



AgEcon SEARCH

RESEARCH IN AGRICULTURAL & APPLIED ECONOMICS

The World's Largest Open Access Agricultural & Applied Economics Digital Library

This document is discoverable and free to researchers across the globe due to the work of AgEcon Search.

Help ensure our sustainability.

Give to AgEcon Search

AgEcon Search

<http://ageconsearch.umn.edu>

aesearch@umn.edu

*Papers downloaded from **AgEcon Search** may be used for non-commercial purposes and personal study only. No other use, including posting to another Internet site, is permitted without permission from the copyright owner (not AgEcon Search), or as allowed under the provisions of Fair Use, U.S. Copyright Act, Title 17 U.S.C.*

No endorsement of AgEcon Search or its fundraising activities by the author(s) of the following work or their employer(s) is intended or implied.

PROCEEDINGS
of the
WESTERN FARM ECONOMICS ASSOCIATION

Twenty-Third Annual Meeting
June 28, 29, 30, 1950
Fullman, Washington and Moscow, Idaho

TECHNIQUES AND METHODS USED IN WESTERN REGIONAL POULTRY PROJECT WM-7:
RETAILING OF CHICKEN IN THE LOS ANGELES AREA*

Kenneth D. Naden and George A. Jackson, Jr.
(Presented by Kenneth D. Naden)
University of California, L.A.

Objectives of Project

An investigation of chicken marketing in the Los Angeles Area, conducted prior to California's entering this Regional Project, revealed that an analysis of chicken retailing was necessary for a full understanding of the industry's problems^{1/}. As California is a deficit market for chicken meat, a significant part comes from the surplus-producing states: Washington, Oregon and Utah. In considering previous work done by various states and the complementary benefits to be derived from a regional poultry project, it was felt that the California Station was best able to study conditions at the retail level. On the other hand, it was felt that the Washington, Oregon, and Utah Stations could make the greatest contribution to common problems by studying marketing at the first-handler level. This division of work appears to give the greatest benefit from a regional approach.

The specific objectives of this retail project are:

1. To determine price-quality relationships existing for chickens at retail food stores;
2. To examine merchandising practices such as advertising, display, nomenclature, etc., and determine their effect on sales and the level of competition;
3. To determine price-quantity relationships at retail for different forms and classes of chicken. Special attention is to be paid to the competitive position of fresh vs. frozen chickens.

Price-quality relationships give important clues as to the level of competition existing for a product. There is no uniform system of grading chickens in the Los Angeles area, and this absence impairs pricing efficiency generally. The degree to which price is positively associated with quality indicates the degree to which consumers and retailers recognize and accept such specifications for quality in chickens as are used in the Federal Standards. There are many reasons other than quality for differences in the price of chicken in different stores. The more important of these would be size and type of store and merchandising practices. These factors are accounted for in the sampling procedure.

Preliminary examination of retailing practices indicated that there were wide differences in retail merchandising practices for chicken. These practices may or may not contribute to efficient marketing, to consumer satisfaction, and to high consumption of the product. The practices of advertising,

* This research work was conducted in cooperation with the Bureau of Agricultural Economics.
^{1/} "Poultry Pricing in the Los Angeles Area", by Kenneth D. Naden, Giannini Foundation Mimeographed Report No. 101, University of California, Agricultural Experiment Station, Berkeley, December 1949.

labeling displaying and others relate closely to pricing as well.

Two types of inter-product competition are of interest in assessing the operation of the Los Angeles chicken market. The first is the competition between classes, such as between fryers and hens; in this area the special problem of the Leghorn hen as a by-product of the egg industry is important. Fryer production seems to fluctuate sharply, whereas hen production is more stable. Another aspect of this problem is that many producers and retail buyers feel the difference in actual quality between Leghorn and colored hens affect this competition. The second type of inter-product competition is that between fresh and frozen chicken. This arises from the fact that the Los Angeles market is a deficit area for chickens and the bulk of the imported product is frozen, box-packed, cut-up chicken. This product competes with fresh chicken, yet the characteristics of the two forms and the methods of merchandising are quite different. Therefore, the pertinent issue is, "how closely are they competitive, and what are the factors influencing consumer preference for one over the other?" The cross-elasticity of demand between them, or the rate of substitutability of one for the other is expected to be revealed by the analysis of price-quantity data.

Only retail outlets were considered as sources of data bearing on the objectives given. These outlets are: retail food stores, retail dressed-poultry stores, and retail live-poultry stores. These three outlets handle about 77 percent of total chicken sales in the area ^{2/}. Retail food stores account for about 55 percent of the total. This is the only outlet which may have both the fresh and frozen product available. A sampling procedure was necessary, and, as much more information was available about the universe of retail food stores than the other two types of outlets, it was decided to concentrate the major effort on data collected from the retail food stores, and collect supplementary data from the other two.

The objectives required that the data be collected over a period of time because changes in the variables are quite important. It was decided that a period of one year would permit seasonal and holiday changes, and fluctuation in supply and price to be observed. The frequency of visits to the stores was determined by a desire to obtain as detailed data as possible, yet not consume too much time of the store personnel. Knowledge of the market indicated that monthly visits would miss important changes in variables. As one visit per week raised the cost too high, every other week appeared most satisfactory.

The methods used in this project took into account (1) the objectives, (2) the information concerning the population, (3) limitations of time and personnel, and (4) the degree of accuracy desired. A stratified random sample of retail food stores, with a questionnaire for tabulation of pertinent data, was used as the primary means of carrying them out.

Information Concerning the Population

After deciding that retail food stores were to be the primary focus of attention and source of data for this study, much preliminary information was needed in deciding upon the sample design and the type of questionnaire. The most important information concerned the population.

^{2/} "Chicken Receipts and Per-Capita Consumption in Los Angeles, 1949", by Ker D. Naden and George A. Jackson, Jr. University of California Agricultural Experiment Station, Los Angeles, April 1950.

The Greater includes metropol County lying ar Long Bea area in
The or comb Stores departme complete Counties each sto was the mented This list store in position ion used
The These an homogene ulation average been bu judgment ions.
Tab
Eac ments wa the ques ment of Super-Ma fruits a It was own mer margin to this ment wa
On
^{3/} A cha

The population or universe consists of all retail food stores in the Greater Los Angeles Area that handle fresh and/or frozen chicken. This area includes all of Metropolitan Los Angeles City and most of the 34 districts and metropolitan areas surrounding it, but does not coincide with Los Angeles County since limitations of time and personnel forced us to exclude a few outlying areas. Such areas as Santa Monica, Van Nuys, Pasadena, South Gate, and Long Beach are included and form the rough outer boundary of the area. This area included about 3.8 million persons in January 1950.

The definition of a retail food store was one which handled groceries, or combination of groceries, meats, fruits and vegetables, and delicatessen. Stores of all sizes and types were included in the lists used. The research departments of the Los Angeles Times and the Los Angeles Examiner maintain complete lists of retail food stores in the whole of Los Angeles and Orange Counties. These lists are quite comprehensive, giving the name and address of each store and its size and type classification. The list used in this study was the Los Angeles Times Grocery Store Route List of September 1949, supplemented by Los Angeles Examiner data March 1947 on national chain stores ^{3/}. This list did not give the size in terms of exact dollar sales, but placed each store in a relative size classification which was about the same relative position given each in former O.P.A. price lists. The exact size classification used is as follows:

Super-markets	--	\$600,000	gross sales in 1949				
"A" Size	--	375,000	"	"	"	"	"
"B" Size	--	150,000	"	"	"	"	"
"C" Size	--	40,000	"	"	"	"	"

The Times List placed each store into one of 14 Major Economic Areas. These areas are based on business and neighborhood concentration and general homogeneity of residents. These areas were used only in stratifying the population according to income. The basis for income classification was the average rental paid in each area in 1940. Since several areas in the city had been built up since the end of World War II, it was necessary to use our best judgment in placing the new areas in the proper income or rental classifications.

Tables 1 and 2 show certain information concerning the population.

Each store was counted as one unit in the population whether all departments were under common management or under separate management. This raised the question whether the pricing and merchandising policies of the meat department of a Super-Market Chain would be significantly different from those of a Super-Market Independent, in which the grocery, the meat, and perhaps the fruits and vegetable departments might all be under separate management policies. It was found that each department within an integrated firm usually follows its own merchandising and mark-up policies, and usually must show the proper net margin in each accounting period. It was felt, however, that since exceptions to this policy might affect the variables, the ownership status of each department was taken into account.

Only fresh and frozen poultry were considered as products for analysis in

^{3/} A chain is defined as a group of 5 or more stores under common management.

this study. Although it may be argued that canned and cooked chicken (in frozen chicken pie for example) and chicken parts are competitive products, they do not present any "problems" to the local industry. Furthermore, such a small proportion of total sales of chicken are in these categories that they were omitted from consideration.

Sample Design and Procedure

The type of sample used in any project of this sort depends upon many factors and usually will have to be "tailor-made" to fit the situation. Many different types of sample design have been used and tested by the Bureau of Agricultural Economics in their crop reporting and estimating work. Knowledge of the characteristics of the population, the degree of accuracy required in the results, and cost were the primary criteria used in deciding on this sample design. A random sample was used since it was easily adapted to this situation and since it permits the use of probability calculus in measuring sampling errors.

The question of stratification also is resolved on the basis of information available, and whether or not this procedure reduces the variability of data. It was decided that size and type (chain or independent) of the retail stores and perhaps location in income areas would significantly affect prices for poultry. Furthermore, stratification did not add much to the cost of selecting the sample of stores. On the basis of the above reasoning, a stratified random sample was designed.

Table 1. Proportionate Distribution of Retail Food Store Sales; by Size and Type of Store in Each of Three Income Areas, Los Angeles, 1948.

Income area	Size and type of store						Total
	Super		A size		B size	C size	
	Chain	Indep.	Chain	Indep.			
Upper	21.4	20.5	15.2	23.4	12.4	7.1	100
Middle	16.7	18.7	11.2	25.5	16.7	11.2	100
Lower	8.9	14.7	12.0	21.4	19.6	23.4	100
Entire Area	14.9	17.7	12.2	23.7	16.9	14.6	100

Table 2. Proportionate Distribution of Retail Food Store Sales by Income Area, for Each Size and Type of Store, Los Angeles, 1949.

Income Area	Size and type of store						Total
	Super		A size		B size	C size	
	Chain	Indep.	Chain	Indep.			
Upper	27.9	22.5	24.3	19.1	14.3	9.5	100
Middle	57.9	49.1	42.8	50.0	45.9	35.9	100
Lower	20.2	28.4	32.9	30.9	39.8	54.6	100
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0	100

Table 3.
Distribution of Sample Among Sizes and Types of Stores

Size & type	No. of stores	Total sales (000 dollars)	% of total sales or "Y"	Initial distribution	<u>σ</u> <u>Y_σ</u>	Revised distribution
Super Chain	189	113,400	15	10	4.6	69
Indep.	222	133,200	18	11	4.4	79
"A" Size Chain	243	91,125	12	7	1.0	12
Indep.	476	178,500	23	15	5.5	126
"B" Size	847	127,050	17	11	4.6	78
"C" Size	2743	109,720	14	10	4.4	76
TOTALS	4718	752,995	100	64		430

In deciding on the number of stores to include in the sample, the restrictions of cost and personnel available had to be compromised with the degree of error which could be tolerated. The population of stores was 4718. As a starting point, it was decided that about a one percent sample or 50 stores could be supported. It was not known at this time what relationship existed between a sample of this size and the reliability of the data collected in such a sample. In attempting to relate these two factors, the formula for the "t" ratio was used as a guide to sample size. This formula is as follows ^{4/}:

$$\frac{\bar{x} - m}{\frac{S}{\sqrt{n}}} = t \text{ where } \frac{S}{\sqrt{n}} = \text{estimate of the standard error of the mean of prices in the population}$$

It expresses the relation existing between sample size, the variability of the data, and the degree of reliability to be achieved. An example of how the formula can be used is shown, after making the following assumptions:

- (1) A value of 2 for "t" ratio. This is a standard of reliability. It means that in a sample of about sixty items, a difference between the mean of the sample and the mean of the population will equal or exceed a certain difference solely as a result of chance fluctuations only five times out of a hundred ^{5/}.
- (2) A two-cent differential between the mean of the sample and the mean of the population is to be considered significant. This value was chosen since it represented about the upper limits of accuracy which previous study indicated could be tolerated and still permit significant deductions to be made.

^{4/} Snedecor, George W. Statistical Methods. p. 46.

^{5/} Snedecor, op. cit. p. 65

(3) $S = 8$, the standard deviation, in cents per pound, of prices found in a sample. This was determined in the pre-test period.

Using the above information, it was possible to solve for n as follows:

$$t = \frac{\bar{x} - m}{\frac{S}{\sqrt{n}}} \quad \text{or} \quad n = \frac{t^2 S^2}{(\bar{x} - m)^2} = \frac{2^2 \cdot 8^2}{2^2} = 64$$

Various values for " t ", for " S ", and for " $(\bar{x} - m)$ " were substituted in the formula to observe their effect and discover which one of them might be sacrificed in order to obtain certain results in others. A sample of 64 was felt to combine the factors in the formula in the optimum fashion for our needs and hence was retained.

As mentioned previously, information concerning the population was available so that proportionate sampling could be used in distributing the 64 stores among the different strata. The most significant strata were size and type of store. Table 3 shows the method of arriving at the distribution of stores.

Proportionate sample distribution was used first, since variance of prices in the population was unknown. The number of observations (stores) selected from each stratum was proportional to the relative size of that stratum as measured by total sales. Random selection $\frac{6}{100}$ of stores in each size and type stratum was made and an initial visit made. Price data were tabulated separately to study the relation between price variance and size and type of stores. It was found that a significant difference between strata existed. This was primarily the result of uniformity of pricing existing within chains, and the higher degree of price competition existing among chain stores. There was practically no variation in price among "A" size chain stores.

As a result of the above, the distribution of the sample was revised to conform to optimum rather than proportionate sampling. The number of observations from each stratum is then proportionate to Y^2 . For a given sample size, this procedure increases the reliability of results from the sample. Table 3 shows how the taking of variance of prices into account caused the number selected from each strata to be rearranged.

In making these calculations, certain assumptions were made which should be made explicit. These were:

(a) That the volume of chicken meat sales in each store is proportionate to total sales of all departments. Information on size of total sales was the only information of this type available. It will be necessary to compare chicken sales with store sales at the conclusion of the project since this comparison has a bearing on the interpretation of the data.

(b) That variation in the price of fryer chickens is representative of variation in the prices of all classes of chickens. This assumption is usually in accord with the facts and since fryers are the most common class of chicken handled, it was simpler to use the one class.

6/ Taken from Table of Random Numbers, Fisher and Yates, Statistical Tables for Agricultural and Medical Research, Oliver and Boyd, London, 1943.

Further stratification by income areas was made on the basis that this factor may have an influence on the variables (price, quality, practices) being measured. Investigation showed that the income areas correlated rather highly with areas in which certain racial and nationalistic groupings resided. Therefore this factor was taken into account through the income area factor. For this purpose, the area being sampled was divided into three general areas called Upper, middle and Lower income areas. Average rental paid in the several areas in 1940 (available from the census data) was the criterion of income received in each area 7/. Average monthly rental paid in the Middle Division was from \$30. to \$60; that in the Lower Division was \$30. and lower, Upper Division was \$60. and up. The allocation of stores to different income areas was in proportion to the number of stores of each size and type located in each area. Since there was only one store in the "A" size chain, its location was of less significance. The final distribution of stores was as follows:

<u>Size and type</u>	<u>No. in income areas</u>	<u>No. in sample</u>
Super-Market Chain	Upper 52	3
	Middle 97	6
	Lower 37	2
"A" Size Chain	City 244	1
Super-Market Independent	Upper 50	3
	Middle 109	6
	Lower 64	3
"A" Size Independent	Upper 91	4
	Middle 238	9
	Lower 147	6
"B" Size	Upper 121	2
	Middle 389	5
	Lower 337	4
"C" Size	Upper 261	1
	Middle 984	3
	Lower 1498	6
	Total	64

A few stores have dropped out of the original group selected and it is expected that this sort of mortality will continue. Some of the reasons are: going out of business, lack of desire to cooperate, inability to contact the manager, etc. The method of handling this problem in selection of substitute stores has been simply to select additional random numbers from the table. These were selected for each stratum and held available. Then when another store, say a "B" size in the Upper income area, is needed, the next random

7/ See Los Angeles Times Sample Control Map showing Major Economic Area Plan and Homes by Value and Rental, Los Angeles County, 1948.

number is applied to the population listing and the proper store selected.

An interesting question has been raised concerning the sampling: Does the sample as described above give data concerning quantity or volume which is as accurate as that concerning price? It was mentioned earlier that we wished to measure prices of chicken in the stores and quantity of chicken sold. However, price was the only factor for which variance was estimated. It seems that in order to measure quantity data with the same degree of accuracy, the same procedure would have to be followed. Burrows has stated that ". . . to determine reliable estimates of volume of a commodity sold, we need much larger samples than to determine its price." 8/

It would be impracticable to stratify the population for simultaneous measurement of two variables. Therefore, the decision was made that price data were of primary importance and the sample so arranged. This will undoubtedly make the quantity data somewhat less reliable and this will have to be taken into account in analyzing the data.

Design of the Questionnaire

It was decided early in the planning state that the information concerning retailing of chickens would be obtained by personal visits to the sample stores. Therefore, the questionnaire was designed with this in mind. More accurate data can be obtained using this method of collection than any other, but this method requires a high degree of coordination and accurate instructions so that data collected in different stores and by different persons are comparable.

It was recognized that one of the major obstacles to cooperation by store operators would be the amount of their time required to give the necessary information. Therefore, the questionnaire was designed to permit rapid recording of information through the use of code designations or through checking one of several alternative answers. This minimized the amount of store operator's time required. It has been found that about five minutes per visit is the average amount of operator's time required.

Each section of the questionnaire is designed to obtain information which will shed light on the objectives of the study. This point had to be kept in mind continually in planning the content of the questionnaire. A minimum of information is being obtained simply because of its interest. We are attempting to determine what relationships exist between variables and the reasons for these relationships.

The major classes of data being collected are price, quality, quantity, and merchandising practices affecting the previous three items. In deciding on data concerning these items, certain peculiarities of chicken marketing had to be considered. Some of these are:

(1) Heavy sales of chicken on the weekend. This influences the time of the visit to maintain comparability of data.

8/ "The Use, Value, and Limitations of Sampling and Statistical Methods," from National Workshop on Marketing Research, Agricultural Research Administration, United States Department of Agriculture. P. 40.

(2) The variety of classes, forms, and types of displays in which chicken occurs. The classes are fryers, roasters, egg hens, and meat hens; the forms are New York-dressed, eviscerated, and cut-up; the displays consist of ice-packed or dry-packed chicken. The price relationships among classes are quite important because of differences in use and supply. Price relationships among forms are important because they represent different degrees of waste and all have to be converted to a common basis for comparison. The ice-pack and dry-pack method of display were distinguished because their prices are quoted separately in the Market News Report, and usually are different.

(3) Influence of Health Department Regulations. One ordinance permits the sale of only New York-dressed form fresh chicken unless it has been inspected for wholesomeness by the Department of Health and tagged. A state regulation requires that chickens which are sold in one form and then dressed in the retail store, must be re-weighed and re-priced in the new form. Since this procedure causes confusion and added cost, it causes retailers to withdraw the usual services, or to sell only the cut-up form of chicken.

(4) Influence of labor costs on merchandising. Cleaning and cutting up a chicken at retail is considered by many store managers as a disagreeable and expensive operation. Many stores are converting to the cut-up form, both fresh and frozen, to avoid this cost. This is being accelerated by the introduction of self-service meat departments in newer stores.

(5) The wide range in nomenclature for chickens. Careful attention had to be paid to this item in designing the questionnaire since consumer information and response is closely related to it.

(6) The usual low mark-up of chickens in the meat department of a retail store. This makes it suitable for a price "special". Therefore, careful attention was paid to the kind and form of advertising so that influences due to this factor could be segregated if desirable.

(7) Relation of prices for various forms of chicken. Price comparisons of various forms of chicken are difficult and confusing for consumers. Chicken may be bought live, New York-dressed, or cut-up, each at a different price because of the different percent of waste in each. Furthermore, the weight loss from live to New York-dressed to cut-up is different for hens than for fryers. This has an influence on merchandising practices in that many consumers are attracted by a low price per se regardless of the amount of waste in the product. Many retailers feel that the relatively low price for the New York form makes it much more adaptable for weekend advertising.

(8) The size of a single purchase. The purchase of a chicken is ordinarily a larger-than-average purchase of meat. It is not feasible to buy fifty cents worth of chicken as in some cuts of pork or beef, unless the inspected cut-up parts are for sale. Therefore, chicken is often considered in the special occasion category when a larger cash lay-out on meat is justified.

The influence of these peculiarities of chicken marketing made it necessary to develop a comprehensive questionnaire and set of instructions covering each item. The instructions include what to record, the standards used in deciding the rating to give each item, and how to handle unusual situations.

Without giving complete details on each item, a general picture of the information gathered on each class of information will be given.

Collection of price data. This item requires less interpretation than any other and is subject to fewer errors. This is because the price on the item is being recorded for every form and class of chicken on display on the day of the visit, and if none is on hand, the price which will be charged. This gives us the price at which the majority of the chickens in each store are sold in the week of the visit. The days of visiting are fixed near the weekend since most of the stores will have the largest and freshest supply on hand (this factor is related to quality determination also) and the price posted is not likely to change again until the following week.

Collection of quality data. The quality rating of each form and class of chicken sold in each store is made according to U. S. Department of Agriculture specifications for standards and grades of dressed chicken. The quality determination is made by personal inspection of the birds on display, those in the store but not on display, and an estimate made of the quality of those to arrive later. More difficulty is encountered in determining accurately the grade of ice-packed or cut-up chicken, but this determination is being made satisfactorily. No grades are being recorded for cut-up frozen chicken unless a grade label is on the package or the contents are visible.

An accurate quality determination must be made on the basis of well-defined standards. Since industry standards for chicken in Los Angeles are not well-defined, the U. S. Department of Agriculture standards were used in this study.

The primary factors used in arriving at a grade designation for dressed chicken are: fleshing, finish, color, dressing defects, and cleanliness ^{9/}. Abbreviations for each of these are recorded when appropriate to indicate the reasons for the downgrade for each lot of Grade "B" or "C" chicken observed. The reason for this is to be able to tell the industry what part of the marketing channel is responsible for the lower quality which appears. Lack of fleshing and finish are considered due to producer practices; dressing defects and lack of cleanliness are considered due to processor mishandling; and discoloration is usually due to a prolonged stay in the retailer's counter.

Quality determination is affected somewhat by certain processor practices which are controversial in some respects. For instance, the practice of ice-packing chickens has been introduced in this area only recently although it has been used on the East Coast for years. One of the features of ice-packing is that as long as the skin of the bird is kept moist, certain dressing defects such as abrasions are concealed and become apparent only when the skin dries out. When present, these defects appear promptly if such poultry is not displayed under ice. The immersion temperature of processing is another controversial practice affecting quality determination. It is claimed that the use of "hot-scald" methods (immersion in water of 130° F or above) results in the introduction of harmful bacteria into the chicken skin which adversely affects keeping quality. U. S. Department of Agriculture standards for dressed chickens formerly specified that no chicken processed in this manner would receive the

^{9/} See "Regulations Governing the Grading and Inspection of Poultry and Domestic Rabbits...and United States Specifications for Classes, Standards and Grades with Respect Thereto," U.S. Department of Agriculture, Production and Marketing Administration, Poultry Branch, dated January 1, 1950.

"A" quality designation. This has recently been changed so there is nothing automatic about placing any chicken in one grade. The quality designations made in this study are those made on the chickens as we see them without regard for the manner of processing.

Collection of quantity data. Volume of sales is being recorded on the questionnaire as Number Sold. This refers to the number of chickens of each class or brand sold during the week of the visit to the store. A week is designated as the six days that the fresh meat counter is open or the six or seven days that the frozen meat counter is open, beginning on the Monday of the week the visit is made. Fresh meat counters are open uniformly from nine to six p.m. but frozen food cabinets are open whatever hours the store is open. Number of chickens sold is to be related to the price quoted to obtain demand interrelationships among classes and forms of chickens. This use of number sold overlooks possible differences in average weight in different stores, and different weights in different seasons if any. However, it was determined early that this quantity is more easily obtainable than weight data, and the number data can be converted to weights rather easily.

One of the major sources of non-sampling errors lies in obtaining the quantity data. The possible error lies in the accuracy of the reports given by the store operators. The data concerning quantity sold is most subject to error because all other items are inspected personally by the interviewers. Wherever possible, bills of sale or delivery slips are inspected or used as the basis for obtaining sales data. This does not correct for chickens not sold in one week and held over to the next. When sales slips are not available, we must depend on the memory of the store operator. This is more significant for frozen than for the fresh poultry because of the manner of sale. Frozen poultry is stocked with frozen fruits and vegetables and others. The case is filled several times per week making account rather difficult. Every effort is made to contact the person stocking the case and to request that special attention be paid to recording the volume of sales of the chicken item.

Collection of merchandising data. This type of data is the most variable of all the classes of data being collected, and in many ways the most intangible and difficult to measure. This type of data makes up the non-price element in determining consumer preference. It is impossible to ignore merchandising practices in the retailing of chickens, yet it is difficult to know how far or how intimately to study them to get significant factors. As a result, as much attention has been spent selecting the types of information, setting up standards of measurement, and collecting merchandising data as for all other types of data. It is felt that this procedure will prove worthwhile in the final analysis.

The items of merchandising data which seemed significant were separated into two parts for convenience. Those items which were more or less of a permanent nature were tabulated during the first two visits and then the questionnaire was revised to omit them. Only data subject to frequent change is collected on each visit. Examples of the "permanent" data are:

- (1) Days of the week and hours of the day the different departments are open for business;

- (2) Source of supply of fresh and frozen poultry, by name and type of dealer;
- (3) Distinctive features about the race or national origin of the majority of customers of each store;
- (4) Store practices such as cash and carry or credit and delivery, self-service or clerk-service, type of display cases, and
- (5) The lease or ownership status of each department which carries chicken.

The revised questionnaire includes several items of merchandising importance which change from week to week and which directly affect price, quality, and quantity data. A list and short explanation of each of these items follows:

(1) The presence and type of advertising. This item differs widely among stores and sometimes has a striking effect on sales. We are noting the different types of advertising which are used, the wording of each, its location and the extent to which the ads conform to the observable facts concerning the chickens. Advertising is important in selling chickens because of the general practice among stores of taking a low mark-up on this item and using it as a frequent leader for week-end sales. Los Angeles is known for the high degree of competition existing among its retail food stores, and week-end "specials" are the ordinary thing.

(2) The nomenclature used. This topic is important in that it influences sales through the wording used, and influences consumer satisfaction through giving or concealing proper identification. There are wide differences in this item among stores. For each class and display of chickens, the wording of the store description is recorded and an opportunity under comments, to add additional information for our purposes. This information covers such points as departure of the store description from common industry nomenclature, unusual circumstances such as ice-packed chicken displayed dry, frozen New York-dressed chickens thawed and displayed in the fresh meat counter, or chicken frozen to hold over the weekend because of lack of sales on the previous week.

(3) Prominence and appearance of the chicken display. Due to the significance of eye appeal in merchandising meats and the wide differences found among stores in this item, information on it was collected as being closely related to price, quality, and quantity data. Each fresh and frozen chicken display is rated A, B, or C in prominence and appearance.

The criteria for rating of prominence are: ease of location by customer, relative size of the chicken display, and its priority of location relative to other items.

The criteria for rating appearance or attractiveness are: Neatness in arrangement of display (no heads or feet showing), enhancement (such as parsley garnish or cardboard dividers separating chicken from other meats), and freshness or bloom. Many stores carry chicken but have no display at all, the birds being kept in the closed refrigerator.

(4) Departures from normal. This item on the questionnaire is handled by having a column for each merchandising item marked "usual" and "now". The

"now" column refers to the situation existing at the time of the visit. The "usual" column refers to the situation which exists for the sale of the majority of the product gives a much clearer picture of how retailers run their businesses. The contrast shows the extent to which the unusual situation prevails and influences other data being collected.

The significant changes from the original to the revised questionnaire were: changing of the prominence, appearance, and advertising sections from a general description of all chicken to apply to each class of chicken, and the addition of the "usual" and "now" columns to indicate departures from normal. In addition, the number sold data was changed to conform to the same dates to which the price data pertain.

Contacting Stores

After selecting the name of the stores by the random procedure, it was then necessary to obtain proper clearance and cooperation. A slightly different procedure was necessary in obtaining this clearance from personnel in chain stores than from those in independents. The manager of the meat division and manager of the grocery division of the whole chain were first contacted, then their counterparts in the sample store. In larger independent stores, the different departments are usually under different management. Each had to be contacted before the store could be included.

For complete clearance and cooperation, as many as six individuals in one store in some cases had to be contacted in order to include that unit in the sample. Before all sixty-four stores could be considered in the sample, about two hundred persons had to know rather detailed information concerning the whole project.

After about two visits to each store, letters were sent to the operators and managers thanking them for their cooperation and explaining again the objectives and usefulness of the study. This letter served several purposes, mainly to gain more cordial relationships with store personnel. It also served to make the study a matter of record and to show the operators the significance of the study to them individually. This follow-up letter is considered definitely worthwhile in a project of this type.

There was about a six percent turnover of stores and personnel within the stores in the first six months of the survey. Contacts were made, letters were written, and information given to the new stores in the same manner as for the original stores.

In order to complete the picture of retailing operations, other closely related projects are being carried on simultaneously. The most important of these are an analysis of per-capita chicken consumption and the grading of chickens at city processors and distributors.