

Marketing

Frozen Broilers

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RETAIL GROCERY STORES



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SUMMARY

- The main objective of this study was to determine the market potential for frozen broilers. Schedules were obtained in 1960 from 266 retail grocery stores located in the 95 counties in Tennessee. Some data were available from another study made in Tennessee in 1955 of 275 grocery stores.

- Total volume of frozen broilers—whole, cut-up and parts, sold per sample store—increased from an average of 135 pounds in 1955 to nearly 3,200 pounds in 1960. All grocery stores in Tennessee sold an estimated 24.2 million pounds of frozen broilers, whole, cut-up, and parts in 1960. These sales amounted to about 6 pounds per capita. In addition, all grocery stores in the State in 1960 sold an estimated 4.5 million pounds of chicken in frozen pies and dinners. However, frozen broilers in different forms were not available to all grocery store customers. Of 266 stores, only 1 of 14 handled frozen whole broilers, 1 of 7 frozen cut-up, 6 of 10 frozen parts, 7 of 10 frozen chicken dinners, and 8 of 10 frozen chicken pies. Of all stores, 3 of 10 did not handle any frozen broilers in forms of whole, cut-up, or parts.

- An important drawback to the increased sale of frozen broilers has been the differential in price between frozen and fresh birds arising from such added costs as these: additional labor in cutting and packaging, package material, freezing, plant overhead, storage, delivery, and advertising. In this study it was found that the higher price paid by retailers for frozen broilers was partly offset by the costs of converting fresh, whole, ice-chilled broilers to the forms of cut-up and parts. About 75 percent of the fresh broilers purchased by 266 stores were processed and sold as fresh cut-up or parts. The cost per pound for cutting and packaging averaged 5.4 cents per pound.

- The prices received by retailers for fresh and frozen broilers varied widely among stores. The price for frozen livers and breasts averaged lower than for fresh livers and breasts. Among all stores the combined weighted average price per pound of 10 forms of frozen broilers was about 6 cents higher than that for fresh broilers.

- In evaluating the merchandising practices of 185 stores handling frozen broilers, many factors were found to be associated with high annual volume of frozen broilers (whole, cut-up, and parts) sold per store. A statistical summary of these relationships is shown in Appendix D. Stores selling the most frozen broilers per store usually were the larger ones, members of chains or volunteer groups, and located in the larger cities. However, the opera-

tors of stores selling the greatest volume per firm, regardless of store size, type or location, generally reported the following merchandising practices or conditions:

- 1) Sales of both fresh and frozen broilers of several different forms
- 2) Lower price mark-up on frozen than fresh broilers
- 3) Advertising of frozen broilers frequently and by several different media
- 4) Display of frozen broilers in self-service cases
- 5) Display of frozen before fresh broilers to customers in the usual flow of shopper traffic in the store
- 6) High annual sales of frozen broilers per square foot of display space
- 7) Holding broilers in display cases at zero or below zero temperature
- 8) Display case turnover of broilers on sale in less than 10 days
- 9) Several advantages of selling frozen over fresh broilers

- The important advantages of selling frozen over fresh broilers were less labor required; frozen broilers can be held longer without fear of spoilage; development of a market for broilers as a means of leveling out the supply situation; being able to meet competition from other stores; and convenience in handling.

- The main reasons for stores not selling more frozen broilers or disadvantages in handling them were that customers generally preferred fresh-chilled birds; slow turnover; lack of advertising; lack of equipment or space; and the price differential between frozen and fresh broilers. These reasons are widely discussed in this report.

- Retailers suggested some ways of overcoming the difficulties involved in improving the merchandising of frozen broilers at the retail level and in overcoming consumer skepticism relating to the quality of frozen broilers. They are:

- 1) Advertising frozen broilers as "fresh frozen" and advertising frequently in newspapers, over radio and TV
- 2) Holding frozen broilers in store display cases at zero or below zero degree temperature to preserve product quality
- 3) Developing a type of frozen pack which would enable the store customer to observe the general appearance of the chicken before purchase
- 4) Industry sponsoring of educational programs designed to familiarize the consumer with the characteristics of broilers in frozen form.

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Marketing Frozen Broilers in Tennessee Retail Grocery Stores

by

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INTRODUCTION

A study made by the Tennessee Agricultural Experiment Station in 1955 indicated considerable consumer interest in frozen broilers. Of 3,611 families interviewed or reporting by questionnaire, 724 preferred frozen broilers, whole, cut-up, or parts. The per capita consumption of all broilers for the 724 families averaged 25.3 pounds, or 0.4 pounds higher than that for 2,598 families preferring fresh cut-up broilers. The study indicated that form of broiler preference is related to such factors as size of family, religion, occupation, geographic location, method of cooking, home storage facilities, and price, weight, quality, and availability of broilers.¹ The last four factors are closely associated with the merchandising practices of retail food stores.

A southern regional study of 1,011 food stores in non-metropolitan areas in 1955 indicated that only 1 out of 16 handled frozen whole broilers, 1 out of 5 handled frozen cut-up broilers, and 1 out of 3 handled frozen broiler parts.² This study indicated the need for further research in: 1) Determining the underlying reasons why more stores do not sell broilers in frozen form, and 2) evaluating the merchandising practices of stores that handle frozen broilers in various forms.

Objectives of the Study

The broad purpose of the study was to determine the market potential for frozen broilers. Specific objectives were: 1) To determine the availability and factors associated with availability and sales of frozen broilers in grocery stores; 2) to determine retail prices of frozen and fresh broilers in various forms; and 3) to

¹ Raskopf, B. D., *Factors Affecting Per Capita Consumption of Broilers in Tennessee*, Tennessee Agricultural Experiment Station Bulletin No. 288, p. 28, August, 1959.

² *Marketing Poultry Meats in Retail Food Stores in Non-Metropolitan Areas of the South*, Southern Cooperative Series Bulletin No. 73, June, 1960.

evaluate some of the important merchandising practices in the handling of frozen broilers in grocery stores.

Scope and Procedure

Schedules of information and personal interviews were obtained at 266 retail grocery stores in Tennessee during the months of June to September, 1960. The estimated 7,566 grocery stores in the State were grouped as to the number of stores by size of incorporated or unincorporated places, towns, and cities.³ The rate of sampling was about 3.5%. The sample was stratified by county as well as by size of city or place, and by type and size of store.

For tabulation and analysis purposes, the stores were grouped according to size of store, type of store, and size of city. About 64% of the stores, or 170, were classified as small, having an annual volume of business per store under \$250,000; 77 stores were of medium size with annual sales ranging from \$250,000 to \$749,000; and 19 stores were large with annual volumes of business of \$750,000 to \$1,250,000. Of the 23 sample stores located in places under 1,000 population, 100% were classified as small; of 96 stores in towns 1,000 to 4,999 population, 79% were small, 19% medium-size, and 2% large; of 73 stores in cities 5,000 to 24,999 population, 48% were small, 41% medium size, and 11% large; of 74 stores in cities 25,000 population and over, 40% were small, 30% medium-size, and 30% large.

In the sample of 266 stores, 137 were members of a chain or voluntary group and 129 independently operated. Of the chain stores, 39% were classified small, 48% medium size, and 13% large. About 90% of the independent stores were classified as small, 8% medium size, and 2% large.

At least one store in each county was included in the study, although a few counties averaged less than 28 stores, or less than the 3.5% sampling rate. As indicated in Figure 1, the stores included in the study were distributed throughout the State.

In connection with the survey of retail grocery stores, a study was also made of 847 store customers who consumed or did not consume frozen broilers. The objectives of these interviews were to determine why many consumers never have bought frozen broilers; to find out why some prefer broilers in frozen form; to see why some are dissatisfied with broilers in frozen form; and to

³ Size of city was based on the 1950 Census of Population and revised according to preliminary 1960 Census data. Number of stores was based on data available from the 1958 Census of Business, Retail Trade Area Statistics, supplemented with 1960 data from city directories and county court house records.

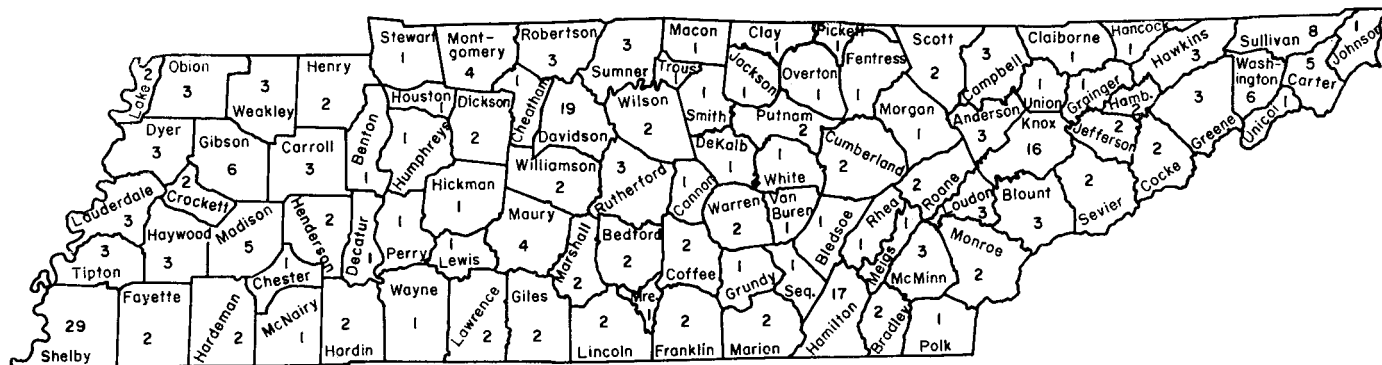


Figure. 1. Location of 266 grocery stores included in the survey, by counties, Tennessee, 1960.

learn about the influence of various factors related to the per capita consumption of frozen broilers. The results of this study will be published later.

In this study the term "broiler" generally refers to a young chicken (usually under 16 weeks of age) of either sex, that is tender-meated with soft, pliable, smooth-textured skin, and that has a flexible breastbone cartilage.

AVAILABILITY AND SALES OF FROZEN BROILERS

Trend in Sales

A survey of 275 retail food stores in Tennessee in 1955 indicated that only a small volume of broilers was sold in frozen form. In that year 8,246 grocery stores in the State sold an estimated 1.1 million pounds of frozen broilers, or an average of only 135 pounds per store. By 1960, the sales of frozen broilers, whole, cut-up, and parts, had increased to an average of nearly 3,200 pounds per store (Table 1). Although the number of grocery stores declined since 1955, in 1960 7,566 stores sold an estimated 24.2 million pounds of frozen broilers, whole, cut-up, and parts. The consumption of frozen broilers purchased at retail grocery stores in Tennessee in 1960 is estimated at 6 pounds per capita.

Table 1. Volume of Different Forms of Frozen Broilers Sold Annually by a Sample of Grocery Stores, Tennessee, 1955 and 1960.

Item	1955 (a)	1960
No. of stores included in survey	275	266
	Pounds of broiler	
Frozen broilers sold per store: Parts	83	2,890
Cut-up	31	220
Whole	21	84
Total	135	3,194
Frozen chicken pies sold per store (b)	No data	1,645
Frozen chicken dinners sold per store (b)	No data	833

(a) For source of 1955 data see *Factors Affecting Per Capita Consumption of Broilers in Tennessee*, Tennessee Agricultural Experiment Station Bulletin No. 228, p. 7, August, 1958.

(b) Frozen chicken pies contained an average of 14% chicken and frozen chicken dinners an average of 45% chicken. The amount of broiler meat in frozen chicken pies and dinners could not accurately be determined. Throughout the report the data and statements pertaining to frozen chicken pies and dinners refer to the total weight of entire pies or dinners and not to the chicken meat content.

There has been considerable interest in recent years in selling broilers and other fowl in frozen chicken pies and dinners. The 266 stores in 1960 reported average sales per store of 3,290 eight-ounce chicken pies and 1,212 eleven-ounce chicken dinners. Based

on this survey, all grocery stores in the State sold an estimated 4.5 million pounds of chicken in frozen pies and dinners in 1960.

Form of Broilers in Relation to Total Sales

The 266 stores were grouped according to different combinations of frozen and fresh broilers handled. Stores that sold the highest volume of broilers per store sold two or more forms of both fresh and frozen broilers. Stores selling some forms of frozen broilers, but no fresh broilers, averaged selling between 100 to 1,600 pounds annually per store. Those selling some forms of fresh broilers, but none frozen, averaged selling 24,100 pounds annually per store. Those selling both frozen and fresh broilers in several different forms averaged from 35,200 to 91,300 pounds per store, varying according to the combinations of forms of broilers sold (APPENDIX A).

Considerable relationship existed between the total annual sales per store of all forms of fresh and frozen broilers, including chicken pies and dinners, and the number of different forms of broilers sold. Annual sales per store ranged from 14,400 pounds for 55 stores selling from 1 to 3 forms to 109,900 pounds for 91 stores handling six or more forms.

In addition to being related to total sales of all broilers, the number of forms of frozen broilers offered for sale was associated with increased sales per store of frozen broilers. For 152 stores selling only one form of frozen broilers, whole, cut-up, or parts, the annual sales per store of frozen broilers averaged 4,300 pounds; for 32 stores selling two forms, the sales per store of frozen broilers averaged 5,600 pounds. Only 1 store sold three forms of frozen broilers, whole, cut-up, and parts, with annual frozen broiler sales of 21,700 pounds.

Seasonality of Sales

Of the 185 grocery stores handling one or more forms of frozen broilers, 60% showed little seasonal difference in broiler sales, 26% sold proportionally more during the summer, and 14% sold more during the winter, spring, or fall.

No apparent relationship existed between seasonality of broiler sales and size and type of store and size of city in which the store was located. The large groups of stores reporting little seasonal difference in frozen broiler sales, and summer as the season of most sales, had about equal distribution as to size, type, and location. Wide variation existed among the 185 stores handling different

forms of frozen broilers in seasonality of sales. One small independent store, in a town under 1,000 population, handled 21,700 pounds annually of frozen broilers, parts, cut-up, and whole, and reported summer as the season of greatest sales. On the other hand, a large chain store, in city of over 100,000 population, handled 26,300 pound annually of frozen broilers, parts, and cut-up, and sold proportionally more during the winter.

A previous study in Tennessee indicated that seasonality of broiler purchases was related to such factors as methods of cooking, meal patterns, family tastes, family income, per capita consumption of other meats, storage facilities, and weights, price, and availability of broilers.⁴ Several of these factors are closely associated with the merchandising of frozen broilers as discussed in this report—particularly availability and form of broilers sold, price and price mark-up, storage facilities, and methods of advertising and display.

Availability of Different Forms

Frozen broilers in different forms were not available at all grocery stores. Of the 266 stores, only 1 out of 14 handled frozen whole broilers; 1 out of 7, frozen cut-up broilers; and 6 out of 10, frozen broiler parts (Table 2). Although 162 of the stores handled some form of frozen broiler parts, many of these did not sell all

⁴ Raskopf, B. D. *Factors Affecting Per Capita Consumption of Broilers in Tennessee*, Tennessee Agricultural Experiment Station Bulletin No. 288, p. 27, August, 1958.

Table 2. Percent of Firms Handling Various Forms of Frozen Broilers, and Volume Sold By Size, Type and Location of Firm, 266 Grocery Stores, Tennessee, 1960.

Form of broilers, chicken pies, and dinners	Size of store and no.			Type store and no.		Store loc. by pop. of city and no.				All stores, no. 266
	Small 170	Med. 77	Large 19	Chain 137	Ind. 129	Under 1000 23	1000- 4999 96	5000- 24999 73	25000 and over 74	
	Percent of stores handling									
Frozen: Parts	57	68	100	63	57	43	72	62	50	61
Cut-up	17	9	11	13	16	22	16	14	11	14
Whole	7	8	5	4	9	30	3	7	4	7
Pies	76	95	100	96	70	57	86	88	85	84
Dinners	60	92	100	90	53	30	69	84	80	73
Thousand pounds sold annually per store handling										
Frozen: Parts	1.5	5.8	24.9	6.2	3.1	0.7	1.2	10.3	5.5	4.7
Cut-up	1.7	1.3	0.6	1.2	1.9	3.5	1.4	1.0	1.2	1.5
Whole	1.0	1.4	2.6	1.6	1.0	1.2	0.9	1.5	1.1	1.1
Pies	0.9	2.7	6.2	2.8	0.7	0.6	0.9	2.3	3.2	2.0
Dinners	0.6	1.3	3.4	1.5	0.6	0.5	0.6	1.5	1.5	1.2

different kinds of parts. For example: 83% of the stores handled breasts; 64%, thighs and drumsticks; 58%, livers; 32%, gizzards; 13%, wings; and 9%, backs and necks.

The proportion of stores handling frozen parts, pies, and dinners increased as the size of the store increased from small to large. However, a higher proportion of the small stores handled frozen cut-up broilers. Compared with small stores that handled frozen broilers, large stores sold an annual average of 16 times more frozen parts per store, 7 times more frozen pies, 5 times more frozen dinners, and 2.6 times more frozen whole broilers. While a higher proportion of the chain—compared with independent stores—handled frozen parts, pies, and dinners, somewhat less handled frozen cut-up and whole broilers. Chain stores, compared with independents that handled frozen broilers, sold 4 times more frozen pies, and 2 times more frozen parts and dinners per store.

Disadvantages of Handling Frozen Broilers

In the survey of retail grocery stores, each manager was asked to give reasons, if any, for not handling or selling more frozen broilers. In tabulating the reasons, the stores were divided into two groups: 1) 81 stores where frozen broilers in the form of whole, cut-up, or parts, were not handled, and 2) 185 which sold frozen broilers in one or more of the above forms. The managers of each of the stores gave one or more reasons. As indicated in Table 3, considerable variation existed in the percentage of each reason given by size, type, and location of store. In general, more reasons came from managers of the small than large stores, by independent than chain stores, and by stores located in the smaller-size places and towns. Considerable discussion is given to the major reasons; they point out some of the more important disadvantages in handling frozen broilers, and difficulties involved in improving the distribution of frozen broilers in retail channels.

Customers generally prefer fresh over frozen broilers. About three-fourths of all store managers reported that their customers generally preferred fresh over frozen broilers. The past experience of these managers indicated that when fresh-chilled and frozen broilers are displayed side-by-side, the customers usually select the fresh-chilled bird. Most store operators believed that an important factor for consideration is the consumer doubt as to whether frozen broilers are as high in quality as those freshly chilled.

About a third of the managers of 185 stores handling frozen broilers suggested one or more of the following ways of over-

Table 3. Reasons for Stores Not Handling or Selling More Frozen Broilers, by Size, Type, and Location of Store, 266 Grocery Stores, Tennessee, 1960.

Reasons	Size of store and no.			Type store and no.		Store loc. by pop. of city and no.				All stores, no.
	Small 58	Med. 17	Large 6	Chain 45	Ind. 36	Under 1000 8	1000- 4999 21	5000- 24999 20	25000 and over 32	
Percent of stores reporting reasons for not handling frozen broilers (a)										
Customers generally prefer fresh	71	88	66	71	78	50	71	75	91	74
Slow turnover	36	47	50	51	25	25	57	45	28	40
Lack of equipment or space	50	6	0	24	53	63	29	40	34	37
Price and other reasons	10	6	17	9	11	0	19	15	3	10
Reasons	Size of store and no.			Type store and no.		Store loc. by pop. of city and no.				All stores, no.
	Small 112	Med. 60	Large 13	Chain 92	Ind. 93	Under 1000 15	1000- 4999 75	5000- 24999 53	25000 and over 42	
Percent of stores reporting reasons for not selling more frozen broilers (a)										
Customers generally prefer fresh	79	73	77	82	73	87	75	74	83	77
Lack of advertising	83	42	15	40	89	93	85	45	43	65
Slow turnover	26	28	8	25	26	40	32	15	21	25
Lack of equipment or space	21	7	15	16	16	27	15	25	5	16
Price and other reasons	10	28	38	18	18	40	20	17	7	18

(a) Some store managers reported more than one reason, therefore, the percentage in the columns total more than 100.

coming consumer skepticism relating to the quality of frozen broilers: 1) Displaying frozen broilers before fresh ones to customers in the usual flow of shopper traffic in the store; 2) holding frozen broilers in display cases at zero or below zero degree temperature; 3) displaying frozen broilers in self-service cases; 4) developing a type of frozen pack which would enable the consumer to observe the general appearance of the broiler; 5) advertising frozen broilers frequently and in several different ways; and 6) sponsoring educational programs designed to familiarize the consumer with the characteristics of broilers in frozen form.

More advertising needed. About two-thirds of the managers of 185 stores that handled frozen broilers indicated that the lack of advertising by different methods was an important reason why

more frozen broilers were not sold. The data shown in Table 6 tend to confirm this conclusion. Frequency of advertising was associated with increased annual volume of frozen broiler sales per store.

Slow turnover. Managers of 40% of 81 stores gave slow turnover as a reason for not selling any frozen broilers. This also was listed as an important reason by 25% of 185 store operators that were handling frozen broilers during the period of study. In this study it was found that display case turnover of frozen broilers averaged about 2 weeks, but varied widely among stores. The number of times the stock of frozen broilers in display cases was sold and replenished in a given period of time was related to many factors. Stores with display case turnover of broilers of less than 2 weeks, compared with those having turnover ranging from 2 to 12 weeks, generally were the larger stores. They sold both fresh and frozen broilers in several different forms and had lower mark-up on frozen than fresh broilers. They advertised frozen broilers by several media and displayed frozen broilers before fresh ones and in self-service cases. To retard quality deterioration, they held broilers in display cases at below-zero degree temperature.

More equipment or space required. Lack of display case, and lack of space in frozen food boxes, were given as reasons for not selling frozen broilers by the managers of 37% of 81 stores which did not handle frozen broilers in any form. These reasons were also listed by the managers of 16% of 185 stores for not selling more frozen broilers.

This study revealed that although some equipment is necessary in securing volume sales of frozen poultry, the real problem is how to obtain maximum utilization of existing display space through better merchandising procedures. Among 185 stores, the annual sales of frozen broilers per square foot of display space ranged from under 10 pounds to over 13,000 pounds.

The important merchandising factors associated with increased sales of frozen broilers per square foot of display space were: 1) Attractive self-service display of high quality broilers of different forms every day throughout the season; 2) low prices of broilers in relation to competing products; 3) frequent advertising of frozen broilers in newspapers, radio, and TV; and 4) display of frozen broilers before fresh ones to customers in the usual flow of shopper traffic in the store. The 33 stores reporting the highest average annual sales of frozen broilers per square foot of display space (1,464 pounds) followed 3 or 4 of the above merchandising

practices. Included in this group were 7 small stores and 7 independently-operated stores.

Price and other reasons. According to the managers of 41 stores, an important drawback to sales of frozen broilers has been the higher price charged by processors and wholesale distributors for frozen over fresh ice-chilled broilers of different forms. This price differential averaged about 6 cents per pound for 10 different forms of broilers handled by 185 stores in 1960. The increased costs of processing and distribution of frozen over fresh, whole, ice-chilled broilers arise from additional labor in cutting and packaging, package material, freezing, plant overhead, storage, delivery, and advertising.⁵

However, many of the store managers indicated that the difference in price paid by retailers for frozen broilers, cut-up and parts, over fresh, whole, ice-chilled broilers is partly offset by the costs of converting fresh whole to the forms of cut-up and parts. In this study it was found that three-fourths of the fresh broilers bought by the 266 stores were processed and sold as fresh cut-up or parts. The cost per pound averaged 4 cents for cutting and packaging and 1.4 cents for package material.

Of the 266 store managers, 28 listed several reasons other than price for not handling or selling more frozen broilers. Of these, 8 stated that company policy prohibited them from handling some forms of frozen broilers because these products had not proved to be profitable items; 5 had never tried to handle any form of frozen broilers; 5 believed that the quality of frozen broilers was lower than that for fresh-chilled birds; 3 gave the reason of "too much competition;" 2 stated that most of their customers produced the chicken they consumed; and 5 were dissatisfied with the way frozen broilers were packaged.

Advantages of Selling Frozen Broilers

Sixty percent of the managers of 185 retail grocery stores selling frozen broilers indicated that the merchandising of them had one or more advantages over selling the birds in fresh-chilled form. Generally, a higher proportion of each of the advantages was reported by the operators of the larger stores and those located in cities of 5,000 or more population (Table 4). For the 110 stores where the managers reported advantages of selling frozen over fresh broilers, each store averaged selling 5,600 pounds of frozen

⁵ *Marketing Costs and Margins for Chicken Fryers and Fowl*, Agriculture Marketing Service, U. S. Department of Agriculture, Marketing Research Report No. 195.

broilers annually. This compared with 3,100 pounds for 75 stores where the managers reported no advantages.

Table 4. Advantages of Selling Frozen Over Fresh Broilers, by Size, Type and Location of Store, 185 Grocery Stores, Tennessee, 1960.

Advantages of selling frozen over fresh broilers	Size of store and no.			Type store			Store loc. by pop. of city and no.				All stores, no. 185
	Small 112	Med. 60	Large 13	Chain 92	Ind. 93	Under 1000 15	1000-4999 75	5000-24999 53	25000 and over 42		
Percent of stores reporting advantage of selling frozen over fresh broilers (a)											
Less labor required	29	47	62	48	26	33	21	55	43	37	
Less perishable	31	18	46	23	33	27	23	34	26	28	
Meeting competition	6	12	8	9	7	7	5	13	7	8	
Convenience	3	7	8	7	2	7	3	2	10	4	

(a) Frozen broilers included whole, cut-up, and parts.

Some store managers reported more than one advantage, therefore, the percentages in some columns total more than 100.

Less labor required. Sixty-eight store managers reported two reasons why less labor is required in handling frozen, compared with fresh broilers. Crates of fresh-chilled birds holding from 24 to 30 carcasses contain crushed ice equal to about half the weight of the birds. The packaging and freezing of broilers at the processing plant eliminates extra labor required in transporting ice from the processing plant to the retailer, and in handling the bulky crates of iced chicken in holding rooms and meat cutting departments of retail grocery stores. Merchandising broilers in frozen form also eliminates labor involved by the retailer in cutting up and packaging chicken to be sold as fresh cut-up or parts.

About 75 percent of the fresh broilers handled by 266 stores included in the survey were cut up and packaged and sold as fresh cut-up or parts. The time required to cut up and package a fresh broiler varied from 6 to 120 seconds per bird among stores with an average of 45 seconds per bird for all stores.

Less perishable. Fifty-one store managers reported that the merchandising of frozen has an advantage over selling fresh broilers because they can be held longer without fear of deterioration or spoilage. This enables the processor and retailer to better adjust for the supply and demand of dressed broilers, since they will not have to be sold within such a short length of time after being processed. Because frozen broilers are less perishable than fresh ones, the store operator can often buy in larger quantities, keep different forms continuously in stock, and avoid the market-demoralizing practice of dumping.

Meeting competition. The managers of 15 stores stated that some of their customers purchased broilers only in frozen form and would do their food shopping only at stores where chicken in frozen forms was available. The extent to which stores lost business or sales because frozen broilers in different forms were not offered for sale was not determined. However, the stores that offered the greater variety of different forms of both fresh and frozen broilers reported the highest annual volume of total broiler sales (APPENDIX A).

Convenience. Seven of the store managers indicated that frozen broilers in various forms were easier to handle than fresh ones. Under the category of convenience was listed the advantages of easier to store, elimination of the handling of crates of iced chicken which results in wet floors in holding rooms, use of different forms of frozen broilers as fill-in for fresh birds, and saving of counter space.

MERCHANDISING PRACTICES

Origin of Forms of Frozen Broilers

Frozen whole, cut-up, and parts. Of the 266 stores included in the survey, 185 handled some form of frozen broilers—whole, cut-up, or parts. Nearly 61% handled frozen parts, 14% frozen cut-up, and 7% frozen whole broilers.

Those frozen forms of broilers were processed by 20 different companies and originated in nine different states (Figure 2). About 56% of the 185 stores handling frozen broilers purchased from five different companies in Georgia; 14% from two companies in Nebraska; 12% from four companies in Tennessee; 10% from four companies in Illinois; and 18% from one or more firms in the states of Alabama, Mississippi, Indiana, Missouri, and Virginia. About one out of 10 stores bought frozen broilers from more than one company. Each company selling frozen broilers had a particular brand name for its products.

Frozen chicken pies and dinners. More stores handled frozen chicken pies and dinners than frozen broilers—whole, cut-up, or parts. Of the 266 stores, 84% sold frozen chicken pies, 73% sold frozen chicken dinners, and 73% sold both pies and dinners. These pies and dinners were processed by 14 different companies and originated in 11 different states (Figure 2). About 44% of the stores handling frozen chicken pies and/or dinners purchased from two companies in New York; 33% from one company in Nebraska; 24% from two companies in Tennessee; 22% from one company

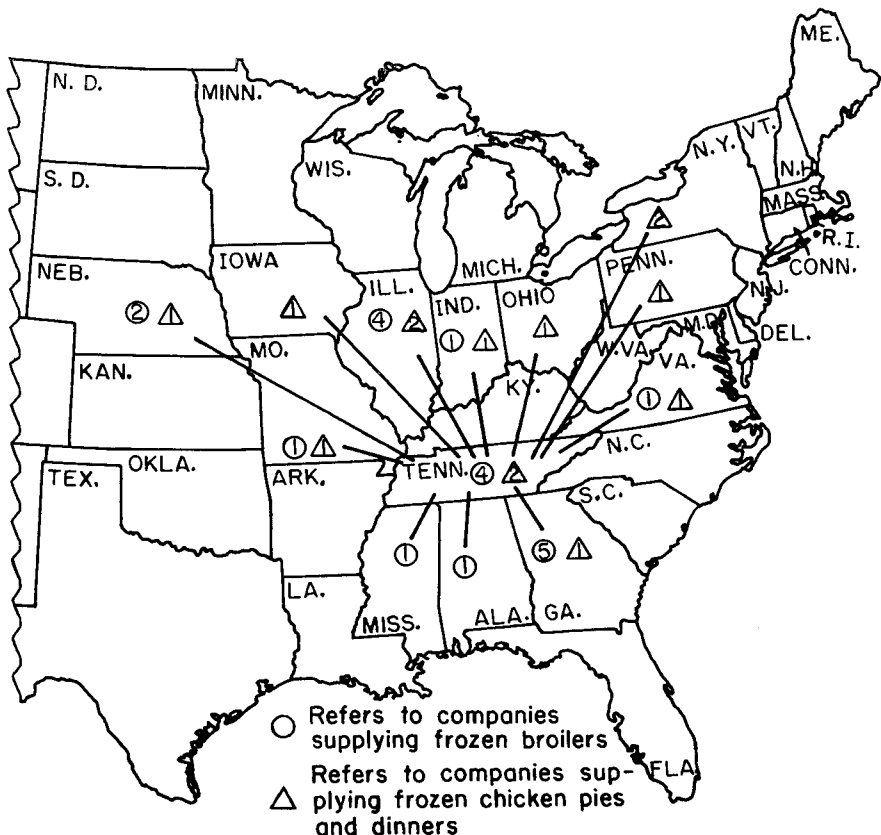


Figure 2. Number of companies supplying 266 grocery stores in Tennessee with frozen broilers and frozen chicken pies and dinners, 1960.

in Missouri; 11% from two companies in Illinois; and 24% from one or more firms in the states of Georgia, Indiana, Iowa, Ohio, Pennsylvania, and Virginia. About 6 out of 10 stores bought frozen chicken pies or dinners from more than one company. Each company selling frozen chicken pies or dinners had a special brand name for its products. Five of the 14 firms supplying frozen chicken pies and dinners also processed frozen broilers—whole, cut-up, and parts—and sold these in Tennessee.

Based upon the reports of three companies distributing frozen chicken pies and dinners in Tennessee in 1960, the amount of broiler meat put in these products could not accurately be determined. These companies reported that frozen chicken pies contained 14% and frozen chicken dinners 45%, by weight, of cooked, deboned chicken meat.

Meat content of poultry pies is regulated by law. Poultry pies which are prepared from cooked meat shall contain a minimum of 14% (1 $\frac{1}{8}$ ounces per 8-ounce pie) of cooked, deboned poultry meat. This percentage shall be exclusive of any skin, giblets, or fat which may be included in the product.⁶

Prices Received and Mark-up for Frozen Broilers

Prices were obtained for 23 different forms of broilers offered for sale by the 266 stores during the months of June to September, 1960. Average prices received by stores for fresh and frozen broilers in various forms were computed by size and type of store and by size of city. In some cases the data were limited because of the small number of stores handling a particular form of broiler. Only 19 stores handled frozen whole broilers and 38 sold frozen cut-up. Only 31 stores handled fresh barbecued broilers.

Prices received by forms of broilers. The average price and range in price received for fresh and frozen broilers of different forms by all stores reporting is shown in Figure 3. The results may be summarized as follows:

1. Fresh livers averaged 5 cents per pound higher than frozen livers. Both fresh and frozen livers averaged higher in price than any other form of broilers.
2. Frozen chicken dinners averaged 38 cents per pound higher than frozen chicken pies.
3. Fresh barbecue chicken averaged 76 cents per pound.
4. Fresh breasts averaged 4 cents per pound higher than frozen breasts.
5. Frozen thighs averaged 6 cents per pound higher than fresh thighs.
6. Frozen drumsticks averaged 9 cents per pound higher than fresh drumsticks.
7. Frozen whole broilers averaged 7 cents per pound higher than fresh whole broilers.
8. Frozen gizzards averaged 5 cents per pound higher than fresh gizzards.
9. Frozen cut-up broilers averaged 3 cents per pound higher than fresh cut-up broilers.
10. Frozen wings and necks averaged 11 cents per pound higher than fresh wings and necks.
11. Frozen backs averaged 6 cents per pound higher than fresh backs.
12. The range in average price among stores for each of 10 different forms of fresh and frozen broilers actually exceeded or equaled the average

⁶ *Regulations Governing the Inspection of Poultry and Poultry Products*, Agricultural Marketing Service, U.S.D.A., May 1, 1958.

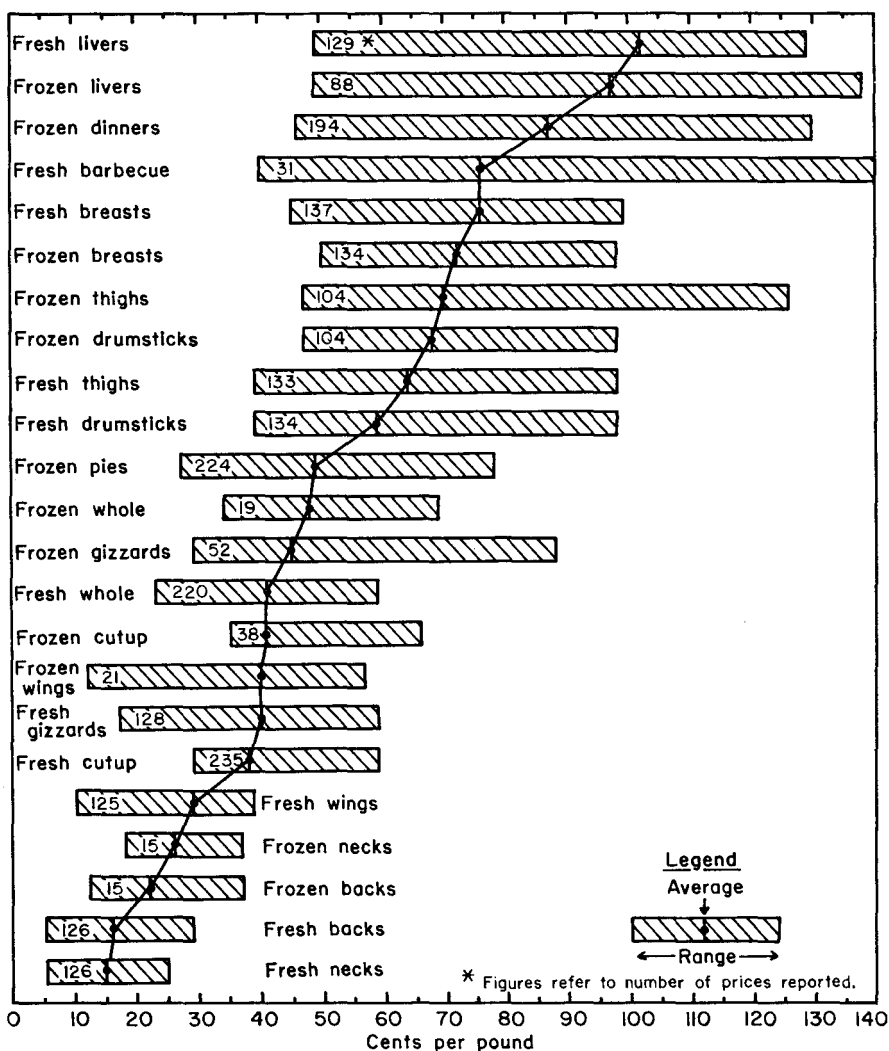


Figure 3. Average and range in price per pound received for fresh and frozen broilers in various forms, 266 grocery stores, Tennessee, 1960.

price. For example, frozen thighs averaged 70 cents per pound but among stores the price range was 79 cents or from 47 cents to \$1.26 per pound.

- The price per pound of 10 different forms of frozen broilers was lower than that for fresh broilers of similar forms at one or more stores in different areas of the State. For example, the price per pound for frozen thighs averaged 70 cents for all stores but was as low as 47 cents

at one or more stores. During the same time the price for fresh thighs ranged as high as 98 cents per pound at one or more stores.

14. The weighted average price per pound of 10 forms of frozen broilers was about 6 cents higher than for similar forms of fresh broilers.⁷
15. As an average, the price of both fresh and frozen whole broilers averaged higher than for fresh and whole cut-up broilers. Part of this difference was accounted for by the frequent special cut-up broiler sales held by many of the stores that did not handle fresh or frozen whole broilers.

Prices received by size, type, and location of store. The price per pound received by small, compared with large, stores, averaged higher for the following forms: frozen breasts, drumsticks, thighs, gizzards, chicken pies, and chicken dinners. Small stores averaged lower prices than large stores for frozen whole, cut-up, wings, and livers (APPENDIX B). The weighted average price per pound of all forms of frozen broilers sold by small stores was only about 1 cent per pound higher than for frozen broilers sold by large stores. The most important price difference occurred in prices of frozen chicken pies and dinners. The price of frozen chicken pies and dinners at small stores averaged 8 cents per pound higher than that at large stores.

Chain, compared with independent stores, averaged higher prices for frozen cut-up broilers, but lower prices for frozen breasts, drumsticks, thighs, wings, backs, necks, livers, and frozen chicken pies and dinners. The weighted average price per pound of all forms of frozen broilers sold by chain stores was about 8 cents lower than that sold at independent stores.

The weighted average price per pound received by stores for all forms of frozen broilers decreased from 60 cents in places under 1,000 population to 57 cents in towns of 1,000 to 4,999 population, and to 54 cents in cities of 5,000 population and over. However, the prices on individual forms of frozen broilers varied considerably. Stores located in places having under 1,000 population received the lowest average price per pound for frozen whole broilers. Stores in towns of 1,000 to 4,999 population reported the lowest average prices for frozen dinners. Stores in cities of 5,000 to 24,999 population averaged the lowest prices for most other forms including frozen cut-up, breasts, drumsticks, thighs, wings, backs, necks, and livers.

Mark-up on frozen compared with fresh broilers. Individual store managers were asked whether their average retail mark-up

⁷ The 10 forms of broilers included: whole, cut-up, breasts, drumsticks, thighs, wings, backs, necks, livers, and gizzards.

above wholesale prices on frozen broilers was higher or lower than on fresh broilers. Of the 185 stores selling frozen broilers, whole, cut-up, or parts, 60% reported lower percentage mark-up on frozen broilers. These stores handled 79% of the frozen broilers sold by all stores. The practice of lower mark-up on frozen than fresh broilers was related to volume handled per store. This relationship was consistent by size and type of store and in stores by size of city (Table 5).

The stores reporting lower mark-up on frozen than fresh broilers generally charged lower prices for all forms of frozen broilers. These differences per pound averaged 6 cents for whole, 4 cents for cut-up, 12 cents for thighs, 9 cents for breasts, 5 cents for drumsticks, 4 cents for backs, 2 cents for livers and necks, and 1 cent for gizzards and wings.

Table 5. Mark-up on Frozen, Compared with Fresh Broilers, by Size, Type, and Location of Store, 185 Grocery Stores, Tennessee, 1960.

Mark-up on frozen compared with fresh broilers	Size of store and no.			Type store and no.		Store loc. by pop. of city and no.				All stores, no.
	Small	Med.	Large	Chain	Ind.	Under 1000	1000-4999	5000-24999	25000 and over	
	112	60	13	92	93	15	75	53	42	
	Percent of stores reporting price mark-up on frozen broilers									
Higher	46	28	38	34	45	33	48	30	38	40
Lower	54	72	62	66	55	67	52	70	62	60
All stores	100	100	100	100	100	100	100	100	100	100
Thousand pounds of frozen broilers sold annually per store by price mark-up (a)										
Higher	1.1	1.5	19.1	4.1	1.3	0.6	1.1	3.4	5.1	2.4
Lower	2.4	6.8	29.0	7.2	4.5	3.2	1.7	11.6	5.4	6.0
All stores Av.	1.8	5.3	25.2	6.1	3.1	2.3	1.4	9.1	5.3	4.6

(a) Frozen broilers included whole, cut-up, and parts.

Advertising Frozen Broilers

Methods. About 65 percent of the 185 stores handling frozen broilers never advertised them. Their annual sales per store averaged only 1,400 pounds or less than one-third of the average for all stores. The percentage of stores advertising frozen broilers increased as the size of store increased, averaged higher for chain than independent stores, and averaged higher for stores located in the larger cities.

Stores using newspapers in combination with radio or TV as advertising media for frozen broilers showed the highest average annual sales of frozen broilers per store (APPENDIX C). Six stores advertising by newspapers, radio, and TV averaged 22,900 pounds of frozen broilers per store. Seventeen stores using news-

papers and radio averaged frozen broiler sales of 11,800 pounds per store. Thirty-two stores using only newspapers averaged frozen broiler sales of 8,600 pounds per store.

Frequency. Among the 185 stores handling frozen broilers, the frequency of advertising was associated with the volume of frozen broilers handled per store. For 40 stores advertising frozen broilers frequently, the sales of frozen broilers averaged 13,500 pounds per store annually. Sales for those stores advertising frequently averaged 2.4 times as great as for 25 stores that seldom advertised, and 9.6 times more than 120 stores that never advertised frozen broilers (Table 6). Although only 21% of the stores selling frozen broilers advertised them frequently, these stores handled 64% of the frozen broilers sold by all stores.

Table 6. Frequency of Advertising Frozen Boilers, by Size, Type and Location of Store, 185 Grocery Stores, Tennessee, 1960.

Frequency of ad- vertising frozen broilers	Size of store and no.			Type store and no.		Store loc. by pop. of city and no.				All stores, no.
	Small 112	Med. 60	Large 13	Chain 92	Ind. 93	Under 1000 15	1000- 4999 75	5000- 24999 53	25000 and over 42	
Percent of stores reporting frequency of advertising frozen broilers.										
Never	83	42	15	40	89	93	85	45	42	65
Seldom	7	20	39	22	5	7	4	17	29	13
Frequently (a)	10	38	46	38	6	0	11	38	29	22
Total	100	100	100	100	100	100	100	100	100	100
Thousands pounds of frozen broilers sold annually per store by frequency of advertising (b)										
Never	1.3	1.0	13.0	1.8	1.2	2.3	1.0	2.2	1.1	1.4
Seldom	1.6	6.4	10.1	6.3	2.9	2.1	1.8	3.0	8.8	5.6
Frequently (a)	6.8	9.4	41.8	10.7	33.2	0.0	4.8	20.3	8.1	13.5
All stores, Av.	1.8	5.3	25.2	6.1	3.1	2.3	1.4	9.1	5.3	4.6

(a) Monthly or oftener at regular or irregular intervals.

(b) Frozen broilers included whole, cut-up, and parts.

The percentage of stores advertising frozen broilers, either seldom or frequently, increased as the size of store increased, was higher for chain than for independent stores, and increased as the size of city increased up to 25,000 population. No relationship was found between the regularity of advertising frozen broilers and volume of sales; that is, the sales per store for those stores advertising frequently at irregular intervals averaged as high as for stores that advertised frequently at regular intervals.

Displaying Frozen Broilers

Method of display. Of the 185 stores handling frozen broilers, 92% displayed them in self-service cases and these stores handled

over 98% of the frozen broilers sold by all stores. Stores using self-service cases for display had sales of nearly 4 times more frozen broilers per store than those using service cases, and 10 times more than those using closed refrigerators (Table 7). All the large stores had displays of frozen broilers in self-service cases. For stores using self-service displays, more frozen broilers were sold per store regardless of size, type, and location of store.

Table 7. Method of Displays of Frozen Broilers, by Size, Type and Location of Store, 185 Grocery Stores, Tennessee, 1960.

Kind of display	Size of store and no.			Type store and no.		Store loc. by pop. of city and no.				
	Small 112	Med. 60	Large 13	Chain 92	Ind. 93	Under 1000 15	1000- 4999 75	5000- 24999 53	25000 and over 42	All stores, no. 185
	Percent of stores reporting kind of display for frozen broilers									
Self-service case	89	97	100	85	90	86	93	93	93	92
Service case	7	3	0	4	6	7	4	7	5	5
Refrigerator	4	0	0	1	4	7	3	0	2	3
All stores	100	100	100	100	100	100	100	100	100	100
	Thousand pounds of frozen broilers sold annually by kind of display (a)									
Self-service case	1.9	5.4	25.2	6.4	3.3	2.6	1.5	9.7	5.6	4.9
Service case	1.0	2.6	0	1.6	1.1	1.0	0.2	1.5	2.6	1.3
Refrigerator	0.5	0	0	0.6	0.4	0.6	0.5	0	0.2	0.5
All stores, Av.	1.8	5.3	25.2	6.1	3.1	2.3	1.4	9.1	5.3	4.6

(a) Frozen broilers included whole, cut-up, and parts.

Location of display. There was some relationship between the placement or location of frozen broiler displays and the volume of frozen broilers sold per store. In 35% of the stores handling frozen broilers, the frozen products were generally displayed before fresh ones to customers in the usual flow of shopper traffic in the store. These stores handled half of the frozen broilers sold by all stores and averaged frozen broiler sales of 6,400 pounds per store (Table 8). In 61% of the stores, the broilers were located so that customers would usually see the display of frozen after the fresh products. These stores handled 49% of the frozen broilers sold by all stores and averaged frozen broiler sales of 3,700 pounds. Only eight stores displayed frozen broilers with, or in close proximity to fresh broilers, and these averaged only 1,700 pounds of frozen broilers per store.

Among all stores the data indicated that as an average more frozen broilers were sold per store, where the frozen were displayed before fresh, but this relationship was not consistent among medium-size stores and those located in towns having under 1,000

population. These data appear to indicate that in many stores the location of frozen broiler displays was not as important a factor affecting volume of frozen broiler sales as were other merchandising practices discussed previously.

Table 8. Location of Display of Frozen Broilers, by Size, Type and Location of Store, 185 Grocery Stores, Tennessee, 1960.

Location of frozen broiler display in relation to usual flow of shopper traffic in the store	Size of store and no.			Type store and no.		Store loc. by pop. of city and no.				All stores, no.
	Small	Med.	Large	Chain	Ind.	Under 1000	1000-4999	5000-24999	25000 and over	
	112	60	13	92	93	15	75	53	42	185
Percent of stores reporting location of frozen broiler display										
Before fresh	37	27	62	31	40	53	35	34	31	35
With fresh	3	8	0	4	4	7	3	4	7	4
After fresh	60	65	38	65	56	40	62	62	62	61
All stores	100	100	100	100	100	100	100	100	100	100
Thousand pounds of frozen broilers sold annually per store by location of display (a)										
Before fresh	2.0	2.8	36.1	10.0	3.7	0.7	1.6	14.9	7.9	6.4
With fresh	0.1	2.7	0	3.0	0.4	0.2	0.1	0.9	3.8	1.7
After fresh	1.8	6.6	7.7	4.6	2.8	4.9	1.4	6.5	4.2	3.7
All stores, Av.	1.8	5.3	25.2	6.1	3.1	2.3	1.4	9.1	5.3	4.6

(a) Frozen broilers included whole, cut-up, and parts.

Size of display. As the size of store increased from small to large, the frozen broiler display space increased 2.9 times, but the volume of frozen broilers sold per square foot of display space increased 4.7 times (Table 9). The better utilization of display space for frozen broilers by the larger stores was largely attributed to differences in merchandising practices followed by large stores. As indicated in Table 5, a higher percentage of the large stores reported lower mark-up on frozen than fresh broilers. The per-

Table 9. Size of Display of Frozen Broilers in Relation to Volume Handled, by Size, Type and Location of Store, 185 Grocery Stores, Tennessee, 1960.

Item	Size of store			Type store		Store loc. by pop. of city				All stores, no.
	Small	Med.	Large	Chain	Ind.	Under 1000	1000-4999	5000-24999	25000 and over	
	112	60	13	92	93	15	75	53	42	185
Stores handling frozen broilers (a)—No.	112	60	13	92	93	15	75	53	42	185
Frozen broiler display space per store—sq. ft.	5.6	11.0	16.5	10.9	5.4	8.1	6.0	9.0	10.8	8.1
Frozen broilers sold per sq. ft. display—Lbs.	326	483	1529	565	569	288	240	1012	493	566

(a) Frozen broilers included whole, cut-up, and parts.

centage of stores advertising frozen broilers increased as the size of store increased and a higher proportion of the larger stores advertised frozen broilers regularly and by more than one method (Table 6 and APPENDIX C). All of the large stores displayed frozen broilers in self-service cases and a higher proportion of the large stores displayed frozen broilers before fresh ones to customers in the usual flow of shopper traffic in the store (Tables 7 and 8).

Some small stores obtained high utilization of display space in the handling of frozen broilers. Among the 13 that averaged 2,270 pounds of frozen broilers per square foot of display space, 2 were small stores. Among 20 that averaged 685 pounds of frozen broilers per square foot of display space, 5 were small (APPENDIX D). The important factors associated with the high turnover of frozen broilers at these stores were: 1) Sale of several different forms of both fresh and frozen broilers; 2) continuous supply and display of broilers; 3) lower markup on frozen than fresh broilers, 4) frequent advertising of frozen broilers; 5) use of self-service display cases; and 6) display of frozen before fresh broilers to customers in the usual flow of shopper traffic in the store.

Temperature in frozen broiler display cases. The increase in volume of frozen broilers in Tennessee and other states has brought about problems in maintaining the quality of the products. Temperature is one of the most important factors in maintaining quality. A study conducted by the State Department of Agriculture in 1958 indicated that a frozen food product temperature of 0°F. or below in every step of distribution of frozen foods is recommended.⁸

Data were secured on the temperature indicated by display case thermometers in each store where frozen broilers were sold. Although few checks were made as to the accuracy of the thermometers, it is believed that the recorded temperatures as an average show what the general situation is with respect to the displaying of frozen broilers at the retail level (Table 10).

About 76% of the stores handled 92% of all the frozen broilers. They displayed them at an average temperature of about 9° below zero with a range among stores of about —1° to —20°. Another 17% of the stores handled 3% of all frozen broilers. They displayed them at an average temperature of slightly above zero with a range of 0° to +5° above zero. Seven percent of the stores handled 5% of all frozen broilers and failed to meet the state-recommended requirement of holding frozen foods at 0° or below.

⁸ 42nd Biennial Report of the Tennessee Department of Agriculture, July 1, 1956 to June 30, 1958, pages 68-70.

Among these stores, the temperature shown by display case thermometers averaged about $+14^{\circ}$ with a range of $+6^{\circ}$ to $+32^{\circ}$. This group included: 5 small, 7 medium-size, and 2 large stores; 9 chain, and 5 independent stores; 3 stores located in towns under 5,000 population; 5 stores in cities of 5,000 to 24,999 population, and 6 stores in cities of 25,000 population and over.

Table 10. Temperature of Refrigerated Displays of Frozen Broilers, by Size, Type and Location of Store, 185 Grocery Stores, Tennessee, 1960.

Temperature range in degrees F.	Size of store and no.			Type store and no.		Store loc. by pop. of city and no.				All stores, no.
	Small	Med.	Large	Chain	Ind.	Under 1000	1000-4999	5000-24999	25000 and over	
	112	60	13	92	93	15	75	53	42	
Percent of stores displaying broilers at specified temperature										
Below zero	74	76	85	78	73	80	79	81	62	76
0° to 5°	22	12	0	12	22	20	17	10	24	17
6° to 32°	4	12	15	10	5	0	4	9	14	7
All stores	100	100	100	100	100	100	100	100	100	100
Percent of broilers displayed at specified temperature (a)										
Below zero	88	97	91	92	92	95	88	97	84	92
0° to 5°	10	1	0	2	5	5	10	1	2	3
6° to 32°	2	2	9	6	3	0	2	2	14	5
All stores	100	100	100	100	100	100	100	100	100	100
Average temperature shown by display case thermometer										
Below zero	-9.2	-9.5	-13.0	-9.1	-10.0	-7.6	-9.9	-9.4	-9.9	-9.5
0° to 5°	0.5	0.6	*	0.9	0.2	0.4	0.7	0.6	0.4	0.4
6° to 32°	13.2	13.4	21.0	14.2	14.8	*	15.3	13.4	9.0	14.4
All stores, Av.	-6.1	-5.6	-9.4	-5.6	-6.5	-6.0	-7.1	-6.3	-4.7	-6.1

(a) Frozen broilers included whole, cut-up, and parts.

* No data.

Time of holding frozen broilers in display cases. In quality control of frozen broilers, the length of time of holding at a given temperature is an important factor. Frozen broilers show detectable flavor change in 3 months at $+10^{\circ}$ and in 6 months at 0° .⁹ As indicated in Table 10, about 70% of the stores included in the study held frozen broilers in display cases at temperatures ranging from $+6$ to $+34^{\circ}$ F. Permitting broilers to warm up to this range in temperature over extended periods of time could make considerable difference in the rate of deterioration and the quality of the product.

Information was available relating to the average time of hold-

⁹ *Quality Controls for Frozen Poultry*, paper given by Hans Lineweaver, Western Utilization Research, U. S. Department of Agriculture, Albany, California, Refrigeration Workshop, Institute of American Poultry Industries, 28th Annual Fact Finding Conference, February 15, 1957, Kansas City, Missouri.

ing different forms of frozen broilers in display cases (Table 11). The length of time broilers were held on display averaged 10 days for 19 stores selling frozen whole, 12 days for 38 stores selling frozen cut-up, 12 days for 224 stores selling frozen chicken pies or dinners, and 17 days for 162 stores selling frozen broiler parts. Turnover of all forms of frozen boilers tended to increase with size of store and was faster for chain than independent stores.

Table 11. Time of Holding Different Forms of Frozen Broilers in Display Cases by Size, Type and Location of Stores, 185 Grocery Stores, Tennessee, 1960.

Form of frozen broiler	Size of store and no.			Type store and no.		Store loc. by pop. of city and no.				All stores, no.
	Small 112	Med. 60	Large 13	Chain 92	Ind. 93	Under 1000 15	1000- 4999 75	5000- 24999 53	25000 and over 42	
Average number of days that frozen broilers were held in display case										
Whole	10	11	9	9	10	8	12	12	7	10
Cut-up	13	10	10	9	16	34	10	9	7	12
Pies and dinners	13	10	6	11	14	14	14	10	9	12
Parts	19	14	13	15	21	12	24	12	14	17

APPENDIX A

Annual Volume of Broilers and Chicken Pies and Dinners Sold Per Store by 11 Combinations of Different Forms Sold, 266 Grocery Stores, Tennessee, 1960.

Form of broilers and chicken pies and dinners	Stores No.	Annual Volume of sales Lbs. sold per store
Frozen parts, whole, pies, dinners, and fresh (a)	8	91,300
Frozen parts, pies, dinners, and fresh (a)	129	73,300
Frozen pies and dinners, and fresh (a)	60	73,100
Frozen cut-up, pies, dinners, and fresh (a)	10	66,500
Frozen parts, cut-up, pies, dinners, and fresh	24	52,300
Frozen parts, cut-up, whole, pies, dinners and fresh (a)	1	45,400
Frozen whole, pies, dinners and fresh (a)	9	35,200
Fresh only (a)	20	24,100
Frozen whole only	1	1,600
Frozen cut-up only	3	1,000
Frozen dinners only	1	100
All stores	266	65,200
Number of forms of fresh and frozen broilers handled	1 to 3	55
	4	45
	5	75
	6 to 8	91
All stores	266	65,200

(a) Included one or more forms of fresh whole, cut-up, or parts.

APPENDIX B

Average Prices Received for Fresh and Frozen Broilers and Frozen Chicken Pies and Dinners, by Size, Type, and Location of Stores, 266 Grocery Stores, Tennessee, 1960.

Form of Broiler		Size of store and no.			Type store and no.		Store loc. by pop. of city and no.				All stores, no. 266	
		Small 170	Med. 77	Large 19	Chain 137	Ind. 129	Under 1000 23	1000-4999 96	5000-24999 73	25000 and over 74		
Average price received by stores in cents per pound (a)												
Whole:	Fresh	39	47	34	41	41	48	40	39	41	41	23- 59
	Frozen	48	45	59	48	48	39	51	48	49	48	34- 69
Cut-up:	Fresh	38	38	38	38	38	41	41	39	36	38	29- 59
	Frozen	39	53	42	45	31	43	44	39	41	41	35- 66
Breasts:	Fresh	77	76	75	75	77	98	75	80	75	76	45- 99
	Frozen	75	66	70	66	79	73	75	70	70	72	50- 98
Drum-sticks:	Fresh	59	58	60	58	63	98	58	58	57	59	39- 98
	Frozen	70	63	66	62	73	67	71	64	67	68	47- 98
Thighs:	Fresh	65	64	63	63	65	98	64	65	63	64	39- 98
	Frozen	74	62	67	63	77	73	73	67	68	70	47-126
Wings:	Fresh	28	29	27	28	28	35	29	28	28	29	10- 39
	Frozen	39	43	43	39	41	*	40	39	40	40	21- 57
Backs:	Fresh	17	16	15	15	19	*	16	16	16	16	5- 29
	Frozen	22	*	*	12	24	*	23	21	*	22	12- 37
Necks:	Fresh	16	15	14	14	17	*	15	16	14	15	5- 25
	Frozen	26	*	*	12	33	*	38	12	*	26	12- 38
Livers:	Fresh	99	103	104	103	95	*	96	102	103	102	49-129
	Frozen	99	93	101	92	103	106	97	93	102	97	49-138
Gizzards:	Fresh	43	39	39	40	40	*	40	40	40	40	17- 59
	Frozen	47	39	45	45	45	60	43	43	41	45	29- 88
Pies:	Frozen	51	48	43	46	55	54	47	47	52	49	27- 78
Dinners:	Frozen	91	84	83	83	97	98	82	85	91	87	46-130
Barbecue:	Fresh	91	70	59	72	87	*	98	64	72	76	40-140

(a) Range in price among stores in each group selling this form of broilers.

* No data.

APPENDIX C

Methods of Advertising Frozen Broilers by Size, Type, and Location of Store, 185 Grocery Stores, Tennessee, 1960.

Method of advertising frozen (a) broilers	Size of store and no.			Type store and no.		Store loc. by pop. of city and no.				All stores, no.
	Small 112	Med. 60	Large 13	Chain 92	Ind. 93	Under 1000 15	1000- 4999 75	5000- 24999 53	25000 and over 42	
Percent of stores reporting method of advertising frozen broilers										
Newspapers, Radio and TV	0	5	8	4	0	0	0	4	5	2
Newspapers and Radio	4	18	15	15	3	7	4	20	7	9
Newspapers only	10	22	54	30	6	0	5	23	39	16
Newspapers and posters	0	5	0	3	0	0	1	2	2	2
Newspapers and TV	1	7	8	7	0	0	3	4	5	3
Radio and posters	0	1	0	1	0	0	0	2	0	1
Radio only	1	0	0	0	1	0	1	0	0	1
Posters only	1	0	0	0	1	0	1	0	0	1
None	83	42	15	40	89	93	85	45	42	65
All stores, %	100	100	100	100	100	100	100	100	100	100
Thousand pounds of frozen broilers sold annually per store by method of advertising (a)										
Newspapers, Radio and TV	0	22.2	25.0	22.9	0	0	0	32.8	13.0	22.9
Newspapers and Radio	6.5	13.2	48.1	14.4	22.1	2.1	6.5	17.0		11.8
Newspapers only	4.7	3.5	24.8	6.0	2.3	0	3.8	13.3		8.6
Newspapers and posters	0	7.5	0	7.5	0	0	9.7	2.5	10.4	7.5
Newspapers and TV	3.9	2.2	6.5	3.2	0	0	2.2	7.2	0.3	3.2
Radio and posters	0	2.9	0	2.9	0	0	0	2.9	0	2.9
Radio only	1.3	0	0	0	1.3	0	1.3	0	0	1.3
Posters only	0.2	0	0	0	0.2	0	0.2	0	0	0.2
None	1.3	1.0	13.0	1.8	1.2	2.3	1.0	2.2	1.1	1.4
All stores, Av.	1.8	5.3	25.3	6.1	3.1	2.3	1.4	9.1	5.3	4.6

(a) Frozen broilers included whole, cut-up, and parts.

APPENDIX D

Important Factors Associated with Volume of Frozen Broilers
Handled Per Store, 185 Grocery Stores, Tennessee, 1960.

Item		Unit	(a) Frozen broilers sold weekly per store (lb.)				
			1-10	11-30	31-90	91-270	Over 270
Stores selling frozen broilers:	Total	No.	75	45	32	20	13
By size of store	Small	%	68	71	69	25	15
	Medium	%	29	29	25	65	31
	Large	%	3	0	6	10	54
By type of store	Chain	%	40	38	59	80	77
	Independent	%	60	62	41	20	23
By location of store (size of city in pop.)	Under 1000	%	9	13	3	0	8
	1000-4999	%	53	40	38	25	0
	5000-24999	%	16	27	38	55	46
	25000 and over	%	22	20	21	20	46
Different forms of broilers sold by stores, (b) Av.		No.	3	4	5	6	7
Average price per pound for frozen broilers		¢	52	49	47	45	47
Stores with price mark-up lower on frozen than fresh		%	48	58	63	85	85
Stores advertising frozen broilers		%	11	25	53	80	100
Stores with self-service display cases		%	88	96	94	95	100
Stores displaying frozen before fresh broilers (c)		%	31	35	34	40	54
Store annual sales per sq. ft. of display space		Lbs.	56	144	249	685	2270
Temperature in frozen broiler display case, Av.		°F.	-4	-7	-7	-9	-8
Days frozen broilers held in display case, Av.		No.	21	12	9	7	6
Stores listing advantages of selling frozen broilers		%	43	67	69	75	92

(a) Frozen broilers included whole, cut-up, and parts.

(b) Refers to 8 forms of broilers: frozen whole, cut-up, and parts; frozen chicken pies and dinners; and fresh whole, cut-up, and parts.

(c) Frozen broilers displayed before fresh ones to customers in the usual flow of shopper traffic in the store.

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