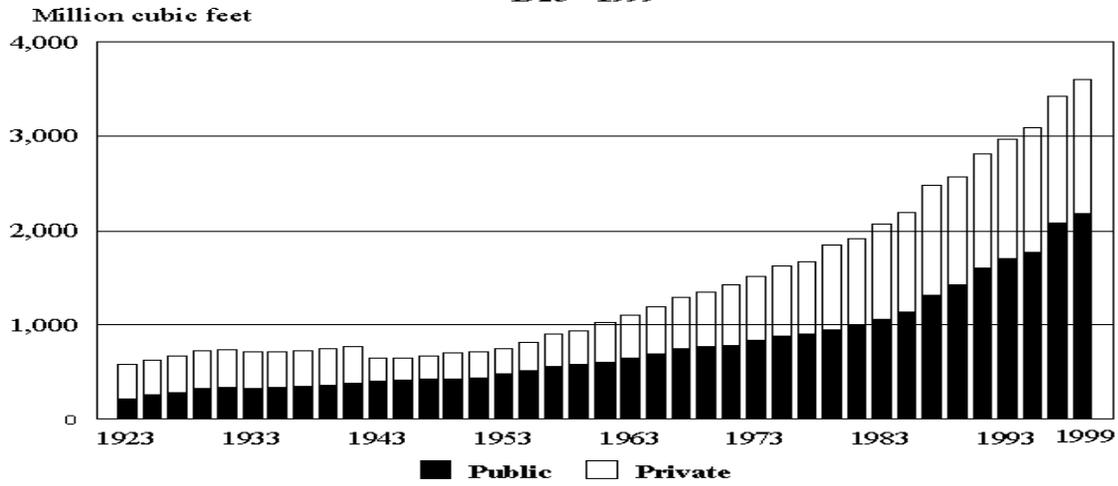
**Refrigerated Warehouses: Gross Refrigerated Space, by Type of Warehouse  
and Temperature Range, October 1, 1923-99, United States**

Year	Total General <sup>1</sup>			Apple and Pear <sup>2</sup>	Total	
	Cooler	Freezer	Total		Public	Private & Semi-Private
	1,000 cu ft					
1923	470,506	114,898	585,404		205,936	379,468
1925	498,532	128,137	626,669		242,565	384,104
1927	513,761	154,085	667,846		273,897	393,949
1929	558,029	170,566	728,595		316,810	411,785
1931	561,793	179,050	740,843		325,703	415,140
1933	542,189	169,753	711,942		317,211	394,731
1935	557,976	152,594	710,570		322,451	388,119
1937	568,013	162,309	730,322		333,834	396,488
1939	562,934	183,506	746,440		351,368	395,072
1941	567,260	199,123	766,383		371,771	394,612
1943	449,509	201,757	651,266		389,992	261,274
1945	423,504	222,687	646,191		403,832	242,359
1947	433,219	241,822	675,041		408,232	266,809
1949	436,058	264,720	700,778		413,256	287,522
1951	406,786	304,230	711,016		425,114	285,902
1953	400,722	347,328	748,050		466,470	281,580
1955	279,422	373,974	653,396	159,621	498,599	314,418
1957	280,827	428,120	708,947	192,450	545,061	356,336
1959	278,944	455,781	734,725	207,542	567,251	375,016
1961	285,927	512,938	798,865	225,179	593,863	430,181
1963	289,276	575,370	864,646	243,404	630,605	477,445
1965	304,958	639,883	944,841	253,965	681,035	517,771
1967	307,900	711,790	1,019,690	274,415	734,804	559,301
1969	295,253	766,678	1,061,931	290,815	762,203	590,543
1971	304,236	811,922	1,116,158	310,819	774,263	652,714
1973	308,272	888,783	1,197,055	318,113	828,691	686,477
1975	317,776	947,998	1,265,774	365,083	876,292	754,565
1977	335,882	962,770	1,298,652	379,880	893,589	784,943
1979	359,533	1,078,343	1,437,876	414,588	940,005	912,459
1981	361,863	1,134,282	1,496,145	428,829	983,093	941,881
1983	408,851	1,192,912	1,601,763	464,867	1,047,171	1,019,459
1985	438,127	1,261,399	1,699,526	486,151	1,129,777	1,055,900
1987	532,310	1,429,917	1,962,227	514,154	1,305,608	1,170,773
1989	498,262	1,497,039	1,995,301	576,095	1,413,845	1,157,551
1991	515,900	1,680,984	2,196,884	611,523	1,600,106	1,208,301
1993	559,971	1,777,383	2,337,355	634,737	1,700,106	1,271,986
1995	550,489	1,865,745	2,416,234	671,412	1,765,004	1,322,642
1997	634,473	2,092,807	2,727,280	699,745	2,067,815	1,359,210
1999	653,537	2,249,615	2,903,152	702,426	2,168,333	1,437,241

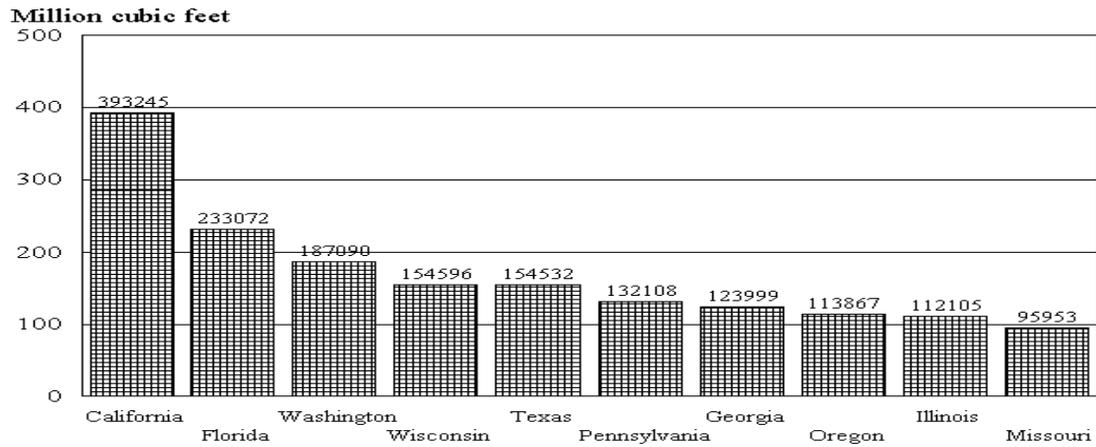
<sup>1</sup> Includes meat packers.

<sup>2</sup> From 1923 to 1953 included in total.

**Total Gross Refrigerated Space, Public and Private  
United States  
1923 - 1999**



**Gross Refrigerated Space,  
10 Largest States, October 1, 1999**



**Public General Warehouses: Cooler Space Occupied  
by Month, 1940-1999, United States**

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
	<i>Percent</i>	<i>Percent</i>	<i>Percent</i>	<i>Percent</i>	<i>Percent</i>	<i>Percent</i>	<i>Percent</i>	<i>Percent</i>	<i>Percent</i>	<i>Percent</i>	<i>Percent</i>	<i>Percent</i>
1940	45	39	36	37	41	45	52	55	57	57	61	60
1941	52	46	40	40	47	53	58	58	61	63	68	64
1942	60	55	52	55	58	66	68	69	70	74	74	66
1943	60	59	57	61	64	68	76	77	77	75	77	73
1944	68	68	74	80	82	84	85	84	81	78	80	76
1945	72	70	68	67	66	66	65	67	69	67	65	64
1946	60	62	67	75	77	79	76	80	78	80	77	69
1947	65	62	61	65	68	74	77	76	73	76	78	74
1948	69	65	59	62	65	67	67	65	64	64	59	54
1949	52	48	48	49	50	52	53	53	60	68	67	64
1950	59	55	54	54	56	60	61	64	63	72	71	67
1951	65	60	60	59	62	65	64	65	65	69	66	63
1952	59	57	59	59	61	62	63	64	65	69	67	64
1953	61	57	56	57	61	61	62	64	65	70	67	63
1954	60	58	59	61	64	64	63	65	67	74	72	67
1955	63	60	58	60	60	61	62	64	64	68	65	60
1956	58	58	55	56	57	59	60	63	64	71	66	61
1957	57	55	55	54	55	57	57	59	60	63	59	55
1958	53	50	50	52	50	49	48	49	48	56	54	51
1959	49	47	46	47	49	51	51	53	55	59	57	53
1960	52	50	48	51	50	51	52	52	52	58	56	55
1961	53	51	52	51	53	54	57	54	53	60	60	57
1962	54	54	56	55	59	61	64	66	65	70	68	63
1963	58	55	54	55	53	55	56	58	56	59	59	58
1964	56	54	55	54	56	56	56	57	57	58	57	56
1965	53	53	53	53	54	54	54	56	54	55	55	53
1966	50	49	51	50	50	50	51	55	53	57	56	56
1967	57	56	56	57	59	60	60	61	60	64	62	61
1968	60	58	59	59	60	62	60	64	62	68	65	64
1969	61	60	60	61	61	61	62	63	62	66	64	62
1970	60	60	59	58	58	59	60	61	60	65	64	63
1971	61	60	59	58	59	59	61	61	61	64	63	62
1972	59	58	57	57	57	57	59	60	56	59	58	56
1973	55	56	54	52	53	53	54	54	50	53	54	56
1974	58	59	63	65	64	65	64	63	62	64	63	62
1975	61	59	58	58	58	55	55	53	52	58	57	56
1976	55	55	56	55	55	55	56	56	56	58	59	58
1977	59	58	61	59	59	59	60	58	57	59	59	57
1978	58	58	58	59	59	60	58	57	55	59	58	59
1979	58	58	58	58	60	58	58	59	58	59	59	59
1980	59	59	59	60	62	63	64	63	60	61	60	60
1981	61	60	61	62	63	64	64	64	61	63	64	65
1982	64	64	63	( <sup>1</sup> )	( <sup>1</sup> )	65	( <sup>1</sup> )	( <sup>1</sup> )	66	( <sup>1</sup> )	( <sup>1</sup> )	64
1983	63	64	64	63	63	64	66	64	64	64	66	65
1984	64	64	63	64	61	61	58	60	57	60	60	60
1985	60	62	60	60	60	62	63	62	62	62	61	60
1986	61	62	61	61	60	60	60	57	55	59	58	59
1987	59	59	56	58	60	61	62	57	58	59	57	54
1988	54	55	56	56	58	59	58	56	55	54	54	53
1989	53	53	52	53	53	54	54	48	47	48	49	49
1990	46	47	52	53	53	52	51	49	51	52	52	52
1991	51	53	53	47	52	51	51	47	49	52	55	55
1992	59	60	61	62	60	57	58	56	57	60	60	59
1993	54	58	59	56	57	58	57	56	56	58	58	57
1994	55	54	55	55	55	55	56	56	55	55	54	52
1995	51	50	50	51	50	50	51	50	50	51	50	48
1996	50	51	51	51	52	50	48	49	46	45	46	47
1997	47	47	46	49	50	51	49	49	49	51	52	51
1998	50	53	54	55	56	58	57	56	54	55	54	54
1999	51	52	54	55	54	55	52	49	48	49	46	46

<sup>1</sup> Estimates temporarily discontinued.

**Public General Warehouses: Freezer Space Occupied  
by Month, 1940-1999, United States**

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
	<i>Percent</i>	<i>Percent</i>	<i>Percent</i>	<i>Percent</i>	<i>Percent</i>	<i>Percent</i>	<i>Percent</i>	<i>Percent</i>	<i>Percent</i>	<i>Percent</i>	<i>Percent</i>	<i>Percent</i>
1940	67	66	63	58	55	58	65	69	68	69	68	71
1941	78	77	70	63	61	63	69	75	74	73	72	75
1942	76	76	72	67	62	64	69	74	77	79	79	76
1943	75	69	64	61	62	67	77	83	87	90	89	89
1944	89	89	92	88	85	87	87	89	89	89	86	83
1945	80	73	69	65	64	67	73	78	81	82	83	85
1946	83	81	80	79	80	80	86	88	87	87	85	86
1947	84	82	80	73	74	78	79	80	81	83	84	85
1948	84	81	75	70	70	71	72	72	71	72	72	72
1949	71	68	64	60	59	61	63	66	67	70	73	76
1950	75	74	69	67	64	69	71	74	74	78	79	81
1951	80	76	72	70	71	73	76	78	81	83	83	83
1952	81	81	78	76	77	78	78	77	77	78	78	79
1953	79	76	73	70	69	70	73	76	79	81	80	78
1954	77	75	73	72	72	73	75	77	80	82	81	78
1955	76	71	68	66	65	66	68	70	71	74	73	72
1956	70	66	64	63	64	65	68	70	72	76	77	75
1957	72	68	66	64	65	68	70	72	73	75	73	69
1958	66	61	58	57	58	61	65	68	69	73	71	69
1959	66	65	64	64	65	67	71	73	75	77	74	71
1960	69	66	63	62	64	66	68	72	75	78	75	71
1961	69	67	66	67	68	71	74	78	82	83	82	78
1962	75	71	70	69	67	70	73	75	78	79	77	74
1963	70	68	67	66	65	66	68	70	72	74	73	70
1964	69	66	66	66	66	66	68	69	69	71	69	68
1965	67	63	62	60	61	59	61	63	70	69	67	64
1966	61	59	58	58	57	59	63	66	70	73	72	71
1967	70	69	69	70	70	71	74	77	80	81	79	76
1968	74	71	68	67	66	66	67	71	73	76	74	73
1969	69	67	65	65	63	64	65	68	73	75	72	70
1970	67	66	64	65	66	67	68	71	72	74	74	72
1971	70	66	66	66	67	68	69	71	72	73	71	69
1972	66	64	64	65	65	64	66	67	69	72	70	68
1973	65	63	62	61	59	61	61	63	67	71	72	72
1974	70	68	68	69	69	69	68	69	72	74	72	70
1975	69	67	65	64	64	63	63	64	66	68	65	62
1976	60	58	58	58	58	60	63	65	68	72	69	66
1977	64	63	62	64	64	65	67	69	72	74	73	70
1978	68	66	65	66	66	67	68	69	72	75	74	72
1979	69	68	66	67	68	70	72	73	74	77	76	74
1980	72	70	69	68	67	67	68	65	71	75	73	71
1981	69	68	67	67	68	67	69	69	72	74	72	70
1982	69	69	67	( <sup>1</sup> )	( <sup>1</sup> )	67	( <sup>1</sup> )	( <sup>1</sup> )	75	( <sup>1</sup> )	( <sup>1</sup> )	73
1983	72	70	68	68	67	68	69	70	73	75	74	71
1984	69	66	65	64	63	63	64	67	69	72	70	69
1985	67	66	65	65	65	66	68	70	73	75	72	70
1986	67	66	65	65	64	65	65	68	70	73	70	67
1987	63	61	62	62	62	64	68	69	73	75	73	69
1988	67	67	65	63	62	62	64	66	68	66	69	66
1989	65	64	61	61	61	62	63	66	69	73	69	67
1990	66	66	66	64	63	63	65	69	74	76	73	72
1991	70	68	68	68	67	68	69	72	76	76	75	73
1992	65	65	65	64	63	65	65	69	71	73	67	65
1993	61	63	62	61	61	60	62	63	66	68	65	64
1994	62	60	60	59	59	60	63	67	70	72	70	68
1995	66	66	66	64	63	63	64	66	70	71	69	67
1996	66	66	64	63	61	60	61	64	67	67	64	63
1997	63	62	62	63	62	63	65	66	70	71	71	68
1998	66	65	64	64	63	64	65	66	68	70	69	66
1999	72	63	62	63	61	62	63	65	66	65	64	61

<sup>1</sup> Estimates temporarily discontinued.

# SURVEY OF REFRIGERATED FRUIT STORAGE CAPACITY 1999

Form Approved  
 O.M.B. Number 0535-0001  
 Approval Expires 09/30/01  
 QID080060-FA  
 Project Code 160  
**Version A**

002	M	1
	Tel	2
	Interv	3
	Ref	4
	Inac	5
	QB	6

Dear Reporter:

The U. S. Department of Agriculture is conducting its 1999 Cold Storage Capacity Survey. Please report the capacity of your fruit storage below. If you have more than one storage, report each one separately. All individual reports are confidential and will be combined with others in the published report. Response to this survey is voluntary and not required by law, but your help is needed so we can accurately tabulate the number of refrigerated storages and their capacity. Thank you for your assistance.

Sincerely,

*Rich Allen*  
 Rich Allen, Chairperson  
 Agricultural Statistics Board

**1. Please report the capacity of your fruit storage below.**

**Refrigerated Space:**

**Total refrigerated area** (length x width x height) **cu. ft.**  
**Usable refrigerated area** (actual area available for holding fruit. Total area less space lost to aisles, posts, refrigeration equipment, ducts, etc.) **cu. ft.**

Cooler (cannot go below 0 degrees F)	Freezer (can go to 0 degrees F or lower)
006	035
011	031

**Fruit Storage Capacity:**

**Total bushels** including CA (Maximum number of boxes that can be stored in the cooler space reported above) **42 pound boxes**  
**Controlled Atmosphere (CA) Capacity** **42 pound boxes**

074
076

**2. Do you own the storage reported above?**

- YES** - Is the storage located at:
- YES** - Go to question 3.
  - NO** - Enter the address of the storage and go to question 3.
- Address \_\_\_\_\_  
 City/State/ZIP \_\_\_\_\_
- NO** - Who owns the storage? Enter name and address of the owner and go to question 4.
- Name \_\_\_\_\_  
 Address \_\_\_\_\_  
 City/State/ZIP \_\_\_\_\_

**3. Do you lease refrigerated space to others?**

- NO**
- YES** - How much is leased out? \_\_\_\_\_ cu. ft.
- TO: Name \_\_\_\_\_  
 Address \_\_\_\_\_  
 City/State/ZIP \_\_\_\_\_

4. Would you like a copy of the results of this survey?  **YES**  **NO**

**Reported by:** \_\_\_\_\_ **Phone:** (\_\_\_\_) \_\_\_\_\_ **Date:** \_\_\_\_\_

**Comments:** \_\_\_\_\_  
 \_\_\_\_\_

According to the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number. The time required to complete this information collection is estimated to average 15 minutes per response.



**NATIONAL  
AGRICULTURAL  
STATISTICS  
SERVICE**

U.S. Department of Agriculture  
Rm 5805, South Building  
1400 Independence Avenue, S.W.  
Washington, D.C. 20250-2000  
202-720-7017

# SURVEY OF REFRIGERATED STORAGE CAPACITY OCTOBER 1, 1999

Form Approved  
O.M.B. Number 0535-0001  
Approval Expires 9/30/01  
QID080060-RB  
Project Code 160  
**Version B**

002	M	1
	Tel	2
	Interv	3
	Ref	4
	Inac	5
	OB	6

<b>LOCATION OF STORAGE</b>
Address: _____ _____
Telephone: (     ) _____

**INSTRUCTIONS:** Complete this form for the refrigerated storage shown above. For this survey, a separate report is requested for each storage at a different location. This survey covers all refrigerated storages, public or private, where food commodities are generally stored for 30 days or more. All reports are confidential and will be used for statistical purposes only. Response to this survey is voluntary and not required by law. The enclosed envelope requires no stamp.

1. Please review the data from the 1997 survey below. If the data are correct and have not changed check here  and go to question 2. Otherwise report any changes in the 1999 columns.

**Refrigerated Space:**

**Total refrigerated area**  
(length x width x height) . . . cu. ft.

**Usable refrigerated area** (actual area available for storing products. Total area less space lost to aisles, refrigeration equipment, posts, ducts, etc). . . . . cu. ft.

	<b>Cooler</b> (cannot go below 0 degrees F)		<b>Freezer</b> (can go to 0 degrees F or lower)	
	<b>1997</b>	<b>1999</b>	<b>1997</b>	<b>1999</b>
Total refrigerated area		006		035
Usable refrigerated area		011		031

**2. CONVERTIBLE SPACE:** (Report under freezer)

A. How much of the useable freezer area reported above can be converted to cooler rooms? . . . . . **cu.ft.** 049

B. How much of this convertible space is now used as coolers? . . . . . **cu.ft.** 014

**3. TYPE OF STORAGE:**

(Check one)

A. Public storage - For use by the general public . . . . .  1

B. Semi-private - Partly for private use and partly for public use . . . . .  2 Go to D below. OFFICE USE  
078

C. Private storage - For exclusive use by you or a member of a cooperative . . . . .  3

D. If semi private, report percent of total space usually available for public use . . . . . **Percent** 079

Over Please

**4. PRINCIPAL STORAGE ACTIVITY:** (Excluding space leased to others)

Version B

A. **General cold storage** (Including storage of nuts, dairy products, poultry products, frozen foods and meat) (Check One)  
 1

Do you store **fish or seafood**?  YES  NO

B. **Cheese** only (natural or processed) 2

C. **Meat** only (Beef, pork, veal, lamb, or canned meats) 3

D. **Fish** and seafood only 4

E. Fruit - **Grapes** only 5

- **Apples or pears** only 6

F. **Citrus juice** only 7

OFFICE USE

071

**5. LEASED SPACE**

A. Do you **lease** refrigerated storage space **from** others?  YES = 1,  NO = 2 . . .

OFFICE USE

081

B. If yes, list names of owners you lease from.

Name of Owner	Address
_____	_____
_____	_____

GROSS CUBIC FEET LEASED	
Cooler	Freezer
082	083
082	083

C. Do you **lease** refrigerated storage space **to** others?  YES = 1,  NO = 2 . . . . .

OFFICE USE

084

D. If yes, list names of firms to whom you lease.

Name of Lessee	Address
_____	_____
_____	_____

GROSS CUBIC FEET LEASED	
Cooler	Freezer
085	086
085	086

E. If your answer to item 5c is yes, do you include all of the lessee's stock in your monthly Cold Storage Report to the USDA?  YES = 1,  NO = 2 . . . . .

OFFICE USE

087

**6. NEW REFRIGERATED STORAGEES**

If your firm has built or purchased any new warehouses since 1997, please list them below. (*Exclude this plant.*)

FIRM NAME	MAIL ADDRESS	PERSON TO CONTACT
_____	_____	_____
_____	_____	_____

Would you like to receive a copy of the results of this survey?  YES  NO

Reported by: \_\_\_\_\_ Phone ( \_\_\_\_\_ ) \_\_\_\_\_ Date \_\_\_\_\_

Comments: \_\_\_\_\_  
 \_\_\_\_\_

According to the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number. The time required to complete this information collection is estimated to average 15 minutes per response.

## Definitions

**General storages:** Includes refrigerated facilities classified as general storages, plus facilities classified as storing only cheese, meat, or citrus concentrates.

**Public general storages:** Refrigerated facilities maintained for storing food for others at specified rates per unit.

**Private and semiprivate general storages:** Refrigerated facilities maintained by an operator to facilitate his principal function as a producer, processor, or manufacturer of food products. The space is used to store the owner's products, although some space may be used by others at specified rates per unit stored. Working space, chill rooms, and curing rooms in meat storages are not included in the storage statistics.

**Apple and pear storages:** Refrigerated facilities maintained exclusively for storing apples or pears. Storages operated by cooperatives for use by members are included as private storages.

**Cooler space:** Space that maintains temperatures between 0 and 50 degrees Fahrenheit.

**Freezer space:** Space that maintains temperatures at 0 degrees Fahrenheit or lower.

**Controlled atmosphere (CA) space:** Sealed cooler space in which the oxygen and carbon dioxide content is controlled to extend the storage life of apples or pears.

**Gross space:** Total area under refrigeration, measured from wall to wall and from floor to ceiling.

**Usable space:** Actual area used for storing commodities. Gross space less an allowance for aisles, posts, coils, blowers, etc.

**Number of storages:** Storages at different locations are counted separately even though operated by the same management.

## Survey Procedures and Reliability

**Survey procedures:** Questionnaires were mailed about the 20th of September to operators of over 3,000 public and private cold storage warehouses. Two thousand seven hundred forty-nine firms met the qualifications that their warehouses were artificially cooled to a temperature of 50 degrees Fahrenheit or lower, and normally stored food products for 30 days or more. The other firms who received questionnaires either did not qualify or the plants had ceased being cold storage facilities during the past two years. The list included specialized storage facilities meeting the 30 day requirement, such as fruit houses, dairy manufacturing plants, frozen fruit, fruit juice, and vegetable processors, and poultry and meat packing plants. Wholesalers, jobbers, packer branch houses, and frozen food processors whose entire inventories are turned over more than once a month were excluded. Firms that did not respond were mailed a second request and/or phoned or visited.

**Estimating procedures:** Data for reporting firms were added to estimates for non-reporting firms to obtain State and National totals. Estimates for non-reporting firms were set based on previous reports or administrative data.

**Revision policy:** These data are considered to be final and will not be revised.

**Reliability:** Usable reports were received from about 2,480 firms which represent about 90 percent of the total capacity tabulated. The numbers published should be considered to be minimum figures as there are cold storage firms that are not known to NASS. Special care in identifying individual plants minimizes duplication. Survey data are also subject to non-sampling errors such as omissions and mistakes in reporting and processing the data. While these errors cannot be measured directly, they are minimized by carefully reviewing all reported data for consistency and reasonableness.

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