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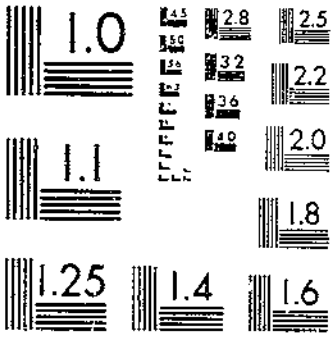
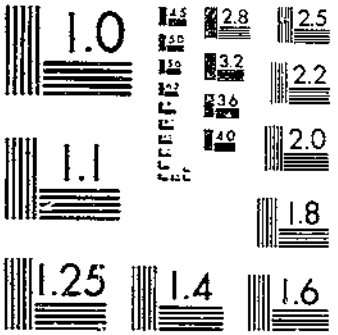


MICROCOPY RESOLUTION TEST CHART
NATIONAL BUREAU OF STANDARDS 1963-A



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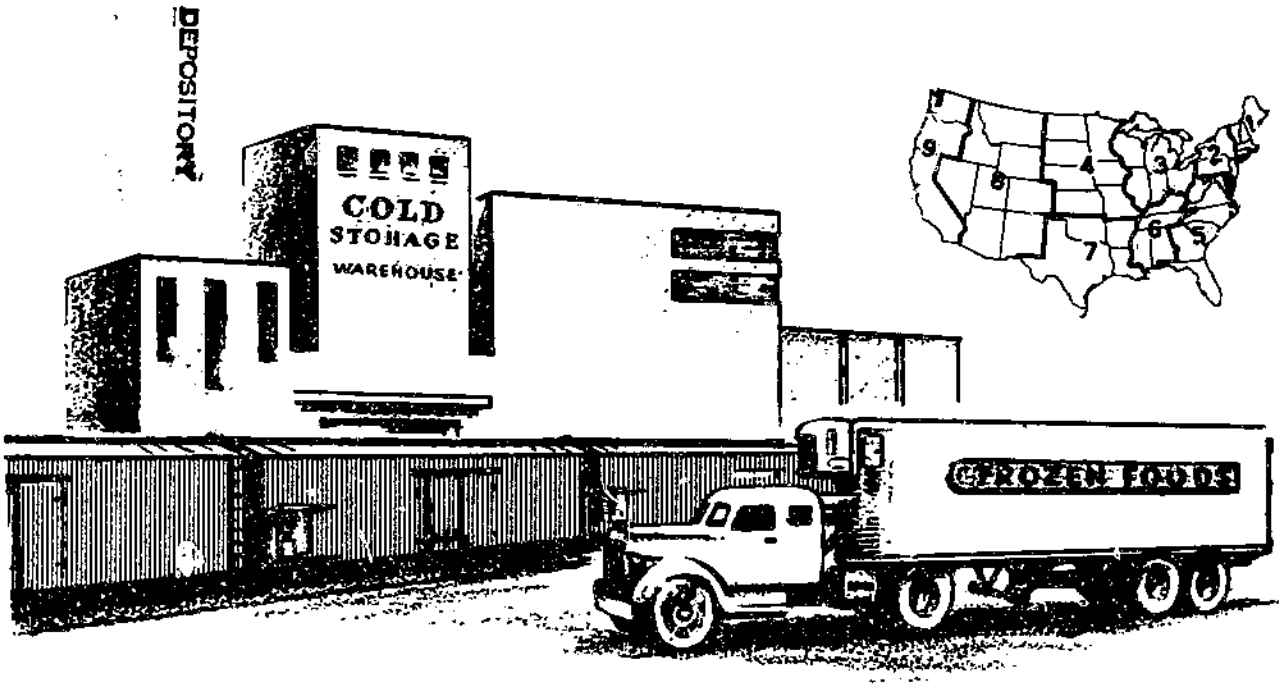
CAPACITY OF REFRIGERATED WAREHOUSES

in the United States October 1, 1955



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October 1956

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CAPACITY OF REFRIGERATED WAREHOUSES IN THE UNITED STATES October 1, 1955

INTRODUCTION

Scope and Objectives of the Survey

The Department of Agriculture made its first survey of the capacity of refrigerated storage facilities in the United States on October 1, 1921, and reported 544 million cubic feet of gross refrigerated space. 1/ Successive surveys have been made in each alternate year following that first census of refrigerated space. This is a report on the results of the 18th biennial space survey which showed 813 million cubic feet of gross refrigerated space in the United States as of October 1, 1955.

As in previous surveys, every effort was made to include all known public, private, and semiprivate refrigerated storage facilities. Among those included are fish houses, fruit houses, meat-packing plants, frozen food processing facilities and cheese houses having artificially cooled space for the storage of their products. Other types of establishments also were surveyed and included in the findings, for by definition, the survey covered all classes of facilities having space artificially cooled to temperatures of 50° F. or below in which foodstuffs are held for 30 days or more.

Space in wholesaler, jobber, retailer or other classes of business generally is not used for holding products 30 days or more and, therefore, was not included in this report nor was it included in any of the previous surveys. Space in locker plants, too, was excluded; also, refrigerated space maintained by retail food businesses, hotels, and the Armed Services.

The coverage of the refrigerated warehousing industry for this survey was checked against membership listings published by trade associations, by review of trade journals, and other trade media before and during the survey. It is believed that the mailing list compiled from known sources provided practically complete coverage of the industry.

Replies to all questionnaires on warehouse capacity were carefully reviewed and checked against previous reports submitted by the warehouseman. In each instance where a questionable entry was found, confirmation or correction was secured.

1/ Included in the 1921 capacity is refrigerated working space in meat-packing plants which, starting with the 1943 survey, was excluded from all successive surveys; begining with 1953, meat packers were asked to exclude all smoking and curing rooms, also. Classification of refrigerated space in the 1953 survey was, (a) 19° F. and below and (b) above 19° F. to 50° F.

The primary objectives of these space surveys are:

1. To ascertain the size of the national refrigerated capacity so as to have knowledge of trends, area changes, distribution of space, and other factors of importance to Government and industry alike.

2. To provide a benchmark by which to check the adequacy of storage occupancy data furnished by the warehousing industry each month as a part of the Cold Storage Report.

3. To provide the warehousing industry with statistical data which may be used for (a) planning an efficient and orderly expansion program in areas that can support additional storage space or (b) identifying those areas where space is in sufficient supply.

4. To aid in locating refrigerated space to facilitate the preservation of perishable foods.

Definitions

The terms used in this report are defined as follows:

Public general cold storage. -- Any artificially cooled warehouse where the operator is engaged in storing food commodities requiring refrigeration, for others for pay.

Private general cold storage. -- Any artificially cooled warehouse where the operator conducts a warehousing business to facilitate his main function as a producer, processor, or distributor, but does not store commodities for others for pay.

Semiprivate general cold storage. -- Any artificially cooled warehouse where the operator uses part of the space to care for the storage of his own commodities and, in addition, stores in his plant various food commodities for others for pay.

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

Apple house. -- Any warehouse, public, private, or semiprivate, where the operator is engaged mainly or exclusively in the storage of apples or pears.

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

Usable 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,

Number of plants. -- Represents the number of individual plant locations. Companies operating 2 or more plants in the same city or state were counted by the number of plants having a separate mailing address or by the number of plants having a company designation that sets one apart from the other. Thus, if a company had one mailing address but had buildings designated as A, B, and C, it was considered to have 3 plants.

Cities. -- As used in this report, cities are standard metropolitan areas. Generally, these are major urban centers containing 50,000 population or more and include all of the closely linked surrounding area.

Geographic regions. -- The regions and States covered in the survey are as follows:

New England: Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, and Connecticut.

Middle Atlantic: New York, New Jersey, and Pennsylvania.

East North Central: Ohio, Indiana, Illinois, Michigan, and Wisconsin.

West North Central: Minnesota, Iowa, Missouri, North Dakota, South Dakota, Nebraska, and Kansas.

South Atlantic: Delaware, Maryland, District of Columbia, Virginia, West Virginia, North Carolina, South Carolina, Georgia, and Florida.

East South Central: Kentucky, Tennessee, Alabama, and Mississippi.

West South Central: Arkansas, Louisiana, Oklahoma, and Texas.

Mountain: Montana, Idaho, Wyoming, Colorado, New Mexico, Arizona, Utah, and Nevada.

Pacific: Washington, Oregon, and California

NATIONAL REFRIGERATED WAREHOUSE CAPACITY

Gross Space

On October 1, 1955, the national gross refrigerated capacity amounted to 813 million cubic feet (table 1), according to reports received by the Agricultural Marketing Service. This capacity represented an increase of 65 million cubic feet since the 1953 survey and an increase of 102 million cubic feet over the reported capacity of October 1, 1951. The 10-year growth, from 1945 to 1955, was 167 million cubic feet (fig. 1 and table 2).

The long term upward trend in warehouse capacity became particularly pronounced following the start of World War II. Increased demands for refrigerated space as a result of a war economy and the attendant development and growth of the frozen food industry during this period, impinged significantly upon available space and brought national warehouse occupancy rates to unsurpassed levels. In the interest of food conservation and in the futherance of our national defense effort, the warehousing industry expanded its capacity at a rate of a little more than 33 million cubic feet per survey (every 2 years) during the 1945-1955 period. By comparison, the annual rate of increase during the pre-war period of 1931 to 1941, averaged 5 million cubic feet per survey.

All regions shared, but not equally, in the capacity gains reported since 1953. The gains ranged from 114,000 cubic feet in the Mountain States to 20 million on the West Coast. The two areas reporting the largest gains, the Pacific with 20 million and the South Atlantic with 15 million, are areas in which are located extensive frozen food processing facilities.

It is generally agreed that the significant increase in the output of frozen foods, particularly during the postwar period, had a profound effect upon the development and growth of the refrigerated warehousing industry. Much of the space in existence prior to World War II was not constructed for frozen food storage and, therefore, was inadequate to provide the prescribed storage environment for the growing packs of frozen fruits, vegetables, juices, and other frozen food. Production of frozen food, which totaled less than 2 billion pounds in 1944, increased at an annual rate of almost 17 percent during the 1946-1954 postwar period. To meet space requirements for these products, the warehousing industry started to convert existing cooler space, which was becoming in surplus supply, to freezer space. They also embarked upon a construction program that added significantly to refrigerated space.

The average increase of approximately 33 million cubic feet every two years from 1945 to 1955 raised the national refrigerated storage capacity by 167 million cubic feet. While this in itself was noteworthy, for it represented a gain of 25 percent, it did not reflect the real change that occurred within the industry. The impact of post-war factors on the warehousing industry resulted in the displacement of cooler space in favor of freezer space and the decentralization of space to areas removed from traditional market centers. The refrigerated capacity of the country is moving westward, as a result, and the difference between the capacity in States west of the Mississippi River and those east of it is gradually narrowing. Approximately 58 percent of the national capacity was in the eastern half of the country in 1945, 57 percent in 1947, 55 percent in 1949, 57 percent in 1951, 56 pe[illegible] 55 percent in 1955.

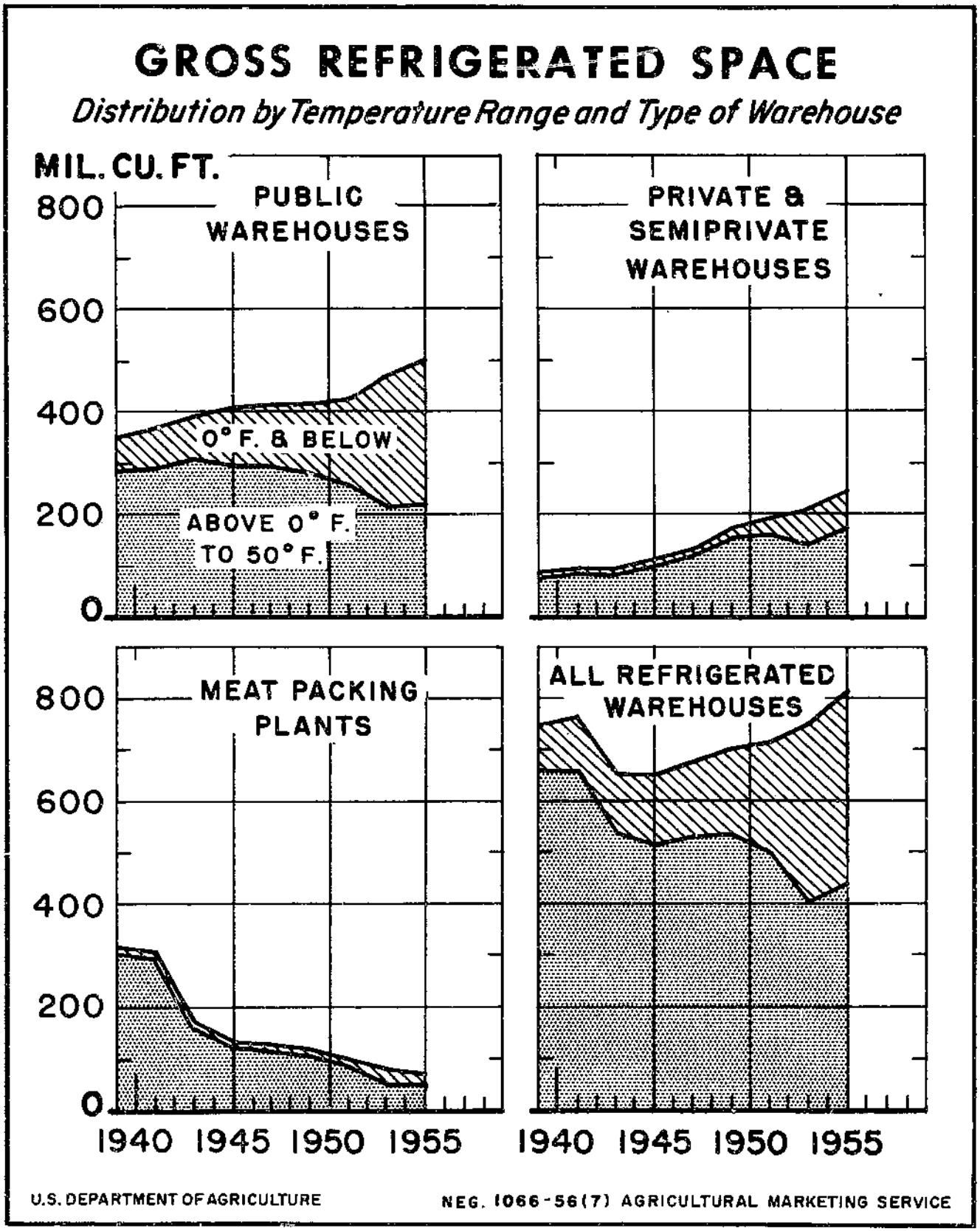

Figure 1

Zero Space

In 1945, the relationship of national storage capacity capable of holding 0° F. or lower to the capacity of higher temperatures was in the ratio of 1 to 5. That is, for every 5 cubic feet only 1 cubic foot could hold 0° F. or lower. By 1955, for every 11 cubic feet of existing refrigerated space, almost half, 5 cubic feet, could maintain temperatures of 0° F. or below.

Records covering the growth of zero space go back only as far as 1939. At that time, only 87 million cubic feet were in operation but it grew to 135 million by October 1, 1945. The 6-year growth was only 48 million cubic feet, an average of 16 million each two-year period. From 1945 to 1955, the industry added almost 242 million cubic feet, which carried the national capacity to 347 million cubic feet. The average gain during this period was approximately 48 million cubic feet each 2 years.

Public Warehouses

In the early days of the warehousing industry, meat packing plants provided sizeable refrigerated space for the storage of agricultural perishables in the extensive cooler storage facilities supporting their killing and storage operations. At that time meat packers commonly took in food products belonging to others for storage. However, most meat packers now confine their space to their own storage programs and it is not unusual for them to use public general space when their own space is filled to capacity.

Public warehouse space, including public apple houses, is by far the preponderant type of space available in the nation. About 799 plants were in operation on October 1, 1955, having a collective storage capacity of 499 million cubic feet. This was more than 60 percent of the total refrigerated space in the country. In addition more than half of this space, 282 million cubic feet, could hold temperatures of 0° F. or lower. Considering that there was only 377 million cubic feet of zero space in the country on October 1, 1955, this segment of the industry has an important role in the storage of agricultural perishables and semiperishables. Public space capable of holding 0° F. is more than four times that of 1939 and almost 70 percent larger than in 1945.

Private and Semiprivate Warehouses

The increase in warehouse capacity reported by public warehousemen was more than matched by the growth in private and semiprivate space (including apple houses). This industry is fast becoming an important factor in the storage of frozen foods. Their refrigerated space capable of holding 0° F. or lower increased from 8 million cubic feet in 1939 to 74 million in 1955. Percentage-wise this represented an increase of more than 800 percent. During the past 10 years, 62 million cubic feet of zero space came into being as private and semiprivate space, chiefly on the west coast and in the South Atlantic region, in areas close to points of production. In these regions, the States showing the largest gains were Florida with 17 million and California with 9 million.

Table 1.—Warehouses, all types: Refrigerated storage capacity, United States, October 1, 1955

Type of refrigerated warehouse 1/	Plants	Gross space 1/			Usable piling space 1/		
		Zero° F. or below	Above Zero° F. to 50° F.	Total	Zero° F. or below	Above Zero° F. to 50° F.	Total
	Number	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.....	713	281,035	183,269	464,304	202,835	134,876	337,711
Private and semi-private general.....	533	72,200	48,324	120,524	53,725	35,639	89,364
Meat-packing plant.....	188	20,739	47,829	68,568	13,348	31,943	45,291
Apple houses:							
Public.....	86	830	33,465	34,295	716	27,556	28,272
Private and semi-private.....	777	1,697	123,629	125,326	1,368	99,509	100,877
Total.....	2,297	376,501	436,516	813,017	271,992	329,523	601,515

1/ For definitions of terms used, see page 2.

Table 2.—Warehouses, all types: Refrigerated storage capacity, United States, 1937-1955

Type of refrigerated storage	1937	1939	1941	1943	1945	1947	1949	1951	1953	1955
	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.	1,000 cu. ft.	1,000 cu. ft.
Public 1/.....	333,833	351,368	371,771	389,991	403,832	408,232	413,256	425,114	466,470	498,599
Private 1/.....	33,390	32,072	43,973	49,544	62,291	83,781	85,417	94,929	118,201	153,079
Semiprivate 1/.....	52,957	50,438	48,407	42,081	45,254	52,035	85,781	92,744	84,290	92,771
Meat-packing plants 2/.	309,642	312,562	302,232	169,650	134,814	130,993	116,324	98,229	79,089	68,568
Total.....	730,322	746,440	766,383	651,266	646,191	675,041	700,778	711,016	748,050	813,017

1/ Includes apple house refrigerated storage space.

2/ The apparent decrease in over-all storage space since 1941 is due to meat-packing plants not reporting refrigerated working space as they did in previous years.

GROSS REFRIGERATED SPACE

Distribution by Type of Warehouse, Oct. 1, 1955

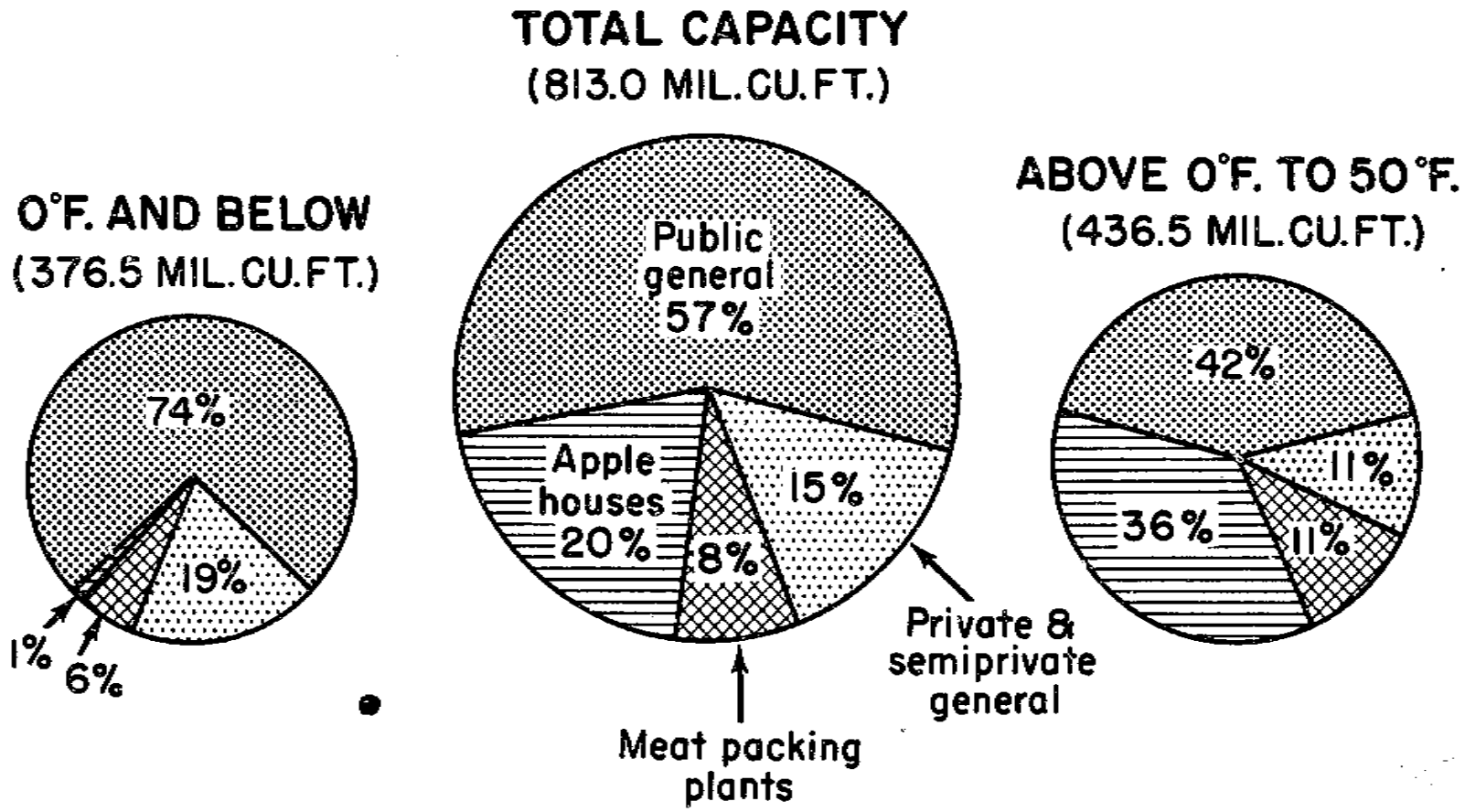

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Figure 2

REFRIGERATED WAREHOUSE CAPACITY, BY REGIONS

The Pacific States led all other regions on October 1, 1955, according to their gross refrigerated capacity. This region had approximately 212 million cubic feet or 26 percent of the national total (table 3). In 1945, the Pacific States ranked third with 124 million gross cubic feet of space. Their relative share of the national storage capacity increased from 19 percent in 1945 to 26 percent in 1955.

By contrast, the Middle Atlantic States, which held second ranking in 1955 with 153 million cubic feet, have been unable to maintain their relative share of the national capacity during the past 10 years. The trend there is a declining one, even though the total capacity has increased since 1945. At that time, the Middle Atlantic capacity which totaled 146 million cubic feet and represented 23 percent of the national total, was the largest of the regions. Its share dropped to 21 percent by 1951; to 20 per cent by 1953, and 19 percent by 1955.

Another area that seems to be declining in relative importance is the East North Central region. Its capacity on October 1, 1955 totaled 147 million cubic feet which gave third ranking with 18 percent of the national total. However, in 1945, the area was second with 22 percent of the national total. During the 1945-1955 period, the East North Central capacity increased less than 6 million cubic feet.

Table 3.—Warehouses, all types: Refrigerated storage capacity by regions, October 1, 1955

Region	Plants	Gross space			Usable piling space		
		Zero° F. or below	Above Zero° F. to 50° F.	Total	Zero° F. or below	Above Zero° F. to 50° F.	Total
	Number	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	255	20,816	15,070	35,886	13,625	11,817	25,442
Middle Atlantic	454	63,380	89,340	152,720	44,691	67,495	112,186
East North Central	527	64,744	82,729	147,473	44,130	59,889	104,019
West North Central	155	57,482	46,702	104,184	40,057	32,287	72,344
South Atlantic	218	52,097	43,405	95,502	40,362	34,206	74,568
East South Central	54	10,197	7,076	17,273	7,608	5,526	13,134
West South Central	92	20,400	14,742	35,142	15,024	11,213	26,237
Mountain	57	8,505	4,476	12,981	6,642	3,535	10,177
Pacific	485	78,860	132,976	211,856	59,853	103,555	163,408
United States	2,297	376,501	436,516	813,017	271,992	329,523	601,515

The three ranking areas in 1955 accounted for 63 percent of all the refrigerated warehouse space in the country. Since their share of the national total was about the same in 1945, it suggests that forces operating within industry are bringing about a realignment of space. Traditionally, the Middle Atlantic and East North Central States were the 2 leading storage areas, on a capacity basis, because of the development of space in metropolitan areas to serve vast urban populations. However, as frozen foods became more acceptable and more and more frozen food products were introduced, the need for 0° F. space in urban areas could only be accommodated by converting existing cooler space. Construction of new space in these areas was limited because of high land costs and, with the trend toward single story units, sizeable land tracts were needed.

On the other hand, by locating warehouses closer to points of production, in areas removed from high land costs, tracts were available for constructing considerable storage capacity in single story units in which greater use could be made of newly developed mechanical handling equipment. In California, for example, 0° F. space increased from less than 8 million cubic feet, in 102 plants, to 44 million, in 218 plants, from 1945 to 1955. By contrast, in New York, the State with the largest capacity in the Middle Atlantic group, zero space was increased only from 17 million to 32 million in the comparable period; the number of plants increased from 260 to 314. Comparative figures for Illinois are as follows: From 1945 to 1955, zero space increased from 21 to 36 million; number of plants decreased from 66 to 61.

The South Atlantic region is another example of decentralization of space. With the growth of citrus concentrate production, there was an associated growth of warehouse capacity. In this region, in 1945, only 47 million cubic feet of space was in operation. Of this amount, only 4 million could hold temperatures of 0° F. or below. The area's rank in the national picture at that time was fifth with 7 percent of the space. Ten years later, the area still ranked fifth but its capacity had increased to 96 million cubic feet, which was 12 percent of the United States total. Capacity of 0° F. space was up to 52 million cubic feet. Almost all of this increase was the result of the construction of new warehouse space in Florida.

Of the remaining areas, the West North Central ranked fourth in 1955 with 13 percent of the total national capacity or 104 million cubic feet. Like the Middle Atlantic and East North Central regions, the West North Central group has experienced a downward trend since 1945. Their share of the national total a decade ago was 17 percent and, at that time, 10 percentage points separated them from the fifth ranking region, the South Atlantic. Today, only 1 point separates the two. The relative ranking of the New England, West South Central, East South Central, and Mountain, was the same in 1955 as in 1945 and ranked in the order named. While the relative position of these 4 areas did not change they all added substantially to their capacity during the 1945-1955 period except the Mountain States. There, an increase of only 1 million cubic feet was reported.

Zero Space

Almost half, 46 percent, of the refrigerated space in the country could hold temperatures of 0° F. or below, the 1955 survey showed, compared with 21 percent in 1945. Of the national total of 377 million cubic feet of zero space, about one-fifth was in the Pacific States. This area, which ranked first, also had more zero space [redacted] houses than any other region as well as more private and

GROSS REFRIGERATED SPACE

% Distribution of Type of Warehouse Space, by Regions, Oct. 1, 1955

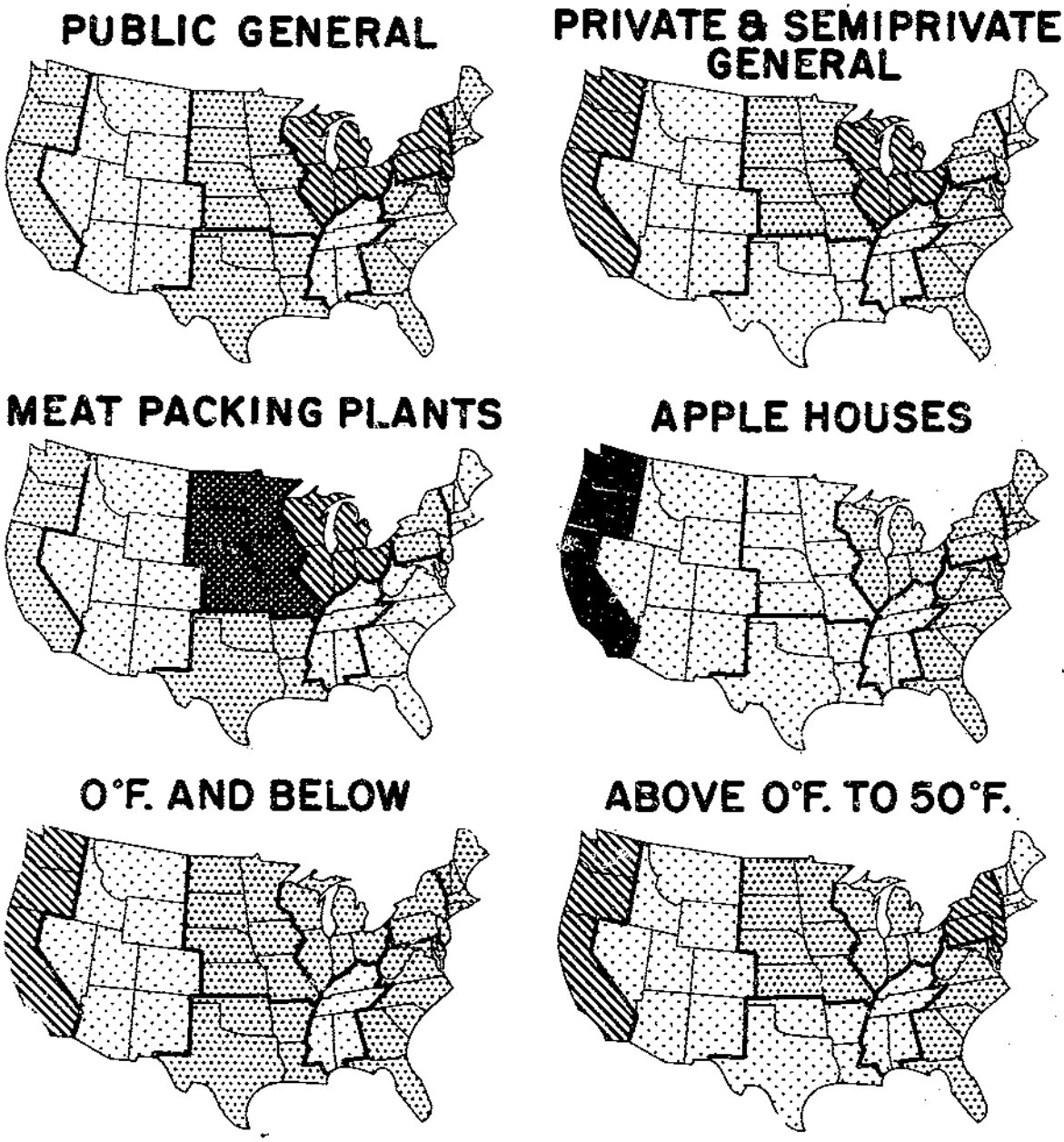

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Figure 3

Table 4.—Public general warehouses: Refrigerated storage capacity, by regions, October 1, 1955

Region	Plants	Gross space			Usable piling space		
		Zero° F. or below	Above Zero° F. to 50° F.	Total	Zero° F. or below	Above Zero° F. to 50° F.	Total
	Number	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.....	39	18,576	4,743	23,319	12,092	3,504	15,596
Middle Atlantic.....	141	53,559	47,671	101,230	37,661	35,302	72,963
East North Central.....	97	48,791	44,798	93,589	34,269	31,875	66,144
West North Central.....	76	39,391	24,449	63,840	27,859	18,282	46,141
South Atlantic.....	105	31,238	21,241	52,479	24,248	16,178	40,426
East South Central.....	35	8,931	5,684	14,615	6,693	4,441	11,134
West South Central.....	53	16,977	11,072	28,049	12,351	8,126	20,477
Mountain.....	29	6,478	1,914	8,392	5,083	1,580	6,663
Pacific.....	138	57,094	21,697	78,791	42,579	15,588	58,167
United States.....	713	281,035	183,269	464,304	202,835	134,876	337,711

Table 5.—Private and semiprivate general warehouses: Refrigerated storage capacity, by regions, October 1, 1955

Region	Plants	Gross space			Usable piling space		
		Zero° F. or below	Above Zero° F. to 50° F.	Total	Zero° F. or below	Above Zero° F. to 50° F.	Total
	Number	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.....	30	1,552	648	2,200	1,123	499	1,622
Middle Atlantic.....	98	7,503	7,825	15,328	5,518	5,858	11,376
East North Central.....	125	12,126	11,818	23,944	7,283	8,723	16,006
West North Central.....	33	8,365	1,959	10,324	6,187	1,381	7,568
South Atlantic.....	51	19,984	2,952	22,936	15,509	2,018	17,527
East South Central.....	9	853	302	1,155	650	207	857
West South Central.....	22	1,058	1,333	2,391	790	1,096	1,886
Mountain.....	16	1,376	439	1,815	1,143	304	1,447
Pacific.....	149	19,383	21,048	40,431	15,522	15,553	31,075
United States.....	533	72,200	48,324	120,524	53,725	35,639	89,364

semiprivate zero space. Thus, for the first time, the Middle Atlantic group was displaced for the leadership in these classifications. In 1945, the Pacific area had only 12 percent of the zero space in the country; only 11 percent of the zero space in public general facilities; and less than 3 percent of the zero space in private and semiprivate warehouses.

Only one other area could match the growth of zero space on the West coast and that is the South Atlantic where the growth was even greater. The South Atlantic capacity reported on October 1, 1955, amounted to 52 million gross cubic feet or about 14 percent of the national total. Only 10 years earlier, about 3 percent of the country's total or 4 million cubic feet were within the States comprising this region. The significant growth experienced in this area is directly associated with the expansion of space needed to accommodate the citrus industry. During the 1945-1955 period, the capacity of zero space in public general facilities in the region was increased by 28 million cubic feet while in private and semiprivate facilities the increase totaled 19 million cubic feet. See fig. 2 for the distribution of zero space, by type of warehouse, and fig. 3 for regional distribution.

From a national standpoint, the capacity of space capable of holding temperatures of 0° F. or below has changed considerably since 1945 but the real change is in the geographic distribution of this space. Capacity of zero space is increasing in all areas but it is increasing at a more rapid rate in new centers of storage, notably in Florida, Washington, Oregon, and California. In 1955, about 45 percent of the national total was in 5 regions--South Atlantic, East and West South Central, Mountain and Pacific. In 1945 they accounted for only 23 percent of the total. This upward trend is at the expense of 4 regions--New England, Middle Atlantic, East and West North Central--which are experiencing a corresponding loss of the national share. In 1945, their combined capacity of zero space was equivalent to 77 percent of the total compared with 55 percent in 1955.

See tables 6 to 9 inclusive, for a regional breakdown of refrigerated storage capacity in meat packing plants and apple houses.

Public General Warehouses 2/

In 1955, the Middle Atlantic region was the most important in terms of public general space. Of the 464 million cubic feet of public space in the country, 22 percent--101 million cubic feet--was in Middle Atlantic States (table 4). This capacity surpassed the next leading area, East North Central, by almost 8 million cubic feet. Also, there were more public general warehouses in the Middle Atlantic group than in any other--141 plants.

The first and second ranking areas with public general space--Middle Atlantic and East North Central--had comparatively the same capacity in 1955 as in 1945 and the same relative rank as then. As a matter of fact, the order of ranking for each region in 1955 was identical to the 1945 ranking which is as follows, starting with the third position: Pacific, West North Central, South Atlantic, West South Central, New England, East South Central, and Mountain.

While the relative rankings for all regions did not change in the past 10 years, significant changes did take place in the relative shares of each region in the national total. In the Middle Atlantic and East North Central areas, each had

c apple houses.

Table 6.—Meat packing plants: Refrigerated storage capacity, by regions, October 1, 1955

Region	Plants	Gross space			Usable piling space		
		Zero° F. or below	Above Zero° F. to 50° F.	Total	Zero° F. or below	Above Zero° F. to 50° F.	Total
	Number	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.....	5	625	474	1,099	359	341	700
Middle Atlantic.....	38	1,846	6,291	8,137	1,113	4,059	5,172
East North Central.....	37	3,595	12,109	15,704	2,385	8,133	10,518
West North Central.....	41	9,720	19,490	29,210	6,006	12,017	18,023
South Atlantic.....	14	598	1,532	2,130	372	1,110	1,482
East South Central.....	9	413	715	1,128	265	571	836
West South Central.....	16	2,365	2,238	4,603	1,883	1,914	3,797
Mountain.....	10	651	1,645	2,296	416	1,279	1,695
Pacific.....	18	926	3,335	4,261	549	2,519	3,068
United States.....	188	20,739	47,829	68,568	13,348	31,943	45,291

Table 7.—Apple houses, all types: Refrigerated storage capacity, by regions, October 1, 1955

Region	Plants	Gross space			Usable piling space		
		Zero° F. or below	Above Zero° F. to 50° F.	Total	Zero° F. or below	Above Zero° F. to 50° F.	Total
	Number	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.....	181	63	9,205	9,268	51	7,473	7,524
Middle Atlantic.....	177	472	27,553	28,025	399	22,276	22,675
East North Central.....	268	232	14,004	14,236	193	11,158	11,351
West North Central.....	5	6	804	810	5	607	612
South Atlantic and East South Central.....	49	277	18,055	18,332	233	15,207	15,440
West South Central and Mountain.....	3	-	577	577	-	449	449
Pacific.....	180	1,477	86,896	88,373	1,203	69,895	71,098
United States.....	863	2,527	157,094	159,621	2,084	127,065	129,149

approximately the same public general warehouse capacity as in 1945. Because of their preponderant warehouse capacity, developed over a period of many years, each held their relative rank in the national picture. But, where the Middle Atlantic States accounted for 28 percent of the public space in 1945, only 22 percent of the total was in this area in 1955. In the East North Central States, public general space dropped from 26 percent of the total in 1945 to 20 percent in 1955. It thus appears the two areas that have ranked first and second consistently for 10 years are steadily losing ground. The capacity of space classified as public general is becoming larger nationally but apparently it is not increasing as rapidly in the Middle Atlantic and East North Central States as in other regions.

For example, in the third ranking area, the Pacific coast, public general space increased from 14 percent of the national total to 17 percent during the 10 year period ended 1955. During the same period, the relative share of the national public warehouse space located in West North Central States increased from 11 percent to 14 percent while in the South Atlantic area, the increase was from 7 to 11 percent. Lesser increases or no changes were reported from the 4 remaining areas but each showed more public general space than in 1945.

It is reasonable to conclude that the change in distribution of public general warehouse space shows a trend on the part of public warehousemen to locate their plants away from traditional centers of storage. The fact that the 8 States comprising the Middle Atlantic and East North Central regions have shown comparatively little change in public general warehouse capacity in 10 years is in contrast to the national increase of 112 million cubic feet during this period. It is significant, also, that whereas these 2 regions formerly accounted for about 54 percent of all the public general space in the country in 1945, they account for only 42 percent in 1955.

Private and Semiprivate General Warehouses 3/

Refrigerated storage space classified as private and semiprivate general is a minor portion of the overall national capacity. Of the total 813 million cubic feet, only about 15 percent, 121 million, was private and semiprivate on October 1, 1955 (table 5).

This industry has increased in both number of plants and capacity and in every region in the past 10 years. In 1945, the 343 private and semiprivate plants had a collective storage capacity of 40 million cubic feet. By 1955, the number had grown to 533 plants with 121 million cubic feet of gross storage space.

The largest gain was in the Pacific region. Here, private and semiprivate space was increased from 8 million in 1945 to 40 million by 1955. In the South Atlantic States, meanwhile, a building program that started after 1945, netted the area almost 22 million cubic feet of space in 10 years. Private and semiprivate capacity in the area in 1945 amounted to a little more than 1 million cubic feet in the 15 plants located there, whereas in 1955, almost 23 million cubic feet were in the area. The number of plants totaled 51.

In order of ranking, however, the South Atlantic was third because more private and semiprivate capacity was in the East North Central States. But, the difference between these two areas is fast narrowing and only 1 million cubic feet separate them at this time compared with 8 million in 1953.

3/ e and semiprivate apple houses.

Table 8.—Public apple houses: Refrigerated storage capacity, by regions, October 1, 1955

Region	Plants	Gross space			Usable piling space		
		Zero° F. or below	Above Zero° F. to 50° F.	Total	Zero° F. or below	Above Zero° F. to 50° F.	Total
	Number	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.....	4	-	863	863	-	658	658
Middle Atlantic.....	32	139	10,947	11,086	113	9,001	9,114
East North Central.....	13	169	2,411	2,580	162	1,869	2,031
West North Central.....	3	2	499	501	2	362	364
South Atlantic and West South Central....	15	277	10,998	11,275	233	9,164	9,397
Mountain and Pacific.....	19	243	7,747	7,990	206	6,502	6,708
United States.....	86	830	33,465	34,295	716	27,556	28,272

Table 9.—Private and semiprivate apple houses: Refrigerated storage capacity, by regions, October 1, 1955

Region	Plants	Gross space			Usable piling space		
		Zero° F. or below	Above Zero° F. to 50° F.	Total	Zero° F. or below	Above Zero° F. to 50° F.	Total
	Number	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.....	177	63	8,342	8,405	51	6,815	6,866
Middle Atlantic.....	145	333	16,606	16,939	286	13,275	13,561
East North Central and West North Central.....	257	67	11,898	11,965	34	9,534	9,568
South Atlantic and East South Central.....	35	-	7,156	7,156	-	6,120	6,120
Mountain and Pacific.....	163	1,234	79,627	80,861	997	63,765	64,762
United States.....	777	1,697	123,629	125,326	1,368	99,509	100,877

These three regions--Pacific, East North Central and South Atlantic--accounted for 73 percent of the private and semiprivate space in the country. However, if the capacity in the fourth ranked region were added--15 million in the Middle Atlantic--about 86 percent of the space is accounted for.

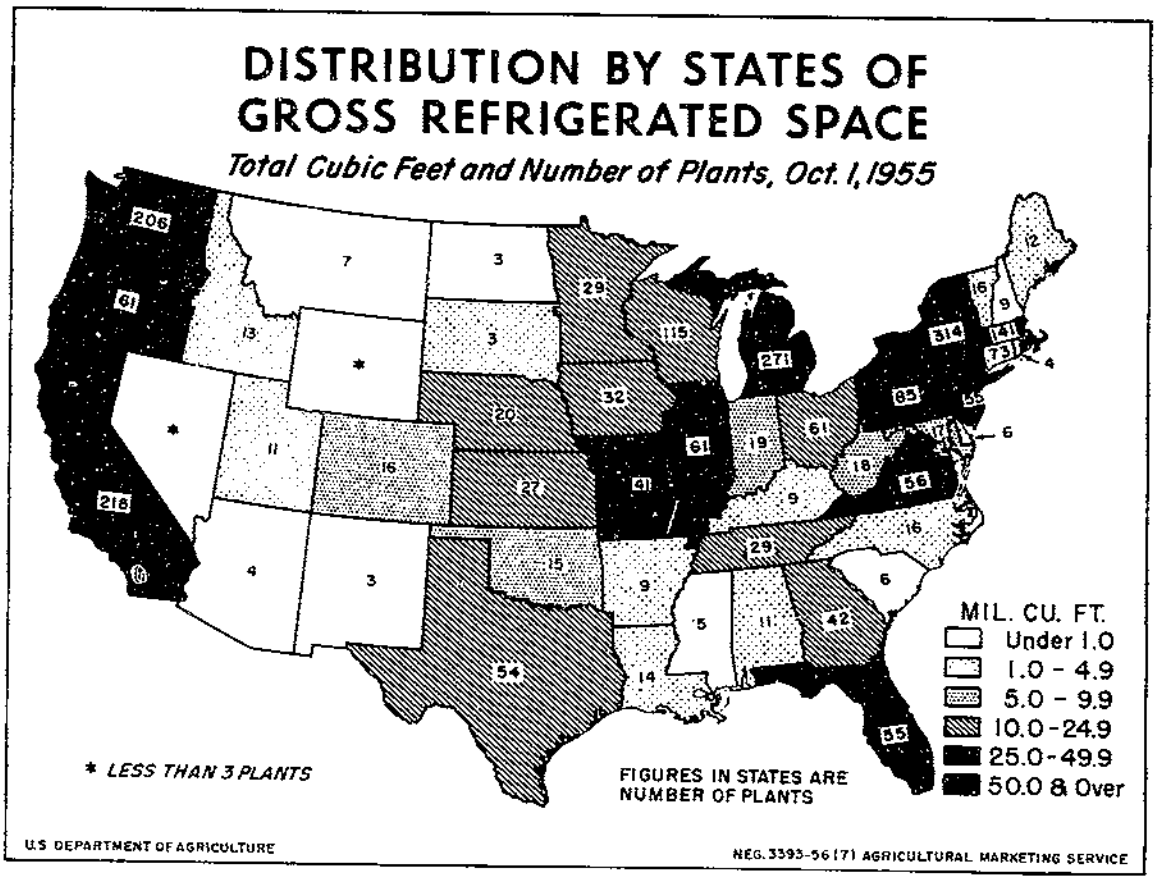


Figure 4

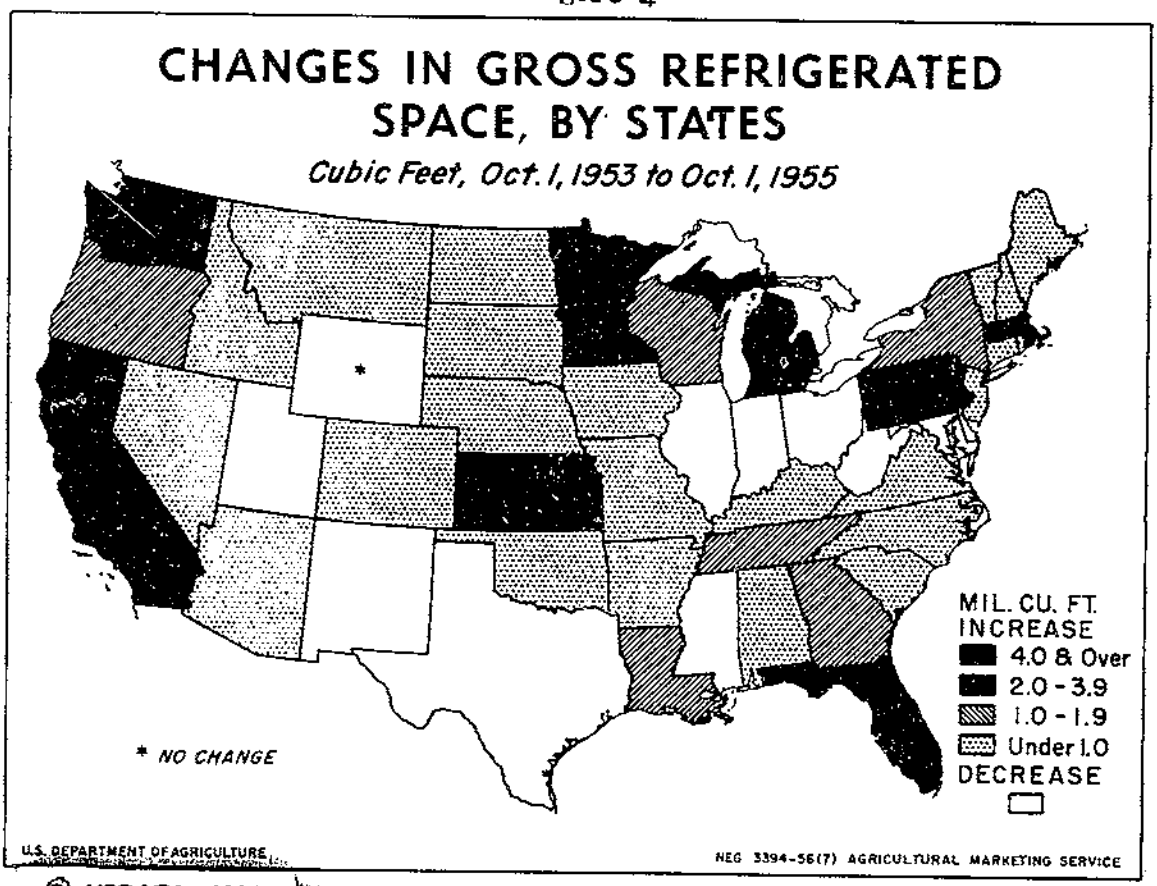


Figure 5

REFRIGERATED STORAGE CAPACITY, BY STATES

Refrigerated storage space is in every State, the 1955 survey showed, but the extent of availability varied significantly among States. Capacities ranged from less than 100,000 cubic feet in Wyoming to 96 million in Washington. See fig. 5 for the changes in gross refrigerated space, by States, since 1953.

Four States--Washington, New York, California, and Illinois--had 42 percent of the national storage capacity (fig. 4). Adding the next four leading States--Florida, Pennsylvania, Michigan, and New Jersey--increased the total to 58 percent.

Washington was by far the leading State with 96 million cubic feet (table 10), which included almost 70 million cubic feet of apple storage. New York, which ranked second, had only 19 million cubic feet of apple house space.

The emergence of Washington to the forefront is a recent development and is indicative of a trend in the Pacific area. Traditionally, New York was the leader among States but the 1955 survey showed it had dropped to second position and even this ranking is in jeopardy because of the significant growth in California. The total refrigerated capacity in New York totaled 89.5 million cubic feet on October 1, 1955 while the California total was 88.8 million.

From 1945 to 1955, warehouse capacity in New York increased only 4 million cubic feet while in Illinois there was a reduction of 4 million. The Illinois reduction would have been even greater had there not been an increase of 12 million cubic feet in private and semiprivate space to offset the 16 million cubic feet of space lost in public warehouses and meat packing plants during this period.

In contrast to the relative stability of capacity in New York and Illinois, the 10-year growth in Washington totaled 31 million cubic feet and in California, 49 million. The expansion in Washington was primarily apple houses. In California, the increase was mostly additions to public general and private and semiprivate general space.

Public General Warehouses

Although the overall storage capacity in New York has been relatively stable these past 10 years, public general space in the State was the largest reported by any State--58 million cubic feet. California, the next leading State, had 49 million, followed by 46 million in Illinois (table 11). These three States have almost one-third of the total public general space in the country. From 1945 to 1955, Kansas and Florida each added about 13 million cubic feet to bring their public general capacity to 21 and 17 million cubic feet, respectively. Only New Jersey, Pennsylvania, Missouri, and Texas, had more public general space than Kansas, which ranked 8th in the country.

Private and Semiprivate General Warehouses

The distribution of private and semiprivate space (table 12) was quite different from public general. California was in the forefront with New York fourth, behind Florida and Illinois. California, with 28 million cubic feet, had almost as much as the second and third ranking States combined. Florida's capacity at 18 million gross cubic feet was almost as large as the capacity in Illinois and New York.

Table 10.—Warehouses, all types: Refrigerated storage capacity, by States, October 1, 1955

State	Plants	Gross space			Usable piling space		
		Zero° F. or below	Above 0° F. to 50° F.	Total	Zero° F. or below	Above 0° F. to 50° F.	Total
	Number	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	12	2,213	692	2,905	1,636	504	2,140
New Hampshire	9	60	493	553	46	414	460
Vermont	16	374	875	1,249	283	751	1,034
Massachusetts	141	16,435	9,288	25,723	10,431	7,105	17,536
Rhode Island	4	1,197	482	1,679	816	335	1,151
Connecticut	73	537	3,240	3,777	413	2,708	3,121
New York	314	31,688	57,857	89,545	23,050	45,025	68,075
New Jersey	55	16,631	13,037	29,668	11,297	8,980	20,277
Pennsylvania	85	15,061	18,446	33,507	10,344	13,490	23,834
Ohio	61	10,768	10,822	21,590	8,114	7,971	16,085
Indiana	19	3,731	2,078	5,809	2,780	1,374	4,154
Illinois	61	36,111	32,073	68,184	21,850	21,926	43,776
Michigan	271	9,002	20,926	29,928	7,460	15,704	23,164
Wisconsin	115	5,132	16,830	21,962	3,926	12,914	16,840
Minnesota	29	13,981	3,205	17,186	9,883	2,126	12,009
Iowa	32	9,259	5,343	14,602	6,801	3,552	10,353
Missouri	41	13,837	14,032	27,869	9,635	8,769	18,404
North Dakota	3	420	263	683	265	247	512
South Dakota	3	508	4,039	4,547	344	2,531	2,875
Nebraska	20	9,390	5,108	14,498	6,158	3,660	9,818
Kansas	27	10,087	14,712	24,799	6,971	11,402	18,373
Delaware	6	753	626	1,379	525	474	999
Maryland & Dist. of Col.	19	7,879	2,567	10,446	5,883	1,946	7,829
Virginia	56	4,770	23,479	28,249	3,600	18,876	22,476
West Virginia	18	1,008	4,738	5,746	847	4,021	4,868
North Carolina	16	1,330	1,477	2,807	1,141	1,158	2,299
South Carolina	6	592	314	906	512	264	776
Georgia	42	3,839	7,522	11,361	2,797	5,739	8,536
Florida	55	31,926	2,682	34,608	25,057	1,728	26,785
Kentucky	9	1,568	1,836	3,404	1,305	1,489	2,794
Tennessee	29	7,054	3,845	10,899	5,043	2,871	7,914
Alabama	11	1,459	751	2,210	1,176	623	1,799
Mississippi	5	116	644	760	84	543	627
Arkansas	9	1,036	538	1,574	723	381	1,104
Louisiana	14	3,712	1,135	4,847	2,812	980	3,792
Oklahoma	15	2,927	2,952	5,879	2,144	2,408	4,552
Texas	54	12,725	10,117	22,842	9,345	7,444	16,789
Montana	7	238	290	528	198	249	447
Idaho & Wyoming	14	2,130	1,098	3,228	1,651	844	2,495
Colorado	16	3,322	1,896	5,218	2,764	1,586	4,350
New Mexico	3	183	90	273	140	71	211
Arizona	4	656	174	830	423	124	547
Utah & Nevada	13	1,976	928	2,904	1,466	661	2,127
Washington	206	21,001	74,555	95,556	15,447	60,039	75,486
Oregon	61	13,893	13,590	27,483	11,269	9,810	21,079
California	218	43,986	44,831	88,817	33,137	33,706	66,843
United States	2,297	376,501	436,516	813,017	271,992	329,523	601,515

Meat Packing Plants

Illinois, Missouri, and Iowa, in the order named, were the important cold storage States for the meat packing industry (table 13). Capacity-wise, they were about equal, with a slight edge in favor of Illinois, and collectively, they accounted for 30 percent by the meat packing space in the country. From 1945 to 1955, their capacity has been declining. Some of this decrease is due to a reclassification of storage space, which excluded certain refrigerated space in later surveys and, in part, to an abandonment of storage space in certain areas.

Apple Houses

Two areas, Pacific and Middle Atlantic, had the major share of apple storage space in the country. Washington storages, with 44 percent of the national total, and New York, with 12 percent, rank far ahead of all other States (table 14, 15, and 16).

Next in order of importance were Virginia, Michigan, Oregon, and California. The six leading States, with 83 percent of the available apple house capacity, also accounted for 37 percent of the national space in the country capable of holding temperatures above 0° F.

Table 11.—Public general warehouses: Refrigerated storage capacity, by States, October 1, 1955

State	Plants	Gross space			Usable piling space		
		Zero° F. or below	Above Zero° F. to 50° F.	Total	Zero° F. or below	Above Zero° F. to 50° F.	Total
	Number	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, N. H. & Vt.	9	2,383	666	3,049	1,759	485	2,244
Massachusetts	24	14,601	3,407	18,008	9,207	2,533	11,740
R. I. & Connecticut	6	1,592	670	2,262	1,126	486	1,612
New York	89	27,984	29,657	57,641	20,398	22,728	43,126
New Jersey	18	12,715	9,673	22,388	8,614	6,356	14,970
Pennsylvania	34	12,860	8,341	21,201	8,649	6,218	14,867
Ohio	14	10,135	6,740	16,875	7,642	4,740	12,382
Indiana	7	2,853	878	3,731	2,157	625	2,782
Illinois	32	25,219	20,396	45,615	15,732	14,398	30,130
Michigan	18	7,226	7,728	14,954	6,069	5,175	11,244
Wisconsin	26	3,358	9,056	12,414	2,669	6,937	9,606
Minnesota	14	8,205	1,979	10,184	5,628	1,349	6,977
Iowa	14	5,312	1,246	6,558	4,090	908	4,998
Missouri & N. D.	25	12,139	8,118	20,257	8,612	5,785	14,397
Nebraska & S. D.	9	5,901	1,283	7,184	3,943	938	4,881
Kansas	14	7,834	11,823	19,657	5,586	9,302	14,888
Delaware, Maryland & D. C.	13	8,060	1,516	9,576	5,946	1,077	7,023
Virginia	18	2,956	8,464	11,420	2,295	6,747	9,042
West Virginia	5	986	1,735	2,721	829	1,385	2,214
North Carolina & S. C.	11	1,473	942	2,415	1,289	754	2,043
Georgia	29	3,216	6,526	9,742	2,387	4,977	7,364
Florida	29	14,547	2,058	16,605	11,502	1,238	12,740
Kentucky	5	1,376	1,502	2,878	1,169	1,250	2,419
Tennessee	18	6,020	2,800	8,820	4,291	2,034	6,325
Alabama & Mississippi	12	1,535	1,382	2,917	1,233	1,157	2,390
Arkansas	5	939	402	1,341	653	277	930
Louisiana	10	3,304	1,077	4,381	2,529	928	3,457
Oklahoma	7	1,767	770	2,537	1,220	540	1,760
Texas	31	10,967	8,823	19,790	7,949	6,381	14,330
Idaho & Montana	8	1,259	499	1,758	910	403	1,313
Colorado	9	2,680	753	3,433	2,311	650	2,961
New Mexico & Arizona	5	757	142	899	505	105	610
Utah & Nevada	7	1,782	520	2,302	1,357	422	1,779
Washington	31	13,882	3,597	17,479	10,119	2,289	12,408
Oregon	21	9,500	2,499	11,999	7,578	1,848	9,426
California	86	33,712	15,601	49,313	24,882	11,451	36,333
United States	713	281,035	183,269	464,304	202,835	134,876	337,711

Table 12.—Private and semiprivate general warehouses: Refrigerated storage capacity, by States, October 1, 1955 1/

State	Plants	Gross space			Usable piling space		
		Zero° F. or below	Above Zero° F. to 50° F.	Total	Zero° F. or below	Above Zero° F. to 50° F.	Total
	Number	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, New Hampshire & Vermont	8	251	78	329	201	73	274
Massachusetts	18	1,271	477	1,748	898	357	1,255
Rhode Island & Conn.	4	30	93	123	24	69	93
New York	76	2,587	5,271	7,858	1,882	3,859	5,741
New Jersey	8	3,360	639	3,999	2,451	458	2,909
Pennsylvania	14	1,556	1,915	3,471	1,185	1,541	2,726
Ohio	16	450	504	954	365	400	765
Indiana	3	346	173	519	318	151	469
Illinois	8	9,164	3,322	12,486	4,961	2,229	7,190
Michigan	16	1,469	1,727	3,196	1,139	1,325	2,464
Wisconsin	82	697	6,092	6,789	500	4,618	5,118
Minnesota	10	3,517	220	3,737	2,937	169	3,106
Iowa	7	1,162	589	1,751	816	436	1,252
Missouri	3	460	506	966	297	361	658
Nebraska	7	2,164	392	2,556	1,406	273	1,679
Kansas	6	1,062	252	1,314	731	142	873
Maryland & Delaware	6	508	373	881	418	230	648
Virginia & W. Virginia	5	1,516	1,395	2,911	1,064	855	1,919
North Carolina	5	287	335	622	246	255	501
South Carolina	3	150	69	219	108	53	161
Georgia	6	144	156	300	118	135	253
Florida	26	17,379	624	18,003	13,555	490	14,045
Tennessee	5	691	46	737	535	35	570
Arkansas & Louisiana	5	477	86	563	330	75	405
Oklahoma	3	151	126	277	115	96	211
Texas	14	430	1,121	1,551	345	925	1,270
Montana	4	121	75	196	93	62	155
Idaho	5	946	174	1,120	815	115	930
Colorado	3	246	158	404	188	106	294
Utah	4	63	32	95	47	21	68
Washington	34	5,872	942	6,814	4,385	797	5,182
Oregon	24	4,229	1,178	5,407	3,612	868	4,480
California	91	9,282	18,928	28,210	7,525	13,888	21,413
Other States	4	162	256	418	115	172	287
United States	533	72,200	48,324	120,544	53,725	35,639	89,364

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

Table 13.—Meat-packing plants: Refrigerated storage capacity, by States, October 1, 1955 1/

State	Plants	Gross space			Usable piling space		
		Zero° F. or below	Above Zero° F. to 50° F.	Total	Zero° F. or below	Above Zero° F. to 50° F.	Total
	Number	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, Mass. & Conn....	5	625	474	1,099	359	341	700
New York.....	23	983	4,283	5,266	666	3,118	3,784
Pennsylvania.....	13	325	1,846	2,171	227	849	1,076
Ohio.....	11	162	2,482	2,644	103	1,891	1,994
Indiana.....	7	532	819	1,351	305	418	723
Illinois.....	11	1,712	6,095	7,807	1,147	3,719	4,866
Michigan & Wisconsin...	8	1,189	2,713	3,902	830	2,105	2,935
Minnesota.....	5	2,259	1,006	3,265	1,318	608	1,926
Iowa.....	11	2,785	3,508	6,293	1,895	2,208	4,103
Missouri & North Dakota	12	1,652	5,001	6,653	986	2,369	3,355
Nebraska & South Dakota	7	1,833	7,472	9,305	1,153	4,980	6,133
Kansas.....	6	1,191	2,503	3,694	654	1,852	2,506
Georgia.....	7	479	840	1,319	292	627	919
Kentucky & Alabama.....	4	70	91	161	48	76	124
Tennessee.....	5	343	624	967	217	495	712
Oklahoma.....	5	1,009	2,056	3,065	809	1,772	2,581
Texas.....	9	1,328	173	1,501	1,051	138	1,189
Colorado.....	4	396	985	1,381	265	830	1,095
Washington & Oregon....	9	588	1,168	1,756	351	955	1,306
California.....	9	338	2,167	2,505	198	1,564	1,762
Other States.....	17	940	1,523	2,463	474	1,028	1,502
United States.....	188	20,739	47,829	68,568	13,348	31,943	45,291

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

Table 14.—Apple houses, all types: Refrigerated storage capacity, by States, October 1, 1955 1/

State	Plants	Gross space			Usable piling space		
		Zero° F. or below	Above Zero° F. to 50° F.	Total	Zero° F. or below	Above Zero° F. to 50° F.	Total
	Number	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	7	-	442	442	-	368	368
Vermont	12	13	* 803	816	5	682	687
Massachusetts	96	27	5,001	5,028	24	3,935	3,959
Connecticut	66	23	2,959	2,982	22	2,488	2,510
New York	126	134	18,646	18,780	104	15,320	15,424
New Jersey	27	18	2,563	2,581	12	2,074	2,086
Pennsylvania	24	320	6,344	6,664	283	4,882	5,165
Ohio	20	21	1,096	1,117	4	940	944
Illinois	10	16	2,260	2,276	10	1,580	1,590
Michigan & Wisconsin	236	195	10,440	10,635	179	8,458	8,637
Missouri	4	6	670	676	5	501	506
Delaware & Maryland	4	-	992	992	-	880	880
Virginia	31	277	13,411	13,688	233	11,167	11,400
West Virginia	11	-	2,911	2,911	-	2,560	2,560
Washington	134	823	69,102	69,925	671	56,189	56,860
Oregon	14	-	9,659	9,659	-	6,903	6,903
California	32	654	8,135	8,789	532	6,803	7,335
Other States	9	-	1,660	1,660	-	1,335	1,335
United States	863	2,527	157,094	159,621	2,084	127,065	129,149

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

Table 15.—Public apple houses: Refrigerated storage capacity, by States, October 1, 1955 1/

State	Plants	Gross space			Usable piling space		
		Zero° F. or below	Above 0° F. to 50° F.	Total	Zero° F. or below	Above 0° F. to 50° F.	Total
	Number	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 & Conn...	4	-	863	863	-	658	658
New York.....	21	50	8,240	8,290	31	6,620	6,651
New Jersey.....	6	2	1,000	1,002	1	854	855
Pennsylvania.....	5	87	1,707	1,794	81	1,527	1,608
Ohio & Indiana.....	5	5	452	457	4	370	374
Illinois.....	3	-	1,313	1,313	-	968	968
Michigan.....	5	164	646	810	158	531	689
Missouri.....	3	2	499	501	2	362	364
Virginia & W. Virginia.	12	277	10,636	10,913	233	8,855	9,088
Washington.....	13	241	6,934	7,175	205	5,786	5,991
Oregon & California....	5	2	805	807	1	709	710
Other States.....	4	-	370	370	-	316	316
United States.....	86	830	33,465	34,295	716	27,556	28,272

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

Table 16.— Private and semiprivate apple houses: Refrigerated storage capacity, by States, October 1, 1955 1/

State	Plants	Gross space			Usable piling space		
		Zero° F. or below	Above 0° F. to 50° F.	Total	Zero° F. or below	Above 0° F. to 50° F.	Total
	Number	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.....	7	-	442	442	-	368	368
Vermont.....	12	13	803	816	5	682	687
Massachusetts & Conn...	158	50	7,097	7,147	46	5,765	5,811
New York.....	105	84	10,406	10,490	73	8,700	8,773
New Jersey.....	21	16	1,563	1,579	11	1,220	1,231
Pennsylvania.....	19	233	4,637	4,870	202	3,355	3,557
Ohio & Indiana.....	17	16	852	868	-	750	750
Illinois.....	7	16	947	963	10	612	622
Michigan & Wisconsin...	231	31	9,794	9,825	21	7,927	7,948
Maryland.....	3	-	742	742	-	660	660
Virginia.....	20	-	3,519	3,519	-	3,011	3,011
West Virginia.....	10	-	2,167	2,167	-	1,861	1,861
Washington.....	121	582	62,168	62,750	466	50,403	50,869
Oregon & California....	41	652	16,989	17,641	531	12,997	13,528
Other States.....	5	4	1,503	1,507	3	1,198	1,201
United States.....	777	1,697	123,629	125,326	1,368	99,509	100,877

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

Table 17.—Warehouses, all types: Refrigerated storage capacity, in cities having 3 or more plants and at least 3 million cubic feet of usable piling space, October 1, 1955

City and State 1/	Plants	Gross space			Usable piling space		
		Zero° F. or below	Above 0° F. to 50° F.	Total	Zero° F. or below	Above 0° F. to 50° F.	Total
	Number	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, Mass.	28	11,260	3,354	14,614	6,824	2,445	9,269
New York, N. Y.	72	25,724	21,338	47,062	17,748	14,760	32,508
Buffalo, N. Y.	34	3,566	6,682	10,248	2,541	5,252	7,793
Rochester, N. Y.	11	2,472	4,126	6,598	1,824	3,463	5,287
Philadelphia, Pa.	33	10,135	6,196	16,331	6,240	4,736	10,976
Pittsburgh, Pa.	6	2,891	3,302	6,193	2,213	2,012	4,225
Cleveland, Ohio	9	4,810	4,719	9,529	3,576	3,214	6,790
Chicago, Ill.	32	33,859	24,139	57,998	20,286	16,019	36,305
Detroit, Mich.	45	5,203	7,170	12,373	3,881	5,288	9,169
Milwaukee, Wis.	8	2,349	2,139	4,488	1,791	1,602	3,393
Minn.-St. Paul, Minn.	12	7,758	2,120	9,878	5,323	1,453	6,776
St. Louis, Mo.	19	6,819	10,155	16,974	4,836	7,132	11,968
Kansas City & Kans. & Mo.	9	8,910	3,005	11,915	6,042	2,194	8,236
Wichita, Kans.	4	1,929	2,414	4,343	1,475	1,860	3,335
Baltimore, Md.	8	4,129	528	4,657	2,946	332	3,278
Washington, D. C.	3	3,158	938	4,096	2,438	706	3,144
Atlanta, Ga.	6	1,823	2,745	4,568	1,284	2,031	3,315
Dallas, Tex.	7	5,026	5,528	10,554	3,667	4,034	7,701
Ft. Worth, Tex.	6	3,298	1,101	4,399	2,232	801	3,033
Denver, Colo.	10	2,599	1,327	3,926	2,169	1,109	3,278
Seattle, Wash.	20	5,718	3,201	8,919	3,978	1,375	5,953
Portland, Oreg.	17	5,916	1,073	6,989	4,972	800	5,772
Los Angeles, Calif.	40	13,748	8,246	21,994	10,170	5,834	16,004
San Francisco, Calif.	17	4,283	4,200	8,483	3,552	3,383	6,935
Total	456	177,383	129,846	307,129	122,008	92,435	214,443

1/ Standard metropolitan areas

REFRIGERATED STORAGE CAPACITY, BY CITIES 4/

Chicago continues to maintain its leadership among all cities as a center of cold storage space. The degree of concentration of space in the Chicago metropolitan area is given in table 17 along with the capacities of 23 other metropolitan areas in the country.

Over 57 million gross cubic feet of space was in Chicago on October 1, 1955, about 10 million more than the second ranked city, New York. Chicago's capacity was almost equal to the combined capacities found in Boston, Detroit, Kansas City, Buffalo, Minneapolis and St. Paul. In the order named, these cities comprise the lower half of the 10 leading storage centers on a capacity basis.

Los Angeles was in third position with almost 22 million cubic feet, only about half as much as in Greater New York. Ranking fourth and fifth, with almost equal capacity, was St. Louis and Philadelphia, respectively.

Public General Warehouses

The greatest concentration of public general space was located in Greater New York, the 1955 survey showed, with Chicago second (table 18.) New York's capacity amounted to 28 million cubic feet of usable piling space; Chicago had 26 million.

Los Angeles, with 10 million cubic feet of usable space was third, followed by Philadelphia and St. Louis, each with approximately 9 million cubic feet. These 5 cities, with 82 million cubic feet of usable space, comprised 14 percent of the national usable refrigerated capacity and 18 percent of all the 0° F. space.

The next 5 leading cities--Boston, Detroit, Kansas City, Dallas, and Cleveland--had a usable piling capacity total of only 36 million cubic feet (fig. 6).

Meat Packing Plants

Table 19 lists the refrigerated capacity of selected meat packing locations. Chicago and St. Louis were by far the leading areas followed by New York, Los Angeles, and Denver. Only those cities having 3 or more plants and approximately 1 million cubic feet of usable piling space are listed.

4/ Prior to 1955, warehouse capacities for each of the cities listed included all space within the city named and within a radius of 25 miles. Beginning with this survey, cities are, in each instance, standard metropolitan areas which are urban centers containing at least one city of 50,000 population or more and includes all of the closely linked surrounding area.

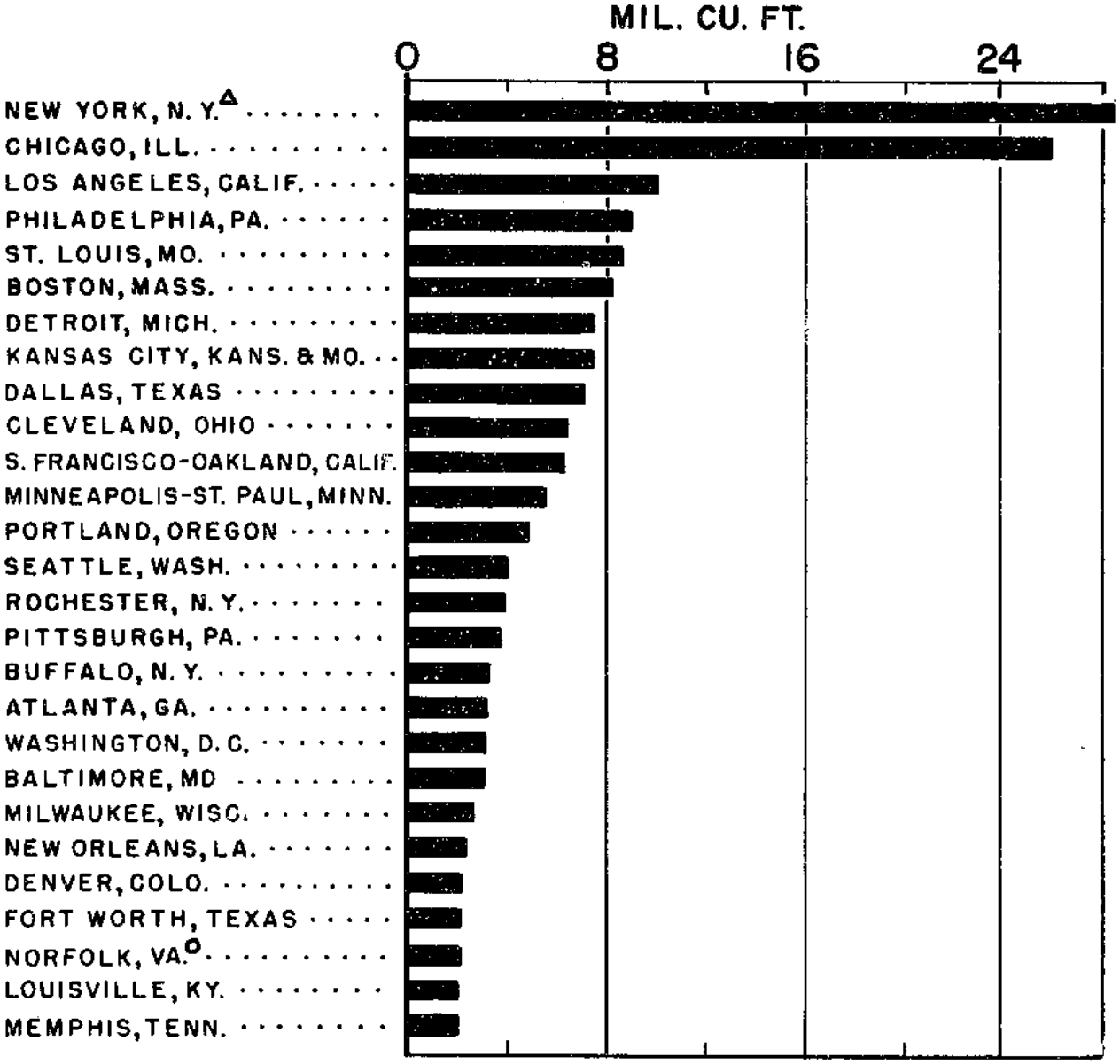
Table 18.—Public general warehouses: Refrigerated storage capacity in cities having 3 or more plants and at least 2 million cubic feet of usable piling space, October 1, 1955

City and State 1/	Plants	Gross Space			Usable piling space		
		Zero° F. or below	Above Zero° F. to 50° F.	Total	Zero° F. or below	Above Zero° F. to 50° F.	Total
	Number	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, Mass.....	14	10,640	2,378	13,018	6,471	1,720	8,191
New York, N. Y.....	30	23,804	16,930	40,734	16,637	11,717	28,354
Buffalo, N. Y.....	8	2,819	1,638	4,487	1,999	1,298	3,297
Rochester, N. Y.....	7	2,223	2,911	5,134	1,607	2,321	3,928
Philadelphia, Pa.....	15	10,004	3,721	13,725	6,140	2,808	8,948
Pittsburgh, Pa.....	3	2,732	2,335	5,067	2,080	1,578	3,658
Cleveland, Ohio.....	4	4,641		8,989	3,461	2,953	6,414
Chicago, Ill.....	20	23,865	16,478	40,343	14,743	11,296	26,039
Detroit, Mich.....	7	5,111	4,953	10,064	3,820	3,595	7,415
Milwaukee, Wisc.....	5	1,789	1,566	3,355	1,456	1,145	2,601
Minn.-St. Paul, Minn....	9	6,332	1,423	7,755	4,446	998	5,444
St. Louis, Mo.....	7	5,506	5,972	11,478	3,921	4,566	8,487
Kansas City, Kans.& Mo...	5	7,754	2,666	10,420	5,412	1,949	7,361
Baltimore, Md.....	5	4,036	380	4,416	2,880	230	3,110
Washington, D. C.....	3	3,158	938	4,096	2,438	706	3,144
Norfolk, Va.....	5	1,401	1,223	2,624	1,120	948	2,068
Atlanta, Ga.....	5	1,728	2,734	4,462	1,210	2,023	3,233
Memphis, Tenn.....	6	2,316	626	2,942	1,562	482	2,044
New Orleans, La.....	5	2,063	922	2,985	1,500	795	2,295
Dallas, Tex.....	4	4,955	4,715	9,670	3,611	3,343	6,954
Ft. Worth, Tex.....	4	2,199	1,051	3,250	1,361	766	2,127
Denver, Colo.....	5	2,179	342	2,521	1,882	279	2,161
Seattle, Wash.....	8	3,953	2,523	6,476	2,677	1,364	4,041
Portland, Ore.....	9	5,261	540	5,801	4,443	351	4,794
Los Angeles, Calif.....	25	10,964	2,837	13,801	8,069	2,078	10,147
San Francisco, Calif....	12	4,000	3,482	7,482	3,354	2,899	6,253
Total.....	230	155,463	89,632	245,095	108,300	64,208	172,508

1/ Standard metropolitan areas

CITIES* WITH 2 MILLION OR MORE CUBIC FEET USABLE PILING SPACE

Each Having 3 or More Public General Refrigerated Warehouses



*STANDARD METROPOLITAN AREAS △INCLUDES NORTHEASTERN NEW JERSEY

°INCLUDES PORTSMOUTH AND NEWPORT NEWS

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Table 19.—Meat packing plants: Refrigerated storage capacity in cities having 3 or more plants and approximately 1 million cubic feet or more usable piling space, October 1, 1955

State	Plants	Gross space			Usable piling space		
		Zero° F. or below	Above Zero° F. to 50° F.	Total	Zero° F. or below	Above Zero° F. to 50° F.	Total
	Number	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 York, N. Y.....	15	1,129	2,431	3,560	569	1,567	2,136
Chicago, Ill.....	6	1,067	4,435	5,502	723	2,539	3,262
St. Louis, Mo.....	11	1,313	3,943	5,256	915	2,363	3,278
Cincinnati, Ohio.....	3	7	1,256	1,263	6	1,127	1,133
Dallas-Ft. Worth, Tex.	4	1,149	65	1,214	909	48	957
Denver, Colo.....	4	396	985	1,381	265	830	1,095
Los Angeles, Calif....	4	145	1,581	1,726	77	1,187	1,264
Total.....	47	5,206	14,696	19,902	3,464	9,661	13,125

Table 20.—Public general warehouses: Percentage of usable piling space occupied at end of month, 1944 - 55

Cooler

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
	Pct.	Pct.	Pct.	Pct.	Pct.	Pct.	Pct.	Pct.	Pct.	Pct.	Pct.	Pct.
1944.....	68	74	80	82	84	85	84	81	78	80	76	72
1945.....	70	68	67	66	66	65	67	69	67	65	64	60
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

Freezer

1944.....	89	92	88	85	87	87	89	89	89	86	83	80
1945.....	73	69	65	64	67	73	78	81	82	83	85	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

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Tables

Capacity of Refrigerated Warehouses in the United States

Refrigerated Warehouse Capacity, by Regions

Refrigerated Warehouse Capacity, by States

Charts

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