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A Survey of

# COLD STORAGE SPACE 457c

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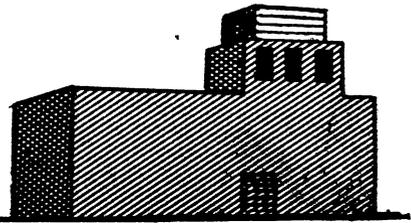
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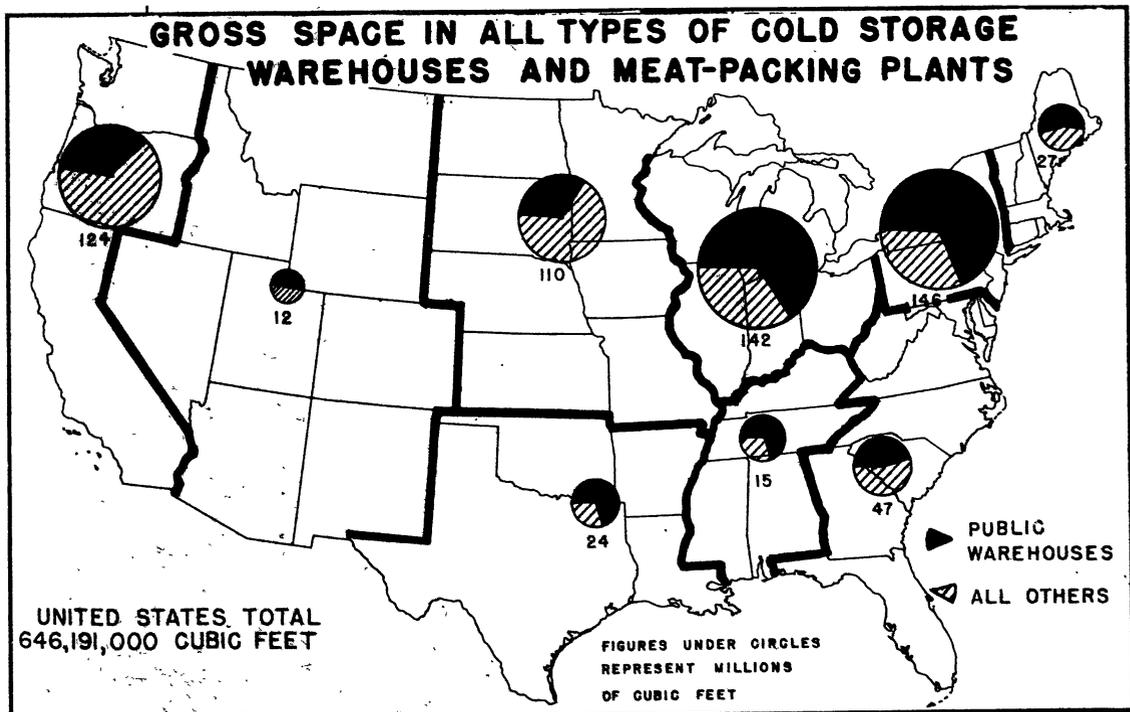
U. S. Department of Agriculture

Production and Marketing Administration

Marketing Facilities Branch



by  
V. M. Queener  
and  
A. S. Walker



**A SURVEY  
of  
COLD STORAGE SPACE  
as of  
October 1, 1945**

*by* V. M. QUEENER and A. S. WALKER

**U. S. Department of Agriculture**

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**Washington 25, D. C.**

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## SCOPE AND OBJECTIVES OF THE SURVEY

The survey on which this report is based was made as of October 1, 1945. It is the thirteenth of a series of reports based on similar surveys made biennially. Each of these surveys was made as of October 1, with the exception of that of 1941, which was made as of June 16.

An effort was made to effect complete coverage of the cold storage warehousing and meat-packing industry, both public and private. Of approximately 1,850 public, private and semi-private warehouses, apple houses and meat-packing establishments queried, 1,763 reported refrigerated space in use. Their storage space ranged in size from 5,144,000 cubic feet to 2,500 cubic feet net capacity. Warehouse space owned by the armed services was not covered by the survey. Unlike earlier surveys, those for 1943 and 1945 asked that meat-packing plants report only that space used for storage purposes. Operators were asked not to report "working space, chill rooms used for chilling carcasses, and coolers used exclusively for hanging dressed carcasses prior to shipping." In spite of specific instruction some meat packers in 1943 did report working, chilling, and cooling space. Instructions in 1945, again emphasizing that only storage space be reported, were followed. This accounts in part for an apparent reduction in meat-packing plant space.

The temperature range which warehouses were asked to report on October 1, 1945, was made as definite and as clear as possible. The upper temperature limit for 1945 was set at 50 degrees Fahrenheit, whereas in the previous survey it was set at 45 degrees Fahrenheit, and before 1943 at 45 degrees Fahrenheit and above. This indefinite limitation permitted varied interpretations and caused some space to be included which was not really cold storage space.

Each of the answered questionnaires was carefully analyzed and compared with previous survey reports and with the monthly space and occupancy report from the same firm. Every seeming inconsistency or questionable figure was checked with the respondent by letter or telegram so that an accurate picture of the warehouse space in the country was obtained.

The specific objectives of the survey were as follows:

1. To supplement and bring up to date information of previous surveys and to find how much and where expansion or reduction has occurred in the refrigerated warehousing industry since 1943.
2. To provide a basis on which monthly analysis of the occupancy of refrigerated space can be made more accurate.
3. To provide information upon which an orderly and efficient expansion program where needed can be recommended and by which unneeded plant construction can be discouraged.
4. To aid in locating space, particularly for heavy seasonal crops, in order to facilitate the preservation of food.

## DEFINITION OF TERMS USED

The terms used in this report are defined as follows:

Public General Cold Storage: Any artificially cooled warehouse, the operator of which is engaged in storing food commodities requiring refrigeration for others for pay.

Private General Cold Storage: Any artificially cooled warehouse the operator of which conducts a warehousing business to facilitate his main function as a producer, processor, or distributor but does not store commodities for others for pay.

Semi-Private General Cold Storage: Any artificially cooled warehouse the operator of which uses part of the space to care for the storage of his own commodities and in addition stores various food commodities for others in his plant for pay.

Meat-packing Establishment: Any plant engaged in processing animals and animal products for food. For the purposes of this report and survey only that space which is used for storage of products is included. Working space, chill rooms, and coolers used exclusively for hanging dressed carcasses prior to shipping are excluded.

Apple House: Any warehouse, public, private, and semi-private, the owner and operator of which is engaged mainly or exclusively in the storage of apples, particularly during the apple season.

Gross Space: The space inside refrigerated rooms measured from wall to wall and floor to ceiling, excluding elevators, stairs, vestibules, and like enclosures.

Net Piling Space: Space for the storage of commodities, that is, space inside rooms measured wall to wall and floor to ceiling, minus the space provided for ventilation (outside of pile), space occupied by coils, aisles, posts, sprinklers, and the like.

Cooler: Space held at temperatures of 30° F. to 50° F. inclusive.

Freezer: Space held at temperatures of 29° F. and below.

Sharp Freezer: That portion of freezer space held at 0° F. or below.

The Geographic Regions used in the survey are nine: (1) New England (Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut); (2) Middle Atlantic (New York, New Jersey, Pennsylvania); (3) East North Central (Ohio, Indiana, Illinois, Michigan, Wisconsin); (4) West North Central (Minnesota, Iowa, Missouri, North Dakota, South Dakota, Kansas, Nebraska); (5) South Atlantic (Maryland, District of Columbia, Virginia, West Virginia, North Carolina, South Carolina, Georgia, Florida); (6) East South Central (Kentucky, Tennessee, Alabama, Mississippi); (7) West South Central (Arkansas, Oklahoma, Louisiana, Texas); (8) Mountain (Montana, Wyoming, Colorado, Utah, Nevada, New Mexico, Arizona); (9) Pacific (Washington, Oregon, California.)

## COLD STORAGE CAPACITY IN THE UNITED STATES

### Refrigerated Net Space Has Expanded 25 Million Cubic Feet 1/

There were some 477 million cubic feet of net and 646 million cubic feet gross cold storage space in the United States in all types of warehouses October 1, 1945. This space was so divided that approximately one-half was in public general warehouses, one-tenth in private and semi-private general warehouses, one-fifth in meat-packing plants, and one-fifth in apple houses. A net gain of 19 million cubic feet in public warehouses over the 2 year period (October 1, 1943--October 1, 1945) placed the new figure for total net space in general public cold storages at 259 million cubic feet, of which 139 million were coolers and 120 million were freezers. The heaviest space increase occurred in freezers, to which 17 million cubic feet of space have been added since October 1, 1943. Public coolers were expanded only 2 million cubic feet over the same period.

Net space in private and semi-private general warehouses totaled 31 million cubic feet--a gain of 6 million cubic feet since 1943. Half of this additional space was in coolers and half in freezers.

The 1945 survey showed what appears to be a decrease of space in meat-packing plants. Some 89 million cubic feet net space was reported as used exclusively for storage October 1, 1945, as compared with 104 million cubic feet so reported October 1, 1943. A large part of this decrease is accounted for by inaccurate 1943 reports occasioned by a change in the questionnaire of that time. Many of these inaccuracies were noted and corrected on the 1945 survey, the warehousemen eliminating from their reports all space not used for storage of commodities for 30 days or longer. A few warehouses,--one large one--formerly classified as meat-packing houses, had changed their classification on this survey to public or private warehouses. Some space heretofore used as storage was diverted to other purposes during the 2 year period.

Some 98 million cubic feet of apple house space was reported. This was essentially the same amount as reported in 1943. A few apple houses were converted to dry storages; some became general cold storages and additional houses were built in some areas--principally in the northwest region.

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1/ For comparative purposes throughout this discussion meat-packing plant figures have been eliminated from the totals. This has been done because some misunderstanding occurred on the part of respondents of meat-packing plants in 1943. At that time the questionnaire was changed so that instead of reporting all refrigerated space in meat-packing plants as formerly was done--only that space used for storage of commodities 30 days or more was to be reported. Most respondents complied with the revised questionnaire at that time. A few overlooked the change and made a correction on their 1945 report. This accounts to a large extent for the apparent reduction in meat-packing space during the past 2 years.

Public Cold Storage Gross Space Expands 52 Million Cubic Feet  
During War Years

Inasmuch as the survey made in October 1939 almost coincided with the outbreak of the war in Europe and the 1945 survey was shortly after the end of the war, we are now able to give the expansion of space during the war years. Over the 6 year period some 52 million cubic feet additional space was brought into operation. A most significant detail in war growth is brought out by an examination of the relationship between cooler and freezer space. Gross public cooler space declined 6 million cubic feet during this period, while gross freezer space was expanded by 58 million cubic feet. This great increase in freezer space while cooler space was decreasing is due to a carefully planned program of conversion so that the space could be held at the lower temperatures when needed. The conversion program was carried through with a minimum amount of strategic materials. Also, controls on building materials limited somewhat the amount of cooler space built during the war.

Space in Lower Temperature Ranges Increasing Most Rapidly

Space held at sharp freezer temperatures showed a net gain of 19 million cubic feet since 1943. This was the only temperature range showing a gain for all types of warehouses. General public sharp freezer space increased 18 million cubic feet, while freezer space held at temperatures between 29° F. and 0° F. declined 1 million cubic feet, and cooler space increased 2 million cubic feet. Since the 1925 survey sharp freezer space has increased 97 percent, freezer space other than sharp freezer 49 percent, while coolers have declined by 15 percent. Thus, it is apparent that lower temperatures are being favored for the storage of food commodities. Gross cold storage space (other than in meat-packing houses) has nearly doubled since 1925.

Private and Semi-private Warehouses Space Increased Most Rapidly

Proportionately, space in private and semi-private warehouses showed the greatest percentage gains of all types of warehouses. The actual gain in cubic feet was not great when compared with public warehouse space or when compared with cubic feet increase in public houses. Gross space in these warehouses increased 20 percent since 1943 as compared with an increase of only 8 percent in public houses. A significant expansion in private and semi-private net space occurred particularly on the West coast, where 54 warehouses of this type had 6.3 million cubic feet of space, as compared with only 41 warehouses in 1943 having a capacity of 3.7 million cubic feet.

Table 1. - Total cold storage space in warehouses and meat-packing plants  
October 1, 1945

Type of Cold Storage <sup>/1</sup>	No. of firms	Gross Space				Net Piling Space			
		Freezer		Cooler	Total	Freezer		Cooler	Total
		Zero F. and below	Above 0 through 29° F.	Above 29 through 50° F.		Zero F. and below	Above 0 through 29° F.	Above 29 through 50° F.	
		1,000 cu. ft.	1,000 cu. ft.	1,000 cu. ft.	1,000 cu. ft.	1,000 cu. ft.	1,000 cu. ft.	1,000 cu. ft.	1,000 cu. ft.
Public general.....	600	109,759	53,878	188,436	352,073	79,075	40,513	139,020	258,608
Private & semi-private general..	343	11,594	8,126	20,275	39,995	8,885	6,244	16,120	31,249
Meat-packing plant	265	12,492	22,543	99,779	134,814	8,396	15,585	65,123	89,104
Apple houses.....	555	1,039	3,256	115,014	119,309	851	2,633	94,609	98,093
Public.....	161	689	2,274	48,796	51,759	576	1,841	39,937	42,354
Private & semi-private.....	394	350	982	66,218	67,548	275	792	54,672	55,739
<b>Total</b>	<b>1,763</b>	<b>134,884</b>	<b>87,803</b>	<b>423,504</b>	<b>646,191</b>	<b>97,207</b>	<b>64,975</b>	<b>314,872</b>	<b>477,054</b>

<sup>/1</sup> See definitions, page 4.

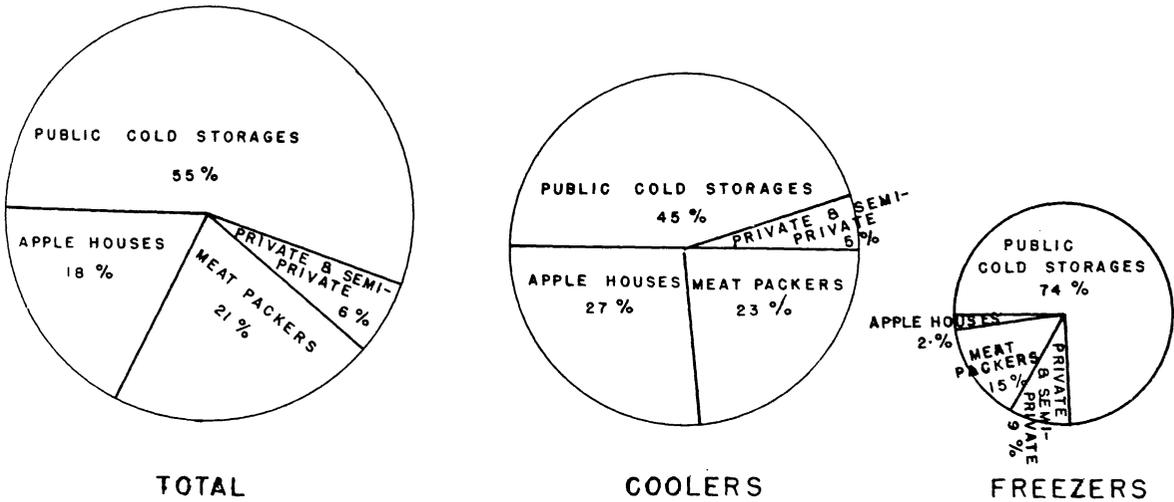
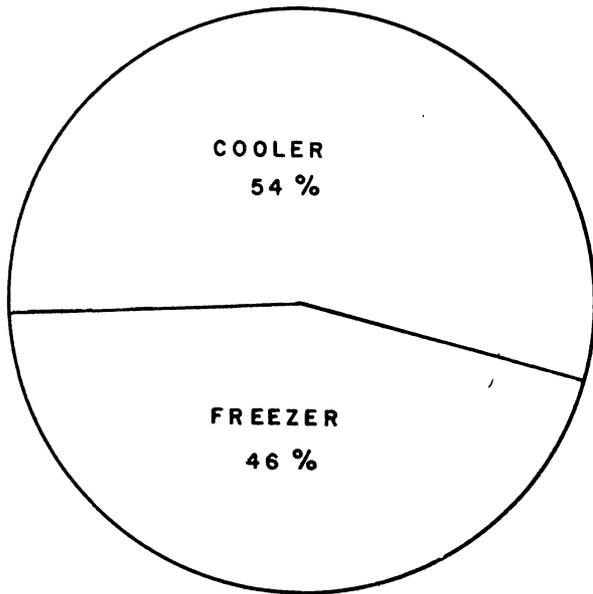


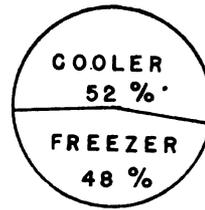
Fig. 2. - Proportion of total cold storage space in each type of warehouse.

PUBLIC GENERAL  
COLD STORAGE



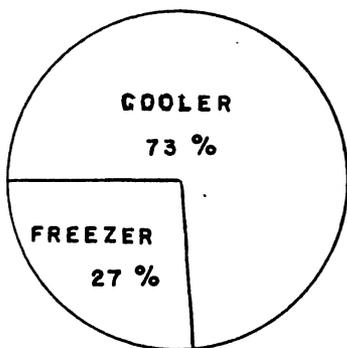
TOTAL CUBIC FEET  
258,607,000

PRIVATE & SEMI-  
PRIVATE COLD STORAGE



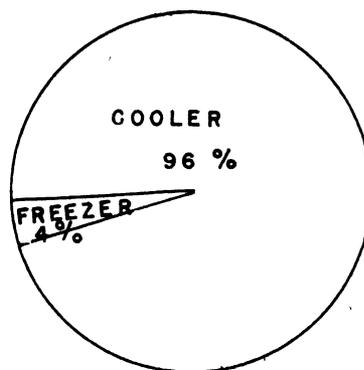
TOTAL CUBIC FEET  
31,249,000

MEAT-PACKING PLANTS



TOTAL CUBIC FEET  
89,104,000

APPLE HOUSES



TOTAL CUBIC FEET  
98,093,000

Fig. 3. - Proportion of cooler and freezer space in each type of warehouse.

## COLD-STORAGE CAPACITY BY GEOGRAPHIC REGIONS

The survey of October 1, 1945, showed that the geographic region with the largest amount of cold storage space is now the Middle Atlantic, whereas 2 years earlier the East North Central region had the largest amount of cold storage space. Approximately three-fifths of all gross refrigerated space is located in the five geographic regions east of the Mississippi River.

Some expansion of public general warehouse space since 1943 took place in every geographic region of the United States except New England. These expansions ranged from 8.5 million cubic feet in the East North Central region to 0.4 million cubic feet in the West North Central region. Some of this expansion in public warehouse space represents a shift in type of business from private, semi-private, or meat-packing establishment to public cold storage warehousing. The heaviest construction of new space in public general warehouses occurred in the Pacific region.

Space in private and semi-private refrigerated warehouses increased in every geographic region except the East South Central region, where a slight reduction occurred. The greatest gains in private and semi-private warehouses took place in the Pacific region, where a number of expansions were made and in addition several new warehouses were built as adjuncts to frozen food processing plants.

A further examination of the survey with regard to the type of plants and the amount of refrigerated space by regions shows that the largest amount of space in public general warehouses as of October 1, 1945, was in the Middle Atlantic region, which had 29 percent of the public net piling space in the country. In addition, this region had 22 percent of the private and semi-private space and a considerable amount of meat-packing storage space and apple house space. The greatest amount of private and semi-private general cold storage space is located in the East North Central region, which had 24 percent of the entire private and semi-private refrigerated warehouse space in the country. This region also has 25 percent of the

public warehousing space, 25 percent of the meat-packing space, and only 5 percent of the apple house space of the country. The West North Central region exceeded all others in the quantity of the meat-packing storage space. This region also had 10 percent of the public and 17 percent of the private and semi-private space. The net space in apple houses in the Pacific region was almost as great as apple house space in all other regions combined. For a percentage distribution of space by type of warehouses in the nine geographic regions see figure 5, page 14.

Most of the sharp freezer space was concentrated in three regions: Middle Atlantic, East North Central, and West North Central, which together had two-thirds of the sharp freezer space. Two-thirds of the freezer space other than sharp freezer was located in the Middle Atlantic, East North Central, and Pacific regions. The greatest amount of cooler space was found to be in the Middle Atlantic and Pacific regions, which had 72.9 and 71.3 million cubic feet respectively--almost one-half of the cooler space being in the six States of these two regions.

Table 2. - Cold storage space in warehouses and meat-packing plants, by regions  
October 1, 1945

Region	No. of firms	Gross Space				Net Piling Space			
		Freezer		Cooler	Total	Freezer		Cooler	Total
		Zero F. and below	Above 0 through 29° F.	Above 29 through 50° F.		Zero F. and below	Above 0 through 29° F.	Above 29 through 50° F.	
		1,000 cu. ft.	1,000 cu. ft.	1,000 cu. ft.	1,000 cu. ft.	1,000 cu. ft.	1,000 cu. ft.	1,000 cu. ft.	1,000 cu. ft.
New England	171	8,765	2,808	15,061	26,634	5,919	2,336	11,958	20,213
Middle Atlantic	409	30,882	18,639	96,253	145,774	22,226	13,624	72,889	108,739
East North Central	341	35,321	17,781	88,826	141,928	24,645	13,164	62,738	100,547
West North Central	161	28,961	14,035	66,560	109,556	20,495	9,376	42,230	72,101
South Atlantic	161	3,908	6,063	37,353	47,324	2,927	4,545	30,602	38,074
East South Central	52	3,280	2,502	8,760	14,542	2,619	1,950	6,775	11,344
West South Central	94	5,135	4,698	14,569	24,402	4,052	3,741	11,219	19,012
Mountain	59	2,810	2,375	6,802	11,987	2,172	1,764	5,146	9,082
Pacific	315	15,822	18,902	89,320	124,044	12,152	14,475	71,315	97,942
U. S. Total	1,763	134,884	87,803	423,504	646,191	97,207	64,975	314,872	477,054

Table 3. - Public general cold storage space, by regions  
October 1, 1945

Region	No. of firms	Gross Space				Net Piling Space			
		Freezer		Cooler	Total	Freezer		Cooler	Total
		Zero F. and below	Above 0 through 29° F.	Above 29 through 50° F.		Zero F. and below	Above 0 through 29° F.	Above 29 through 50° F.	
		1,000 cu. ft.	1,000 cu. ft.	1,000 cu. ft.	1,000 cu. ft.	1,000 cu. ft.	1,000 cu. ft.	1,000 cu. ft.	1,000 cu. ft.
New England	24	7,818	1,256	4,996	14,070	5,182	1,031	3,861	10,074
Middle Atlantic	128	28,644	14,068	58,611	101,323	20,518	10,163	43,079	73,760
East North Central	96	30,739	9,482	53,339	93,560	21,257	7,225	37,481	65,963
West North Central	60	19,119	3,301	15,241	37,661	13,960	2,419	10,996	27,375
South Atlantic	85	3,037	4,738	15,345	23,120	2,271	3,509	11,991	17,771
East South Central	24	2,932	2,004	5,557	10,493	2,422	1,615	4,339	8,376
West South Central	60	3,707	3,351	8,793	15,851	2,945	2,662	7,074	12,681
Mountain	23	1,715	1,614	2,843	6,172	1,383	1,219	2,268	4,870
Pacific	100	12,048	14,064	23,711	49,823	9,137	10,670	17,931	37,738
U. S. Total	600	109,759	53,878	188,436	352,073	79,075	40,513	139,020	258,608

Table 4. - Private and semiprivate general cold storage space, by regions  
October 1, 1945

		Gross Space				Net Piling Space			
		Freezer		Cooler	Total	Freezer		Cooler	Total
		Zero F. and below	Above 0 through 29° F.	Above 29 through 50° F.		Zero F. and below	Above 0 through 29° F.	Above 29 through 50° F.	
		1,000 cu. ft.	1,000 cu. ft.	1,000 cu. ft.	1,000 cu. ft.	1,000 cu. ft.	1,000 cu. ft.	1,000 cu. ft.	1,000 cu. ft.
New England	18	593	914	609	2,116	434	776	492	1,702
Middle Atlantic	79	1,528	2,294	5,024	8,846	1,122	1,746	4,098	6,966
East North Central	103	1,406	1,285	6,941	9,632	1,137	975	5,471	7,583
West North Central	36	3,073	805	3,285	7,163	2,215	552	2,496	5,263
East North Central	15	589	542	242	1,373	425	394	196	1,015
South Atlantic	8	158	27	377	562	104	19	256	379
West South Central	14	825	34	589	1,448	688	24	436	1,148
Mountain	16	644	118	338	1,100	534	93	277	904
Pacific	54	2,778	2,107	2,870	7,755	2,226	1,665	2,398	6,289
U. S. Total	343	11,594	8,126	20,275	39,995	8,885	6,244	16,120	31,249

Table 5. - Cold storage space in meat-packing plants, by regions  
October 1, 1945

Region	No. of firms	Gross Space				Net Piling Space			
		Freezer		Cooler	Total	Freezer		Cooler	Total
		Zero F. and below 1,000 cu. ft.	Above 0 through 29° F. 1,000 cu. ft.	Above 29 through 50° F. 1,000 cu. ft.	1,000 cu. ft.	Zero F. and below 1,000 cu. ft.	Above 0 through 29° F. 1,000 cu. ft.	Above 29 through 50° F. 1,000 cu. ft.	1,000 cu. ft.
New England	9	354	562	2,629	3,545	303	473	2,168	2,944
Middle Atlantic	52	129	1,632	9,802	11,563	86	1,169	6,691	7,946
East North Central	63	3,176	6,856	22,609	32,641	2,251	4,841	15,147	22,239
West North Central	52	6,769	9,840	46,471	63,080	4,320	6,333	27,498	38,151
South Atlantic	16	137	527	2,719	3,383	110	427	2,281	2,818
East South Central	19	190	471	2,451	3,112	93	316	1,873	2,282
West South Central	16	603	1,271	4,936	6,810	419	1,026	3,525	4,970
Mountain	16	451	643	2,932	4,026	255	452	2,037	2,744
Pacific	22	683	741	5,230	6,654	559	548	3,903	5,010
U. S. Total	265	12,492	22,543	99,779	134,814	8,396	15,585	65,123	89,104

Table 6. - Total apple house cold storage space, by regions  
October 1, 1945

Region	No. of firms	Gross Space				Net Piling Space			
		Freezer		Cooler	Total	Freezer		Cooler	Total
		Zero F. and below 1,000 cu. ft.	Above 0 through 29° F. 1,000 cu. ft.	Above 29 through 50° F. 1,000 cu. ft.	1,000 cu. ft.	Zero F. and below 1,000 cu. ft.	Above 0 through 29° F. 1,000 cu. ft.	Above 29 through 50° F. 1,000 cu. ft.	1,000 cu. ft.
New England	120	---	76	6,827	6,903	---	56	5,437	5,493
Middle Atlantic	150	581	645	22,816	24,042	500	546	19,021	20,067
East North Central	79	---	158	5,937	6,095	---	123	4,639	4,762
West North Central	13	---	89	1,563	1,652	---	72	1,240	1,312
South Atlantic	45	145	256	19,047	19,448	121	215	16,134	16,470
East South Central	1	---	---	375	375	---	---	307	307
West South Central	4	---	42	251	293	---	29	184	213
Mountain	4	---	---	689	689	---	---	564	564
Pacific	139	313	1,990	57,509	59,812	230	1,592	47,083	48,905
U. S. Total	555	1,039	3,256	115,014	119,309	851	2,633	94,609	98,093

Table 7. - Public apple house cold storage space, by regions  
October 1, 1945

Region	No. of firms	Gross Space				Net Filing Space			
		Freezer		Cooler	Total	Freezer		Cooler	Total
		Zero F. and below	Above 0 through 29° F.	Above 29 through 50° F.		Zero F. and below	Above 0 through 29° F.	Above 29 through 50° F.	
		1,000 cu. ft.	1,000 cu. ft.	1,000 cu. ft.	1,000 cu. ft.	1,000 cu. ft.	1,000 cu. ft.	1,000 cu. ft.	1,000 cu. ft.
New England	12	---	30	1,458	1,488	---	30	997	1,027
Middle Atlantic	45	512	521	12,760	13,793	441	441	10,549	11,431
East North Central	23	---	103	3,286	3,389	---	78	2,547	2,625
West North Central	10	---	89	1,294	1,383	---	72	1,011	1,083
South Atlantic	26	133	256	16,206	16,595	113	215	13,724	14,052
East South Central	---	---	---	---	---	---	---	---	---
West South Central	4	---	42	251	293	---	29	184	213
Mountain	1	---	---	9	9	---	---	7	7
Pacific	40	44	1,233	13,532	14,809	22	976	10,918	11,916
U. S. Total	161	689	2,274	48,796	51,759	576	1,841	39,937	42,354

Table 8. - Private and semiprivate apple house cold storage space, by regions, October 1, 1945

Region	No. of firms	Gross Space				Net Filing Space			
		Freezer		Cooler	Total	Freezer		Cooler	Total
		Zero F. and below	Above 0 through 29° F.	Above 29 through 50° F.		Zero F. and below	Above 0 through 29° F.	Above 29 through 50° F.	
		1,000 cu. ft.	1,000 cu. ft.	1,000 cu. ft.	1,000 cu. ft.	1,000 cu. ft.	1,000 cu. ft.	1,000 cu. ft.	1,000 cu. ft.
New England	108	---	46	5,369	5,415	---	26	4,440	4,466
Middle Atlantic	105	69	124	10,056	10,249	59	105	8,472	8,636
East North Central	56	---	55	2,651	2,706	---	45	2,092	2,137
West North Central	3	---	---	269	269	---	---	229	229
South Atlantic	19	12	---	2,841	2,853	8	---	2,410	2,418
East South Central	1	---	---	375	375	---	---	307	307
West South Central	---	---	---	---	---	---	---	---	---
Mountain	3	---	---	680	680	---	---	557	557
Pacific	99	269	757	43,977	45,003	208	616	36,165	36,989
U. S. Total	394	350	982	66,218	67,550	275	792	54,672	55,739

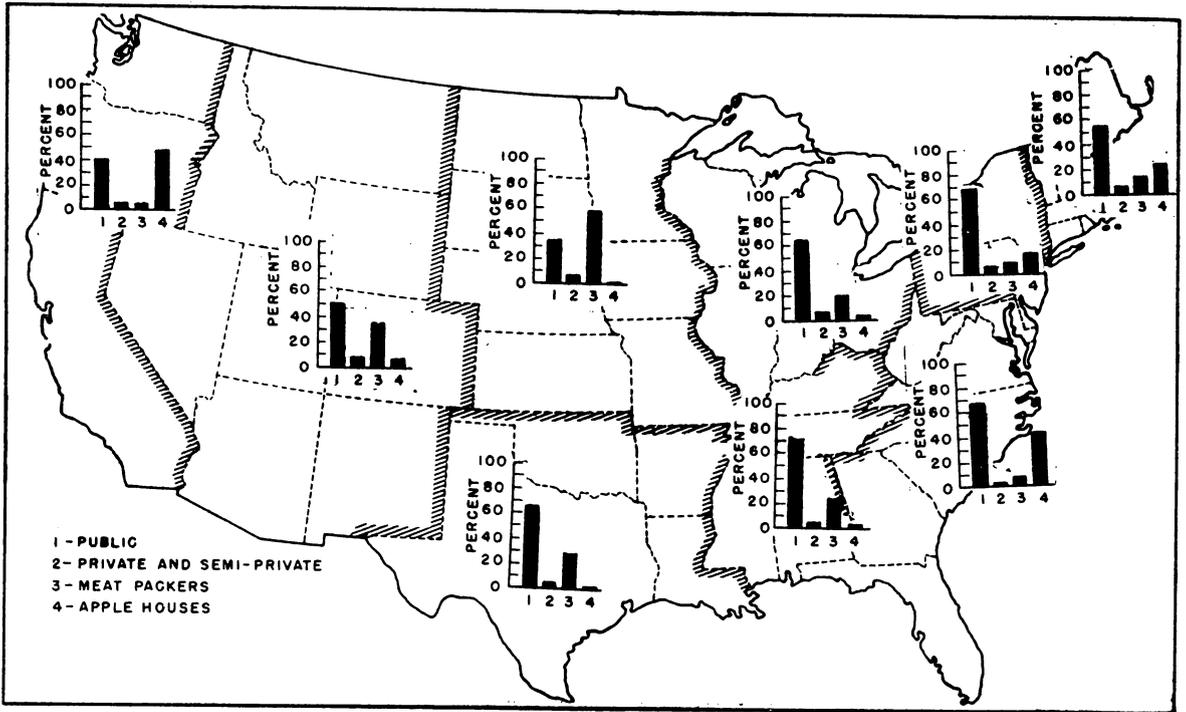


Fig. 4 - Percentage of total gross cold storage space in each type of warehouse, by regions.

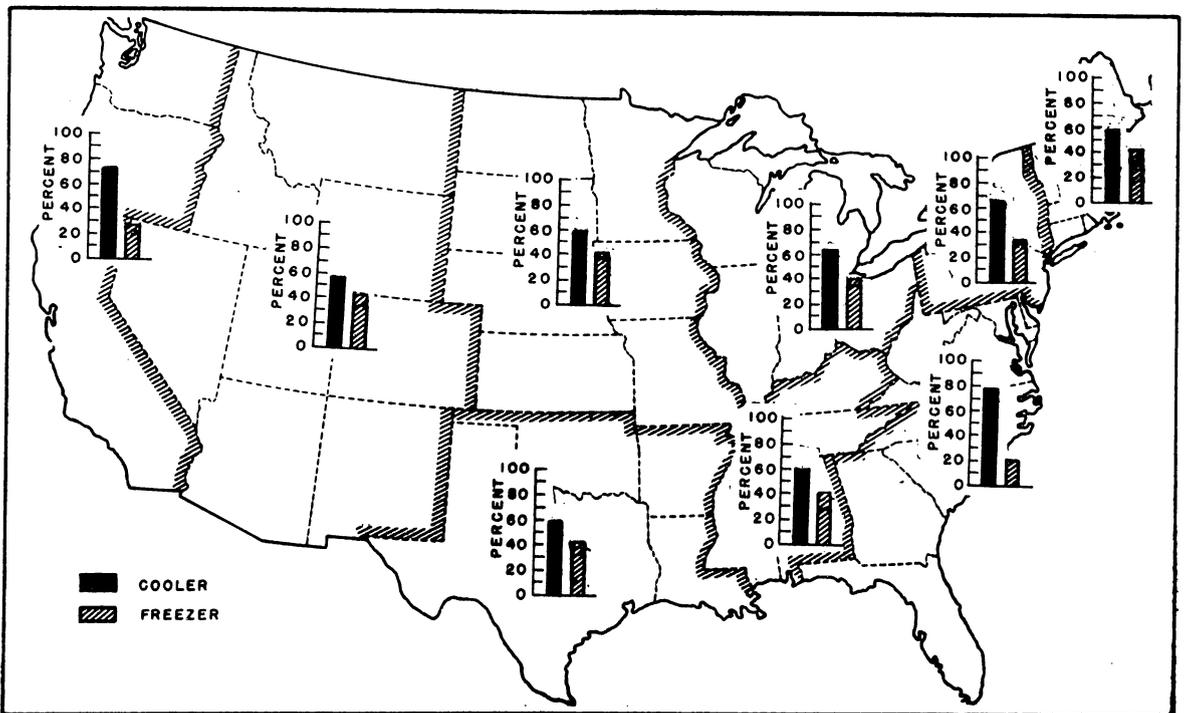


Fig. 5 - Percentage of total net cold storage space in coolers and freezers, by regions.

## COLD STORAGE CAPACITY BY STATES

Cold storage facilities were in operation in every State in the country, according to the October 1, 1945, survey. The amount of space in various States ranged from a minimum of less than 100,000 cubic feet in Wyoming to a maximum of more than 85,000,000 cubic feet in New York. (See table 9, page 16.)

Notwithstanding a wide scattering of storage space throughout all States, a great concentration of space in a few States is noticeable. In October 1945, about 46 percent of the total space was located in five States, which in the order of their gross volumes were: New York, Illinois, Washington, California, and Pennsylvania. If the capacity of 10 other States (New Jersey, Iowa, Missouri, Virginia, Ohio, Kansas, Oregon, Michigan, Massachusetts, and Nebraska) is added to that of the five States first named, it will be found that almost 81 percent of the space of the country is located in these 15 States.

New York State's lead in quantity of storage space was due to its large public warehouses, considerable meat-packing plant storage space and a fairly large amount of apple house space. The large meat-packing plants of the Chicago area account in the main for Illinois' rank as second, especially when this space is added to the large public warehouses in Chicago and East St. Louis. Washington State ranks third because of the large amount of apple storage space.

All but eight of the 48 States <sup>1/</sup> reported an increase in public cold storage space over the 1943 figure. The largest increase of this type of space took place in Illinois, which added 9 million cubic feet. Appreciable increases were effected also in New York, Pennsylvania, Michigan, Florida, Tennessee, Washington, Oregon, and California, each of which increased the public cold storage space by more than a million cubic feet.

Space in private and semi-private warehouses increased in every State that had this type of plant operation in 1943, with the exception of Illinois, which showed a net decrease in this type of space amounting to approximately 1 million cubic feet. Some of this decrease may be attributed to the reclassification of warehouses according to the nature of their operations.

Iowa had the largest meat-packing plant gross volume, replacing Illinois in this type of storage space. This may be accounted for by changes in Illinois--by a reclassification of one large concern (now reported as public), by an inaccurate report of another large concern in 1943, and by a diversion of some refrigerated storage space to other purposes. For distribution of warehouse space as to States see figure 12, page 19.

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<sup>1/</sup> Ohio, Indiana, Wisconsin, Iowa, Missouri, Delaware, Alabama, and New Mexico.

Table 9. - Total cold storage space in warehouses and meat-packing plants,  
by States  
October 1, 1945

State	No. of firms	Gross Space			Total	Net Piling Space			Total
		Freezer		Cooler		Freezer		Cooler	
		Zero F. and below	Above 0 through 29° F.	Above 29 through 50° F.		Zero F. and below	Above 0 through 29° F.	Above 29 through 50° F.	
		1,000 cu. ft.	1,000 cu. ft.	1,000 cu. ft.	1,000 cu. ft.	1,000 cu. ft.	1,000 cu. ft.	1,000 cu. ft.	
Maine	7	272	313	421	1,006	218	255	360	833
New Hampshire	11	---	6	463	469	---	4	367	371
Vermont	18	288	18	670	976	236	13	548	797
Massachusetts	69	7,782	2,145	9,026	18,953	5,126	1,811	7,224	14,161
Connecticut	65	93	326	3,430	3,849	61	253	2,538	2,852
New York	260	17,090	8,364	59,725	85,179	12,228	6,492	45,988	64,708
New Jersey	50	8,574	4,859	14,348	27,781	6,172	3,035	9,719	18,926
Pennsylvania	99	5,218	5,416	22,180	32,814	3,826	4,097	17,182	25,105
Ohio	81	15,889	3,100	15,071	24,060	4,623	2,562	11,323	18,508
Indiana	35	1,157	2,190	7,195	10,542	834	1,506	4,736	7,076
Illinois	66	20,500	9,542	42,416	72,458	13,666	6,982	29,812	50,460
Michigan	73	5,479	1,653	12,144	19,276	3,766	1,283	8,887	13,936
Wisconsin	86	2,296	1,296	12,000	15,592	1,756	831	7,980	10,567
Minnesota	28	5,927	2,247	6,192	14,366	4,159	1,434	4,133	9,726
Iowa	34	4,189	4,395	17,051	25,635	3,064	3,149	10,604	16,817
Missouri	42	7,895	3,200	13,800	24,895	5,024	2,106	8,630	15,760
North Dakota	3	280	9	---	289	187	9	---	196
South Dakota	3	265	1,134	2,935	4,334	160	810	2,212	3,182
Nebraska	19	5,793	1,614	10,592	17,999	4,189	905	5,755	10,849
Kansas	32	4,612	1,436	15,990	22,038	3,712	963	10,896	15,571
Delaware	7	136	137	755	1,028	137	108	744	989
Maryland	12	1,179	336	2,140	3,655	735	258	1,447	2,440
Virginia	44	387	2,367	21,718	24,472	305	1,898	18,022	20,225
West Virginia	16	---	91	3,532	3,623	---	76	3,108	3,184
North Carolina	12	12	406	629	1,047	9	286	480	775
South Carolina	6	25	56	143	224	16	40	105	161
Georgia	40	1,199	1,954	4,865	7,018	165	1,449	3,825	5,439
Florida	22	973	716	2,246	3,935	653	430	1,667	2,750
Kentucky	14	696	318	3,372	4,386	436	230	2,592	3,258
Tennessee	22	1,970	1,336	4,396	7,702	1,672	978	3,341	5,991
Alabama	10	583	433	756	1,772	486	400	642	1,528
Mississippi	6	31	415	236	682	25	342	200	567
Arkansas	11	326	70	823	1,219	228	49	617	894
Louisiana	10	1,448	230	1,334	3,012	1,253	165	1,172	2,590
Oklahoma	18	510	805	2,634	3,949	395	628	2,112	3,135
Texas	55	2,851	3,593	9,778	16,222	2,176	2,899	7,318	12,393
Montana	7	176	82	249	507	134	68	199	401
Idaho	15	286	163	1,286	1,735	258	129	1,040	1,427
Colorado	14	1,330	1,016	3,522	5,868	1,000	766	2,559	4,325
New Mexico	4	8	56	157	221	6	39	113	158
Arizona	3	75	64	181	320	68	48	155	271
Utah	11	930	944	1,187	3,061	701	666	865	2,232
Nevada	3	5	50	192	247	5	48	191	244
Washington	173	5,096	6,999	52,879	64,974	3,829	5,012	43,267	52,108
Oregon	40	3,154	5,776	10,578	19,508	2,665	4,861	8,716	16,242
California	102	7,572	6,127	25,863	39,562	5,658	4,602	19,332	29,592
Other States	5	1,327	---	2,404	3,731	1,185	---	2,149	3,334
U. S. Total	1,763	134,884	87,803	423,504	646,191	97,207	64,975	314,872	477,054

1/ Only those States are listed which have 3 or more warehouses.

Table 10. - Public general cold storage space, by States <sup>1/</sup>  
October 1, 1945

State	No. of firms	Gross Space				Net Piling Space			
		Freezer		Cooler	Total	Freezer		Cooler	Total
		Zero F. and below	Above 0 through 29° F.	Above 29 through 50° F.		Zero F. and below	Above 0 through 29° F.	Above 29 through 50° F.	
1,000 cu. ft.	1,000 cu. ft.	1,000 cu. ft.	1,000 cu. ft.	1,000 cu. ft.	1,000 cu. ft.	1,000 cu. ft.	1,000 cu. ft.		
Maine	3	272	281	271	824	218	229	227	674
Massachusetts	15	6,904	969	3,450	11,323	4,437	797	2,548	7,782
Connecticut	3	37	6	62	105	24	5	46	75
New York	72	15,313	6,288	33,768	55,369	10,908	4,910	25,553	41,371
New Jersey	18	8,351	3,212	11,648	23,211	5,979	1,807	7,704	15,490
Pennsylvania	38	4,980	4,568	13,195	22,743	3,631	3,446	9,822	16,899
Ohio	20	5,506	2,335	9,783	17,624	4,314	1,948	7,285	13,547
Indiana	10	580	1,013	1,846	3,439	422	770	1,433	2,625
Illinois	30	18,591	5,104	29,911	53,606	12,136	3,696	20,248	36,080
Michigan	15	4,492	881	6,595	11,968	3,067	696	4,472	8,235
Wisconsin	21	1,570	149	5,204	6,923	1,318	115	4,043	5,476
Minnesota	11	3,724	261	1,970	5,955	2,710	217	1,338	4,265
Iowa	9	1,874	370	725	2,969	1,440	310	616	2,366
Missouri	19	6,740	2,335	7,728	16,803	4,330	1,603	5,227	11,160
Nebraska	5	3,972	---	986	4,958	3,131	---	730	3,861
Kansas	14	2,551	301	3,802	6,654	2,177	257	3,057	5,491
Delaware	3	127	129	364	620	128	101	377	606
Maryland	6	1,174	283	1,238	2,695	730	217	810	1,757
Virginia	13	263	1,632	5,734	7,629	201	1,340	4,518	6,059
North Carolina	8	---	404	474	878	1	285	359	645
South Carolina	3	---	29	68	97	---	19	49	68
Georgia	29	10	1,501	3,567	5,078	8	1,082	2,730	3,820
Florida	19	466	710	2,207	3,383	296	425	1,630	2,351
Kentucky	4	480	248	1,793	2,521	337	173	1,323	1,833
Tennessee	11	1,881	937	2,992	5,810	1,609	721	2,361	4,691
Alabama	6	560	406	634	1,600	470	380	545	1,395
Mississippi	3	11	413	138	562	6	341	110	457
Arkansas	7	326	33	536	895	228	21	396	645
Louisiana	7	707	230	1,236	2,173	627	165	1,089	1,881
Oklahoma	10	390	427	1,371	2,188	304	297	1,036	1,637
Texas	36	2,284	2,661	5,650	10,595	1,786	2,179	4,553	8,518
Idaho	6	54	155	323	532	43	123	260	426
Colorado	7	935	627	1,511	3,073	791	514	1,273	2,578
New Mexico	3	8	56	148	212	6	39	106	151
Utah	4	498	776	665	1,939	366	543	467	1,376
Washington	25	2,715	4,638	3,668	11,021	1,962	3,129	2,415	7,506
Oregon	15	2,342	4,247	2,974	9,563	1,957	3,650	2,723	8,330
California	60	6,991	5,179	17,069	29,239	5,218	3,891	12,793	21,902
Other States	12	2,080	84	3,132	5,296	1,759	72	2,748	4,579
U. S. Total	600	109,759	53,878	188,436	352,073	79,075	40,513	139,020	258,608

1/ Only those States are listed which have 3 or more warehouses

Table 11. - Private and semiprivate general cold storage space,  
by States <sup>1/</sup>  
October 1, 1945

State	No. of firms	Gross Space				Net Piling Space			
		Freezer		Cooler	Total	Freezer		Cooler	Total
		Zero F. and below	Above 0 through 29° F.	Above 29 through 50° F.		Zero F. and below	Above 0 through 29° F.	Above 29 through 50° F.	
		1,000 cu. ft.	1,000 cu. ft.	1,000 cu. ft.	1,000 cu. ft.	1,000 cu. ft.	1,000 cu. ft.	1,000 cu. ft.	1,000 cu. ft.
Vermont	4	13	10	31	54	11	5	24	40
Massachusetts	11	524	620	284	1,428	386	552	246	1,184
New York	61	1,185	973	2,308	4,466	827	743	1,774	3,344
New Jersey	8	219	788	362	1,369	190	563	221	974
Pennsylvania	10	124	533	2,354	3,011	105	440	2,103	2,648
Ohio	16	275	357	780	1,412	233	299	660	1,192
Indiana	4	251	---	335	586	241	---	298	539
Illinois	5	91	221	706	1,018	57	153	564	774
Michigan	20	645	497	1,970	3,112	500	391	1,653	2,544
Wisconsin	58	144	210	3,150	3,504	106	132	2,296	2,534
Minnesota	6	872	77	371	1,320	704	63	265	1,032
Iowa	13	720	459	962	2,141	494	322	725	1,541
Nebraska	10	1,025	110	870	2,005	639	68	639	1,346
Kansas	5	407	135	1,032	1,574	343	80	825	1,248
Virginia	3	---	500	27	527	---	361	24	385
Georgia	3	57	5	31	93	52	5	19	76
Florida	3	507	6	39	552	357	5	37	399
Kentucky	4	133	23	278	434	82	15	178	275
Tennessee	3	5	4	47	56	3	4	29	36
Texas	10	75	15	426	516	58	13	312	383
Montana	4	13	74	48	135	12	62	41	115
Idaho	3	224	---	154	378	207	---	132	339
Utah	5	407	23	52	482	315	15	36	366
Washington	24	1,952	835	750	3,537	1,532	604	586	2,722
Oregon	15	648	859	1,057	2,564	555	707	927	2,189
California	15	178	413	1,063	1,654	139	354	885	1,378
Other States	20	900	379	788	2,067	737	288	621	1,646
U. S. Total	343	11,594	8,126	20,275	39,995	8,885	6,244	16,120	31,249

<sup>1/</sup> Only those States having 3 or more houses are listed.

Table 12. - Cold storage space in meat-packing plants, by States <sup>1/</sup>  
October 1, 1945

State	No. of firms	Gross Space				Net Piling Space			
		Freezer		Cooler	Total	Freezer		Cooler	Total
		Zero F. and below	Above 0 through 29° F.	Above 29 through 50° F.		Zero F. and below	Above 0 through 25° F.	Above 29 through 50° F.	
		1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
		cu. ft.	cu. ft.	cu. ft.	cu. ft.	cu. ft.	cu. ft.	cu. ft.	cu. ft.
Maine	3	---	2	150	152	---	2	133	135
Massachusetts	4	354	524	2,121	2,999	303	447	1,796	2,546
New York	28	110	561	6,380	7,051	73	381	4,263	4,717
New Jersey	4	---	789	649	1,438	---	602	454	1,056
Pennsylvania	20	19	282	2,773	3,074	13	186	1,974	2,173
Ohio	18	108	347	3,469	3,924	76	266	2,577	2,919
Indiana	15	326	1,177	4,221	5,724	171	736	2,479	3,386
Illinois	18	1,818	4,120	9,638	15,576	1,473	3,059	7,216	11,748
Michigan	5	342	275	1,635	2,252	199	196	1,234	1,629
Wisconsin	7	582	937	3,646	5,165	332	584	1,641	2,557
Minnesota	11	1,331	1,909	3,851	7,091	745	1,154	2,530	4,429
Iowa	12	1,595	3,566	15,364	20,525	1,130	2,517	9,263	12,910
Missouri	11	1,106	752	4,623	6,481	659	412	2,243	3,314
Nebraska	4	796	1,504	8,736	11,036	419	837	4,385	5,642
Kansas	10	1,654	1,000	10,992	13,646	1,192	626	6,892	8,710
Maryland	3	5	42	446	493	5	33	307	345
Georgia	8	132	448	1,267	1,847	105	362	1,076	1,543
Kentucky	6	83	47	1,301	1,431	17	42	1,091	1,150
Tennessee	7	84	395	982	1,461	60	253	644	957
Alabama	4	23	27	122	172	16	20	97	133
Oklahoma	5	70	352	1,194	1,616	61	317	1,032	1,410
Texas	9	492	917	3,702	5,111	332	707	2,453	3,492
Idaho	3	8	8	129	145	8	6	91	105
Colorado	5	395	372	2,011	2,778	209	239	1,286	1,734
Washington	8	160	329	856	1,345	127	263	651	1,341
California	13	359	383	3,964	4,706	279	259	2,863	3,401
Other States	24	540	1,478	5,557	7,575	392	1,079	4,451	5,922
U. S. Total	265	12,492	22,543	99,779	134,814	8,396	15,585	65,123	89,104

<sup>1/</sup> Only those States having 3 or more warehouses are listed.

Table 13. - Total apple house cold storage space, by States  
October 1, 1945

State	No. of firms	Gross Space				Net Piling Space			
		Freezer		Cooler	Total	Freezer		Cooler	Total
		Zero F and below 1,000 cu. ft.	Above 0 through 29° F 1,000 cu. ft.	Above 29 through 50° F 1,000 cu. ft.	1,000 cu. ft.	Zero F and below 1,000 cu. ft.	Above 0 through 29° F 1,000 cu. ft.	Above 29 through 50° F 1,000 cu. ft.	1,000 cu. ft.
New Hampshire	9	---	---	363	363	---	---	294	294
Vermont	13	---	8	549	557	---	8	459	467
Massachusetts	39	---	32	3,171	3,203	---	15	2,634	2,649
Connecticut	59	---	36	2,744	2,780	---	33	2,050	2,083
New York	99	482	542	17,269	18,293	420	458	14,398	15,276
New Jersey	20	4	70	1,689	1,763	3	63	1,340	1,406
Pennsylvania	31	95	33	3,858	3,986	77	25	3,283	3,385
Ohio	27	---	61	1,039	1,100	---	49	801	850
Indiana	6	---	---	793	793	---	---	526	526
Illinois	13	---	97	2,161	2,258	---	74	1,784	1,858
Michigan	33	---	---	1,944	1,944	---	---	1,528	1,528
Missouri	10	---	89	1,399	1,488	---	72	1,118	1,190
Arkansas	3	---	35	247	282	---	26	181	207
Delaware	3	9	---	221	230	9	---	206	215
Virginia	27	124	216	15,224	15,564	104	180	12,821	13,105
West Virginia	11	---	40	3,064	3,104	---	35	2,719	2,754
Idaho	3	---	---	680	680	---	---	557	557
Washington	116	269	1,197	47,605	49,071	208	1,016	39,615	40,839
Oregon	9	---	641	6,137	6,778	---	478	4,677	5,155
California	14	44	152	3,767	3,963	22	98	2,791	2,911
Other States	10	12	7	1,090	1,109	8	3	827	838
<b>U. S. Total</b>	<b>555</b>	<b>1,039</b>	<b>3,256</b>	<b>115,014</b>	<b>119,309</b>	<b>851</b>	<b>2,633</b>	<b>94,609</b>	<b>98,093</b>

Table 14. - Public apple house cold storage space, by States  
October 1, 1945

State	No. of firms	Gross Space				Net Piling Space			
		Freezer		Cooler	Total	Freezer		Cooler	Total
		Zero F and below	Above 0 through 29° F	Above 29 through 50° F		Zero F and below	Above 0 through 29° F	Above 29 through 50° F	
	1,000 cu. ft.	1,000 cu. ft.	1,000 cu. ft.	1,000 cu. ft.	1,000 cu. ft.	1,000 cu. ft.	1,000 cu. ft.	1,000 cu. ft.	
Massachusetts	4	---	---	719	719	---	---	569	569
Connecticut	8	---	30	739	769	---	30	428	458
New York	27	413	432	9,475	10,320	361	363	7,744	8,468
New Jersey	6	4	70	889	963	3	63	766	832
Pennsylvania	12	95	19	2,396	2,510	77	15	2,039	2,131
Ohio	5	---	60	234	294	---	48	184	232
Indiana	6	---	---	793	793	---	---	526	526
Illinois	8	---	43	1,877	1,920	---	30	1,539	1,569
Michigan	4	---	---	382	382	---	---	298	298
Missouri	8	---	89	1,226	1,315	---	72	975	1,047
Delaware	3	9	---	221	230	9	---	206	215
Virginia	17	124	216	13,461	13,801	104	180	11,285	11,569
West Virginia	5	---	40	2,348	2,388	---	35	2,124	2,159
Arkansas	3	---	35	247	282	---	26	181	207
Washington	32	---	440	11,295	11,735	---	400	9,184	9,584
Oregon	3	---	641	1,247	1,888	---	478	964	1,442
California	5	44	152	990	1,186	22	98	770	890
Other States	5	---	7	257	264	---	3	155	158
U. S. Total	161	689	2,274	48,796	51,759	576	1,841	39,937	42,354

Table 15. - Private and semiprivate apple house cold storage space, by States  
October 1, 1945

State	No. of firms	Gross Space				Net Piling Space			
		Freezer		Cooler	Total	Freezer		Cooler	Total
		Zero F and below	Above 0 through 29° F	Above 29 through 50° F		Zero F and below	Above 0 through 29° F	Above 29 through 50° F	
	1,000 cu. ft.	1,000 cu. ft.	1,000 cu. ft.	1,000 cu. ft.	1,000 cu. ft.	1,000 cu. ft.	1,000 cu. ft.	1,000 cu. ft.	
New Hampshire	9	---	---	363	363	---	---	294	294
Vermont	13	---	8	549	557	---	8	459	467
Massachusetts	35	---	32	2,452	2,484	---	15	2,065	2,080
Connecticut	51	---	6	2,005	2,011	---	3	1,622	1,625
New York	72	69	110	7,794	7,973	59	95	6,654	6,808
New Jersey	14	---	---	800	800	---	10	574	584
Pennsylvania	19	---	14	1,462	1,476	---	---	1,244	1,244
Ohio	22	---	1	805	806	---	1	617	618
Illinois	5	---	54	284	338	---	44	245	289
Michigan	29	---	---	1,562	1,562	---	---	1,230	1,230
Virginia	10	---	---	1,763	1,763	---	---	1,536	1,536
West Virginia	6	---	---	716	716	---	---	595	595
Idaho	3	---	---	680	680	---	---	557	557
Washington	84	269	757	36,310	37,336	208	616	30,431	31,255
Oregon	6	---	---	4,890	4,890	---	---	3,713	3,713
California	9	---	---	2,777	2,777	---	---	2,021	2,021
Other States	7	12	---	1,006	1,018	8	---	815	823
U. S. Total	394	350	982	66,218	67,550	275	792	54,672	55,739

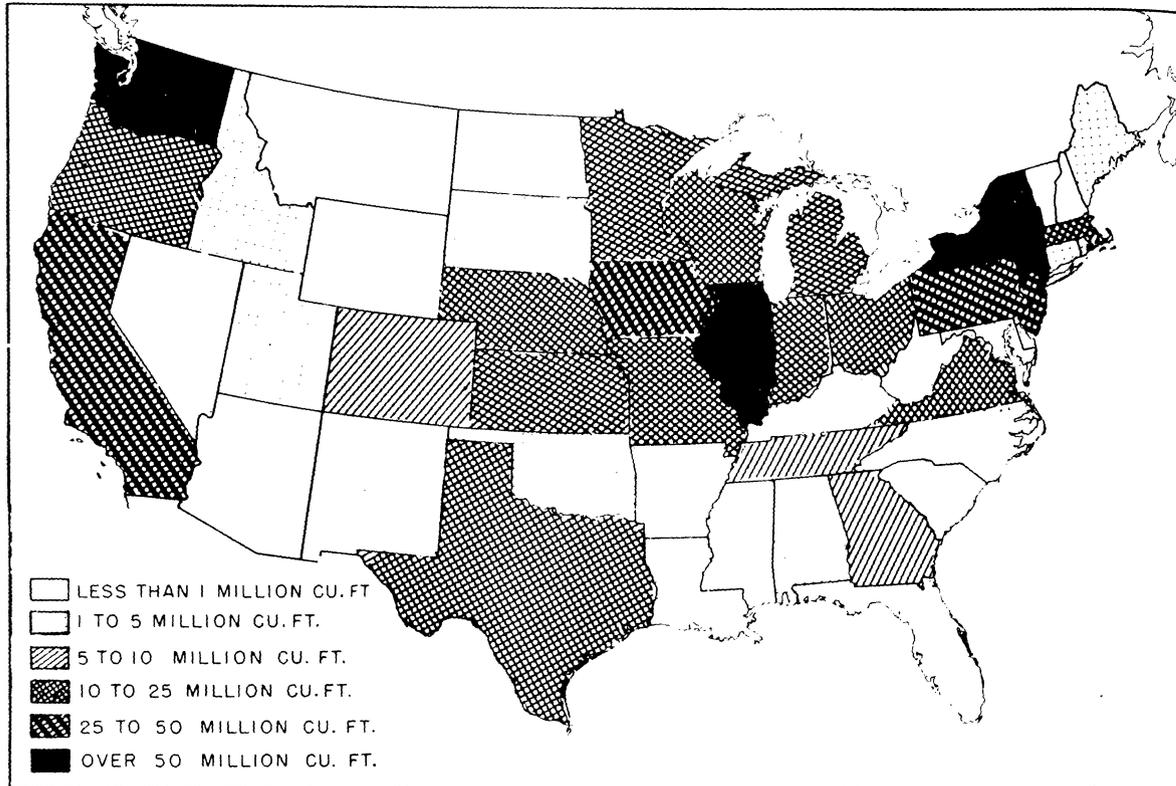


Fig. 6. - Distribution of total gross cold storage space, by States

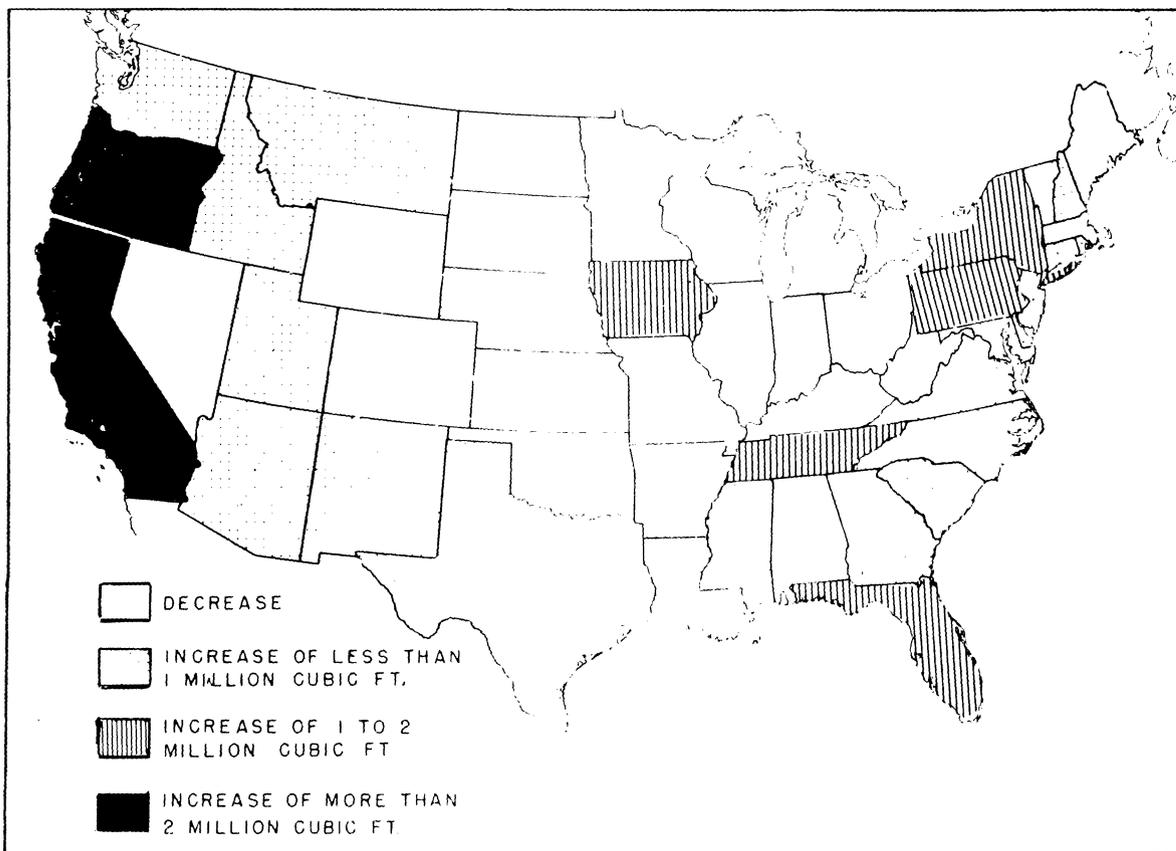


Fig. 7. - Increase or decrease in total net cold storage space, by States, October 1, 1943--October 1, 1945

## COLD STORAGE CAPACITY IN CITIES

Refrigerated storage space, just as population, is largely concentrated in city areas. This concentration in cities is true of all types of refrigerated warehouses except apple houses, which are located primarily in producing areas. Space in 10 city areas (including the city and surrounding territory within a 25 mile radius) accounted for 48 percent of the total public space in the United States, while 65 percent of the public space was located in 27 cities. Some 46 percent of all meat-packing storage space was concentrated in nine cities.

Chicago has 60 million cubic feet of refrigerated storage space, which amount is 9 million cubic feet more gross space than was found in any other city in the country. New York, St. Louis, Kansas City, Omaha, and Philadelphia follow in the order named. Chicago leads the list in cold storage capacity in every type of plant operation except apple house space, which is not found in urban centers.

Cities showing gains in public space of a million cubic feet or more were Portland, Oreg.; Los Angeles, Calif.; and Nashville, Tenn. Additional public space is also in evidence in Chicago and Greater New York, but much of the expansion in these two cities was occasioned merely by a reclassification of warehouses from private or meat-packing to public. Meat-packing net storage space in Chicago exceeded that of any other city, but was followed closely in this type of storage space by Kansas City, St. Louis, and Omaha.

The 24 cities in table 16 not only have a large percentage of the refrigerated public space, but during the war years their space was used at almost maximum capacity. Public freezers in 19 of the cities were operated above 85 percent capacity at least two-thirds of the time during the heavy storage years of the war (1943-44). Public coolers in 13 of the same cities were 80 percent filled at least two-thirds of the period. At their freezer occupancy peaks, all of the cities except Buffalo were 90 percent filled whereas all but three of the cities had cooler occupancies of above 90 percent at their peaks.

Table 16. - Total cold storage space in cities with 3 or more warehouses and at least 3 million cubic feet net space, October 1, 1945 <sup>1/</sup>

City	No. of firms	Gross Space				Net Piling Space			
		Freezer		Cooler	Total	Freezer		Cooler	Total
		Zero F. and below	Above 0 through 29° F.	Above 29 through 50° F.		Zero F. and below	Above 0 through 29° F.	Above 29 through 50° F.	
	1,000 cu. ft.	1,000 cu. ft.	1,000 cu. ft.	1,000 cu. ft.	1,000 cu. ft.	1,000 cu. ft.	1,000 cu. ft.	1,000 cu. ft.	
Boston	21	5,345	669	5,020	11,034	3,064	526	3,784	7,374
New York	70	13,392	8,406	28,781	50,579	9,031	5,932	19,535	34,498
Buffalo	14	3,241	754	2,843	6,838	2,333	605	2,126	5,064
Rochester	18	1,535	779	8,510	10,824	1,174	563	6,738	8,475
Albany	13	619	285	4,636	5,540	556	224	3,691	4,471
Philadelphia	33	3,899	3,304	9,603	16,806	2,666	2,262	7,025	11,953
Pittsburgh	10	971	1,675	3,738	6,384	765	1,329	2,690	4,784
Chambersburg	7	132	49	3,893	4,074	95	45	3,403	3,543
Cleveland	17	3,281	1,161	6,922	11,364	2,618	1,014	5,021	8,653
Cincinnati	9	1,385	463	3,343	5,191	1,002	330	2,579	3,911
Indianapolis	10	753	1,740	3,802	6,295	468	1,181	2,187	3,836
Chicago	31	19,907	8,235	31,500	59,642	13,205	6,247	20,911	40,363
St. Louis	20	4,483	1,420	13,219	19,122	2,886	1,055	9,598	13,539
Detroit	12	4,022	684	7,051	11,757	2,609	523	4,725	7,857
Milwaukee	9	1,498	459	4,583	6,540	1,118	243	2,401	3,762
Minneapolis, St. Paul	13	3,211	1,719	4,149	9,079	2,354	1,090	2,873	6,317
Sioux City	8	974	1,362	4,758	7,094	705	889	1,925	3,519
Kansas City	11	4,851	1,607	10,691	17,149	3,511	1,005	7,742	12,258
Omaha	10	4,973	1,525	9,885	16,383	3,521	852	5,197	9,570
Wichita	5	681	255	4,383	5,319	597	189	2,383	3,169
Richmond	6	---	596	3,578	4,174	---	513	2,817	3,330
Winchester	8	43	202	7,671	7,916	39	139	6,619	6,797
Nashville	7	1,449	898	1,677	4,024	1,291	665	1,423	3,379
Dallas, Ft. Worth	14	1,947	2,326	5,668	9,941	1,384	1,859	4,071	7,314
Denver	7	1,096	695	2,699	4,490	803	485	1,869	3,157
Seattle	18	1,500	2,976	2,574	7,050	1,044	1,957	1,479	4,480
Portland	16	2,166	3,422	1,729	7,317	1,889	2,930	1,523	6,342
Los Angeles	21	2,696	1,832	6,661	11,189	2,181	1,232	4,941	8,354
San Francisco	18	1,406	2,025	5,665	9,096	1,024	1,676	4,493	7,193
San Jose	16	1,735	84	6,006	7,825	1,158	72	4,300	5,530
U. S. Total	472	93,191	51,607	215,238	360,036	65,091	37,632	150,069	252,792

<sup>1/</sup> Includes the city and surrounding territory within a radius of 25 miles.

Table 17. - Public general cold storage space in cities with 3 or more warehouses and approximately 2 million cubic feet or more net space <sup>1/</sup>

City	No. of firms	Gross Space				Net Piling Space			
		Freezer		Cooler	Total	Freezer		Cooler	Total
		Zero F and below	Above 0 through 29° F	Above 29 through 50° F		Zero F and below	Above 0 through 29° F	Above 29 through 50° F	
		cu. ft.	cu. ft.	cu. ft.	cu. ft.	cu. ft.	cu. ft.	cu. ft.	cu. ft.
Boston	6	4,974	61	2,177	7,212	2,751	41	1,414	4,206
New York	29	13,299	7,118	23,252	43,669	8,969	4,985	15,622	29,576
Buffalo	4	2,572	653	1,767	4,992	1,804	527	1,372	3,703
Rochester	14	1,476	420	7,323	9,219	1,139	327	5,939	7,405
Philadelphia	8	3,869	2,346	6,733	12,948	2,640	1,586	4,873	9,099
Pittsburgh	5	963	1,656	3,189	5,808	758	1,312	2,311	4,381
Cleveland	6	3,138	1,024	5,668	9,830	2,524	919	4,239	7,682
Cincinnati	3	1,378	363	1,534	3,275	996	245	1,075	2,316
Chicago	18	18,395	4,608	25,566	48,569	11,953	3,270	16,798	32,021
Detroit	6	3,837	424	5,362	9,623	2,527	339	3,515	6,381
Milwaukee	4	1,102	70	1,506	2,678	919	57	1,173	2,149
Minneapolis, St. Paul	7	2,534	137	1,307	3,978	1,935	108	918	2,961
St. Louis	7	3,646	704	6,502	10,852	2,370	628	4,801	7,799
Kansas City	4	3,190	1,071	3,349	7,610	2,304	668	2,507	5,479
Omaha	4	3,642	---	968	4,610	2,831	---	725	3,556
Richmond	4	---	536	1,873	2,409	---	465	1,525	1,990
Norfolk	4	223	1,083	1,280	2,586	164	869	927	1,960
Nashville	4	1,449	578	1,373	3,400	1,291	451	1,217	2,959
Dallas-Ft. Worth	10	1,454	1,538	2,289	5,281	1,052	1,251	1,869	4,172
Seattle	7	1,163	2,080	1,971	5,214	802	1,290	1,070	3,162
Portland	8	1,620	3,286	862	5,768	1,395	2,810	711	4,916
Los Angeles	15	2,624	1,496	4,203	8,323	2,118	1,004	3,067	6,189
San Francisco	10	1,192	1,876	4,813	7,881	865	1,572	3,915	6,353
San Jose	7	1,712	84	3,231	5,027	1,146	72	2,272	3,490
U. S. Total	194	79,452	33,212	118,098	230,762	55,254	24,796	83,855	163,905

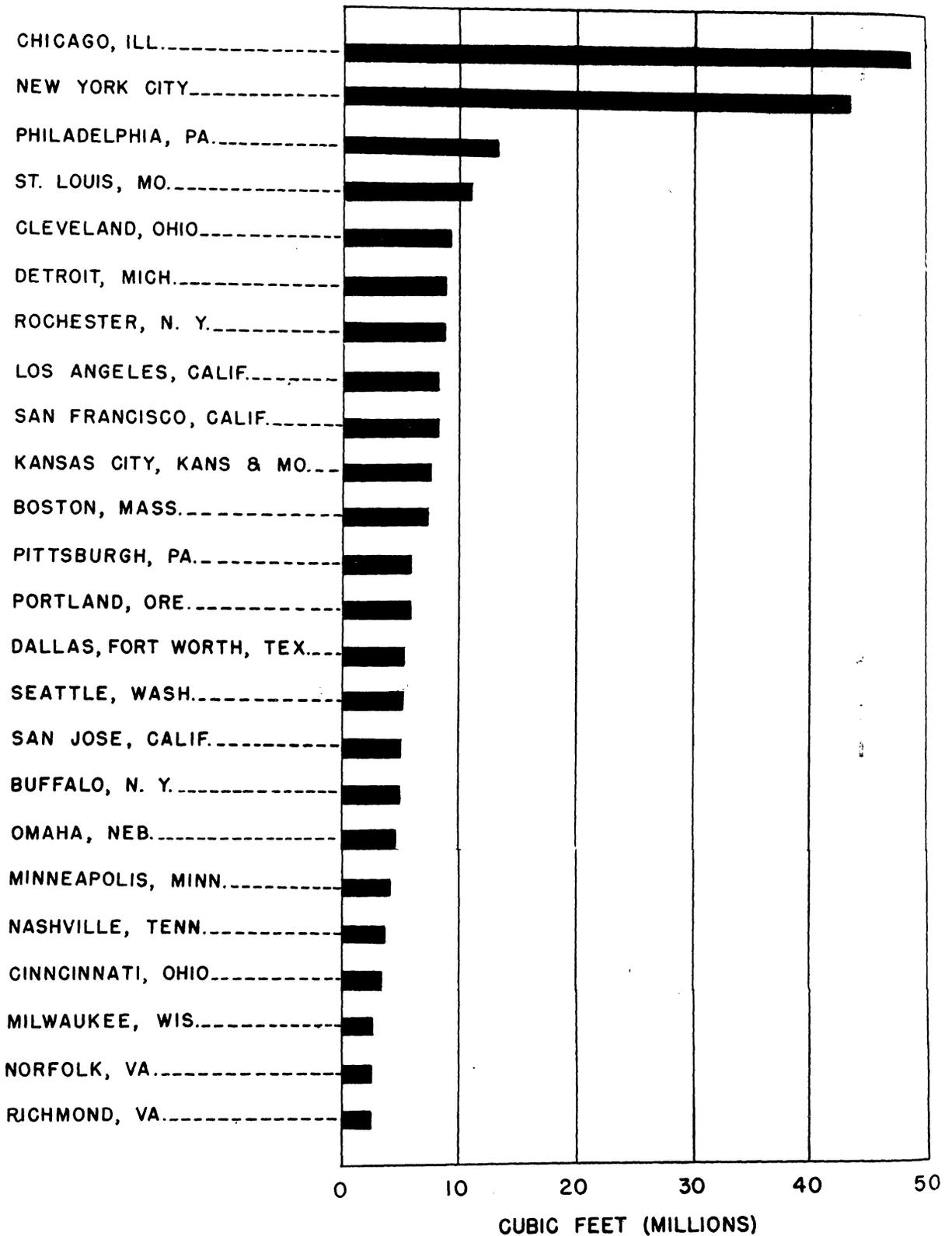
<sup>1/</sup> Includes the city and surrounding territory within a radius of 25 miles.

Table 18. - Cold storage space in meat-packing plants in cities with 3 or more plants and at least 2 million cubic feet net space.

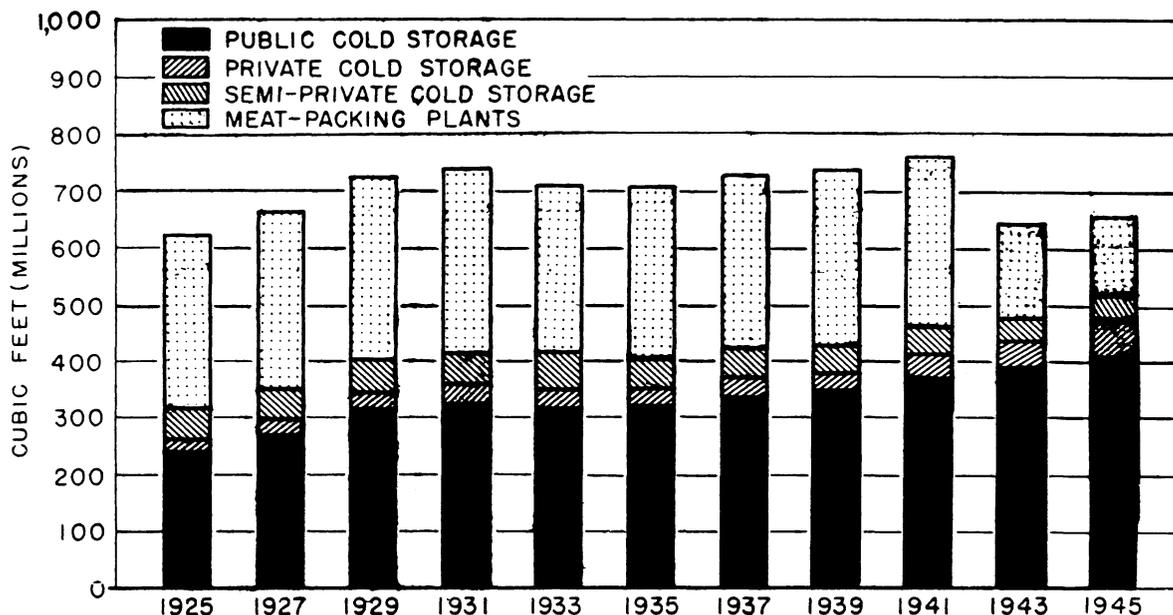
City	No. of firms	Gross Space				Net Piling Space			
		Freezer		Cooler	Total	Freezer		Cooler	Total
		Zero F and below	Above 0 through 29° F	Above 29 through 50° F		Zero F and below	Above 0 through 29° F	Above 29 through 50° F	
		cu. ft.	cu. ft.	cu. ft.	cu. ft.	cu. ft.	cu. ft.	cu. ft.	cu. ft.
Boston	3	354	509	2,080	2,943	303	436	1,766	2,505
New York	18	27	1,022	4,081	5,130	14	747	2,796	3,557
Indianapolis	5	301	977	2,790	4,068	151	600	1,436	2,187
Chicago	11	1,430	3,723	5,018	10,171	1,202	2,837	3,625	7,664
Minneapolis	4	658	1,554	2,642	4,854	406	964	1,795	3,165
Sioux City	3	586	988	4,509	6,083	360	629	1,734	2,743
St. Louis	11	838	693	6,636	8,167	516	413	4,722	5,651
Omaha	4	796	1,504	8,737	11,037	419	837	4,385	5,641
Kansas City	5	1,605	536	7,289	9,430	1,167	337	5,182	6,686
Dallas-Ft. Worth	4	492	787	3,379	4,658	331	608	2,203	3,142
Los Angeles	6	93	278	3,143	3,514	80	185	2,322	2,587
U. S. Total	74	7,180	12,571	50,304	70,055	4,969	8,593	31,966	45,528

<sup>1/</sup> Includes the city and surrounding territory within a radius of 25 miles.

Fig. 8. - Public general cold storage space in cities with 3 or more warehouses and approximately 2 million cubic feet or more net space 1/



1/ Includes the city and surrounding territory within a radius of 25 miles.

Fig. 9. - Growth of cold storage space, October 1, 1925 to October 1, 1945 <sup>1/</sup>

<sup>1/</sup>The apparent decrease in over-all storage space for the years 1943 and 1945 is due to meat-packing plants not reporting refrigerated working space as they did prior to 1943.

Table 19. - Total gross cold storage space  
October 1, 1925--October 1, 1945

Type of Plant	1925	1927	1929	1931	1933	1935	1937	1939	1941	1943	1945
	- Thousands of cubic feet -										
Public cold storage <sup>1/</sup> .....	248,564	273,896	316,810	325,703	317,211	322,450	333,833	351,368	371,771	389,991	403,832
Private cold storage <sup>2/</sup> .....	24,066	24,806	29,133	35,222	32,739	31,051	33,890	32,072	43,975	49,544	62,291
Semiprivate cold storage <sup>1/</sup> .....	57,055	57,275	60,322	58,853	64,718	53,863	52,957	50,438	48,407	42,081	45,254
Meat-packing plants <sup>2/</sup> .....	303,004	311,869	322,330	321,065	297,274	303,206	309,642	312,562	302,232	169,650	134,814
Total.....	626,669	667,846	728,595	740,843	711,942	710,570	730,322	746,440	766,383	651,266	646,191

<sup>1/</sup> Includes apple space.

<sup>2/</sup> The apparent decrease in overall storage space for the years 1943 and 1945 is due to meatpacking plants not reporting refrigerated working space as they did prior to 1943.

Fig. 10. - Percentage occupancy of public general cold storage space  
Jan. 1, 1940, to Dec. 1, 1945

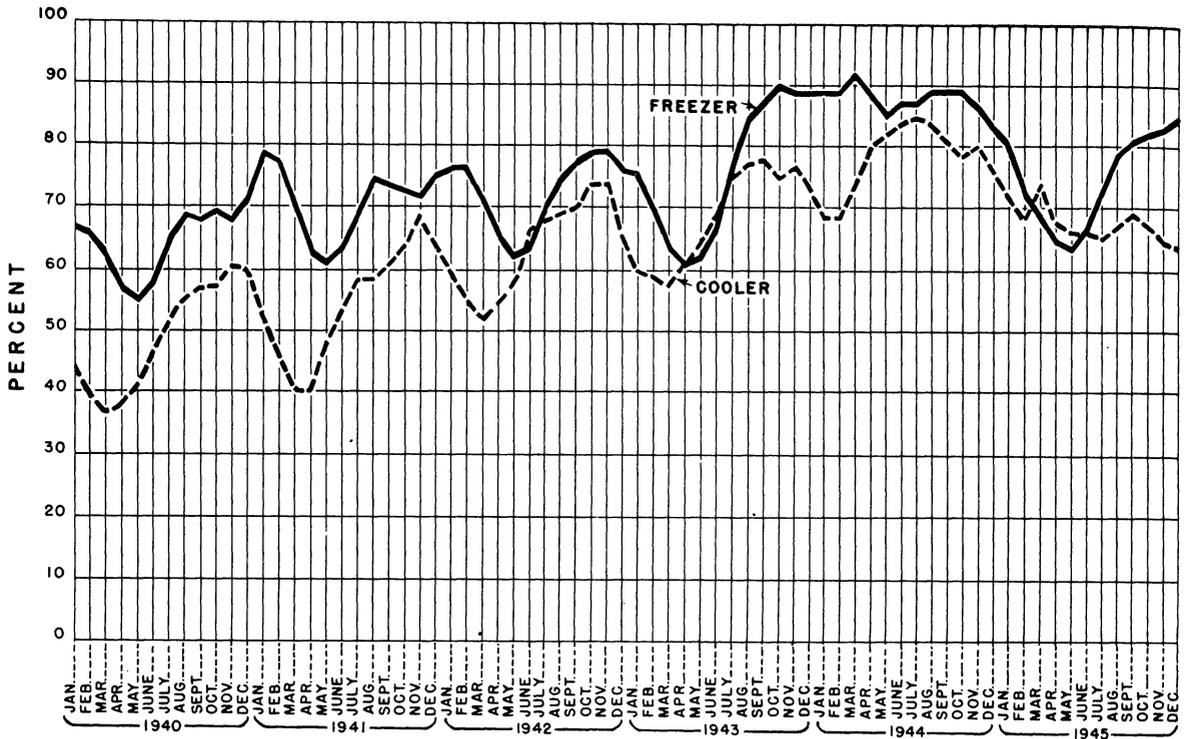


Table 20. - Space occupied in public general storages  
January 1, 1940, to December 1, 1945

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept	Oct.	Nov.	Dec.
	<u>Percent</u>											
<b>Cooler</b>												
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
<b>Freezer</b>												
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

Table 21. - Cold storage space in warehouses handling fish <sup>1/</sup>  
October 1, 1945

State	No. of firms	Gross Space				Net Piling Space			
		Freezer		Cooler	Total	Freezer		Cooler	Total
		Zero F. and below	Above 0 through 29° F.	Above 29 through 50° F.		Zero F. and below	Above 0 through 29° F.	Above 29 through 50° F.	
	1,000 cu. ft.	1,000 cu. ft.	1,000 cu. ft.	1,000 cu. ft.	1,000 cu. ft.	1,000 cu. ft.	1,000 cu. ft.	1,000 cu. ft.	
Maine	3	272	279	217	768	218	224	183	625
Massachusetts	15	7,011	740	2,538	10,289	4,446	648	1,723	6,817
Other States	2	386	119	1,190	1,695	315	83	1,015	1,413
New England	20	7,669	1,138	3,945	12,752	4,979	955	2,921	8,855
New York	18	7,535	3,913	9,943	21,391	5,325	3,171	6,721	15,217
New Jersey	12	5,474	2,364	8,831	16,669	3,810	1,300	5,682	10,792
Pennsylvania	15	2,483	2,870	7,534	12,887	1,757	2,145	5,661	9,563
Middle Atlantic	45	15,492	9,147	26,308	50,947	10,892	6,616	18,064	35,572
Ohio	9	4,282	911	6,247	11,440	3,306	682	4,368	8,356
Indiana	4	458	920	968	2,346	320	715	731	1,766
Illinois	10	5,282	77	8,818	14,177	3,997	74	6,734	10,805
Michigan	8	3,141	687	4,050	7,878	2,326	539	2,673	5,538
Wisconsin	4	737	48	815	1,600	632	41	631	1,304
E. N. Central	35	13,900	2,643	20,898	37,441	10,581	2,051	15,137	27,769
Minnesota	3	1,945	90	765	2,800	1,395	69	514	1,978
Iowa	3	769	85	422	1,276	666	68	363	1,097
Missouri	4	4,095	947	2,820	7,862	2,424	540	1,738	4,702
Nebraska	3	2,283	35	697	3,015	1,655	23	500	2,178
W. N. Central	13	9,092	1,157	4,704	14,953	6,140	700	3,115	9,955
Maryland	4	1,100	223	1,164	2,487	677	179	754	1,610
Virginia	5	98	982	1,940	3,020	90	798	1,401	2,289
Georgia	4	---	1,253	1,560	2,813	---	906	1,111	2,017
Florida	5	244	401	951	1,596	131	217	612	960
Other States	4	1,022	18	1,329	2,369	922	14	1,207	2,143
South Atlantic	22	2,464	2,877	6,544	12,285	1,820	2,114	5,085	9,019
Tennessee	4	424	101	1,073	1,598	312	68	661	1,041
Alabama	3	561	403	602	1,566	470	377	523	1,370
Other States	3	492	367	1,385	2,244	343	269	973	1,585
E. S. Central	10	1,477	871	3,060	5,408	1,125	714	2,157	3,996
Louisiana	5	1,381	64	1,091	2,536	1,205	31	948	2,184
Texas	7	1,172	1,202	1,543	3,917	868	1,013	1,295	3,176
Other States	1	100	30	105	235	62	21	66	149
W. S. Central	13	2,653	1,296	2,739	6,688	2,135	1,065	2,309	5,509
Colorado	4	293	377	477	1,147	225	289	369	883
Other States	1	---	7	3	10	---	4	2	6
Mountain	5	293	384	480	1,157	225	293	371	889
Washington	9	1,064	2,298	2,144	5,506	681	1,363	1,194	3,238
Oregon	11	1,765	2,377	735	4,877	1,507	2,006	610	4,123
California	14	2,168	2,730	5,794	10,692	1,705	2,117	4,624	8,446
Pacific	34	4,997	7,405	8,673	21,075	3,893	5,486	6,428	15,807
U. S. Total	197	58,037	26,918	77,751	162,706	41,790	19,994	55,587	117,371

<sup>1/</sup> Includes all space in warehouses which carry fish or fishery products, some portion of which the warehousemen would not use for fish storage. All space shown in this table is included in pre-previous tables.