# FACTORS RELATING TO THE SALE OF DAIRY PRODUCTS IN RETAIL STORES 


D. I. Gooding, E. F. Baumer and W. D. Eickhoff


# Ohio Agrícultural Experiment Station Wooster, Ohio 

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## INTRODUCTION

The retail store is assuming an increasingly important role in the merchandising of dairy products. Innovations in selling techniques and modern display facilities lend emphasis to the need for effective merchandising of milk prodacts in the retail store. Consumer acceptance of the retail store as the place to purchase fluid milk and dairy products is becoming more widespread. For example, a survey of 296 households in Dayton showed that purchases of milk from retail stores increased 17.9 percent from 1954 to 1959. A survey of 335 Cleveland households showed a raise of 8.7 percent in store-purchased milk between 1955 and $1958 .{ }^{1}$

Since the retail store is becoming more important as the source of fluid milk and dairy products to the consumer, it is important to analyze significant factors in the merchandising of these products. This study was designed to analyze the sale of dairy products through 60 selected stores in Cleveland, Columbus and Dayton. The specific objectives were:

1. To show the effect of space allocations on dairy department sales.
2. To analyze the influence of selected factors, including the allocation of space, the number of frontages, and the level of consumer income, on the sale of the principal items sold in the dairy department.
3. To study the relative importance of products in the dairy department with respect to sales of fluid milk.
4. To describe the practices and procedures being followed in the dairy departments regarding the utilization of labor, training programs, incentive, point-ofsale materials, source of milk, pricing of milk and policy decisions relating to that department.
[^0]Definition of Terms Used

RETAIL FOOD STORE - Retail store that sells a full line of grocery; meat and produce items.

CHAIN STORE - Group of 11 or more retail food stores.

VOLUNTARY GROUP - Retailers who belong to voluntary merchandising groups sponsored by wholesalers and who operate under a common name, such as I. G. A., Stop-N-Shop, etc.

INDEPENDENT - An operator of ten or less retail stores.

UNIT - Putting all products on a comparable basis by assigning a value of one unit to a certain amount of the product, such as one unit is equal to one quart of milk or ice cream, or one pound of cheese or butter.

FRONTAGE - The lineal extent of the frontal part of a dairy case which is assigned to various products.

## Methodology

The retail sales data were collected from 60 selected retail food stores equally divided between Cleveland, Columbus and Dayton. Each store was visited once during the period of September 6, 1958 to December 10, 1958. Invoices were analyzed in order to obtain data representing sales for an average week.

The cooperation of corporate chains, voluntary food chains, and independent stores was secured. To facilitate comparisons, stores were classified according to stores having gross weekly sales of $\$ 5,000$ to $\$ 9,999, \$ 10,000$ to $\$ 19,999, \$ 20,000$ to $\$ 39,999$ and $\$ 40,000$ or over. The placement of individual stores into categories was made by men in the wholesale or retail business who were acquainted with the stores in each city.

Five stores in each of the four groupings were selected at random for each of the three cities. Eleven stores could not be surveyed and alternate stores were sampled in these cases. Data were collected by means
of a personal interview with the store manager, the dairy department clerk, and by actual measurement and observation. The level of income for store patrons was estimated by the store manager who placed his patrons into one of three broad income levels: high, medium, or low. Data pertaining to dairy product sales were obtained by using the store manager's sales book.

In order to compare stores, sales were analyzed in terms of product sold per thousand dollars of gross weekly store sales. This was done to eliminate the variation in whole milk sales per store among cities, store volume groupings, and store types.

## CHARACTERISTICS OF THE CLEVELAND, COLUMBUS AND DAYTON MARKETS

The characteristics studied in the three markets included the type of milk containers used, dairy case space allocated to dairy products, labor contracts, employee rates, and retail milk prices. The important factors for consideration were:

1. In Cleveland milk was being sold in gallon glass jugs, quart and half gallon glass and paper containers. In the Columbus market milk was sold in half gallon and quart paper containers with glass containers being. offered only in quart sizes. In Dayton some milk was being sold in gallon and half gallon glass containers, but the majority was being offered in half gallon and quart paper containers.
2. The average percent of the dairy case allocated to fluid milk was 7.6 percent in Cleveland, 8.6 percent in Columbus and 7.8 percent in Dayton.
3. In Cleveland labor contracts imposed a forty hour work week limitation upon store employees and also prohibited the placing of milk in the dairy case by deliverymen. These two factors were absent in the Columbus and Dayton markets.
4. Hourly wages for store employees were: Cleveland, $\$ 2.29$; Columbus, $\$ 1.64$; and Dayton, $\$ 1.69$.
5. The range of prices for homogenized milk differed in the three cities with the Cleveland prices showing the smallest variation. For a complete picture of prices prevailing at the time of this survey see Table 1.

## VARIATIONS IN SALES OF WHOLE MILK

Cleveland stores had average sales of 30.1 gallons of whole milk per thousand dollars of gross weekly
store sales (Table 2). This compares with 26.6 gallons in Columbus and 33.5 gallons in Dayton. Although these figures show some variation among cities, the variation within cities was also large. For example, one Cleveland store sold 7.6 gallons of whole milk per thousand dollars of gross weekly store sales, while the store having the highest sales sold 54.9 gallons. A comparison of the four volume groups shows that in each city, stores in the $\$ 5,000$ $\$ 9,999$ group had the highest average sales of milk per thousand dollars of gross weekly store sales.

## SPACE VARIATIONS IN THE DAIRY DEPARTMENT

Space variations in the dairy case were determined by actual measurement of the area allocated to dairy products. There was wide variation among stores, but, on an average approximately 60 percent of the dairy case space was allocated to dairy products (Table 3). The remainder of the dairy case space was allocated to products such as; eggs, salads, margarine, refrigerated bread and dough products.

Data pertaining to the percentage of dairy case space allocated to dairy products was obtained for each store in order to determine the association between this factor and the percentage of store sales represented by the dairy department (Table 4). The results of this analysis showed no significant relationship to exist.

This same grouping of stores was used to determine the relationship between the percentage of dairy case space allocated to dairy products and dairy department sales (Table 5). There was a general tendency for sales to increase as space was increased but here. again the variations within groups were so large as to offset the differences between groups. These differences among groupings in Table 5 were not significant at the 95 percent level.

## EFFECT OF SPACE, FRONTAGES, AND LEVEL OF INCOME

Simple linear correlation analysis was employed to determine the relationships existing between each of the principal products in the dairy case and certain selected variables. The variables considered included the percentage of space assigned to products in the dairy case, the number of frontages, the level of consumer income, and in some cases the number of brands.

TABLE 1.-Average and Range of Prices of Homogenized Milk by Volume Group and City, 60 Selected Retail Food Stores, Cleveland, Columbus, and Dayton, September 6 to December 10, 1958

| Volume Group and Unit | Cleveland |  | Columbus |  | Dayton |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Price Range | Average Price | Price Range | Average Price | Price Range | Average Price |
| \$5,000-\$9,999 |  |  |  |  |  |  |
| Quart | 22 | 22.0 | 23 | 23.0 | 23-24 | 23.8 |
| Paper half gallon | 41-43 | 42.6 | 42-44 | 43.2 | 43-44 | 43.3 |
| Glass half gallon | 34-37 | 34.6 | ---- | -- | ----- | --- |
| \$10,000-\$19,999 |  |  |  |  |  |  |
| Quart | 22 | 22.0 | 22-23 | 22.5 | 23-24 | 23.7 |
| Paper half gallon | 39.5-43 | 41.2 | 40.5-44 | 42.4 | 33.3-45 | 40.2 |
| Glass half gallon | 28.5-34 | 31.2 | ---- | ---- | ----- | --- |
| \$20,000-\$39,999 |  |  |  |  |  |  |
| Quart | 21-22 | 21.6 | 22-23 | 22.1 | 23-24. | 23.6 |
| Paper half gallon | 39.5 | 39.5 | 35-41 | 40.0 | 29.5-40 | 35.7 |
| Glass half gallon | 34 | 34.0 | ---- | ---- | ----- | --- |
| \$40,000 - and over |  |  |  |  |  |  |
| Quart | 21-22 | 21.6 | 2.2 | 22.0 | 21-23 | 22.6 |
| Paper half gallon | 39.5-41 | 39.8 | 40-41 | 40.6 | 29.5-40 | 35.2 |
| Glass half gallon | 34 | 34.0 | ----- | ------ | -55-59 | -57.0 |

Source: Primary data

TABLE 2.-Average and Range of Gallons of Whole Milk Sold per Thousand Dollars of Gross Weekly Store Sales, by City and Volume Group, 60 Selected Retail Stores, Cleveland, Columbus, and Dayton, September 6. to December 10, 1958

| City and Volume Group | Number of Stores | Gallons of Whole Milk Sales* |  |  |
| :---: | :---: | :---: | :---: | :---: |
|  |  | Lowest | Highest | Group** <br> Average |
|  |  | Gallon | Gallon | Gallon |
| Cleveland |  |  |  |  |
| \$ 5,000-\$ 9,999 | 5 | 16.4 | 54.9 | 36.6 |
| 10,000 - 19,999 | 2 | 24.0 | 26.9 | 25.5 |
| 20,000 - 39,999 | 5 | 11.5 | 40.0 | 30.4 |
| 40,000 - and over | 8 | 7.6 | 41.4 | 26.9 |
| Average |  |  |  | 30.1 |
| Columbus |  |  |  |  |
| \$ 5,000 - \$ 9,999 | 4 | 20.6 | 46.2 | 33.3 |
| 10,000 - 19,999 | 2 | 16.7 | 43.7 | 30.2 |
| 20,000 - 39,999 | 9 | 15.1 | 30.4 | 24.1 |
| $40,000 \text { - and over }$ | 5 | 10.0 | 38.3 | 24.1 |
| Average |  | --- | --- | 26.6 |
| Dayton |  |  |  |  |
| \$ 5,000-\$ 9,999 |  | 27.8 | 68.3 | 42.4 |
| 10,000-19,999 | 6 | 20.6 | 47.0 | 31.8 |
| 20,000 - 39,999 | 5 | 22.9 | 50.1 | 35.3 |
| 40,000 - and over | 5 | 12.5 | 41.8 | 26.5 |
| Average |  | --- | --- | 33.5 |

*Gallons of whole milk.sales per thousand dollars of gross weekly store sales.
**Weighted average
Source: Primary Data

TABLE 3.-Percentage of Dairy Department Space Allocated to Dairy Products by Store Volume, 60 Retail Stores, Cleveland, Columbus, and Dayton, September 6 to December 10, 1958

| Volume Group (Weekly Sales) |  | Percentage of Space |  |  |
| :---: | :---: | :---: | :---: | :---: |
|  | of Stores | Lowest | Highest | Group Average |
| \$ 5,000-\$ 9,999 | 13 | 52.6\% | 64.4\% | 57.4\% |
| 10,000-19,999 | 10 | 49.7 | 81.7 | 62.2 |
| 20,000 - 39,999 | 19 | 47.3 | 71.2 | 60.9 |
| 40,000 - and over | 18 | 49.5 | 74.3 | 62.3 |
| Average | -- | --- | --- | 60.8* |

TABLE 4.-Percentage of Total Store Sales in the Dairy Department, by Percentage of Dairy Department Space Allocated to Dairy Products, 24 Selected Retail Stores, Cleveland, Columbus, and Dayton, September 6 to December. 10, 1958

| Percentage of Space |  | Percentage of Sales |  |  | Number of Stores |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Range | Group Average | Lowest | Highest | Group Average |  |
| 56.9 or less (low) | 53.8 | 8.6\% | 15.0\% | 11.0\% | 6 |
| 57.0-62.9 (medium) | 59.7 | 5.0 | 12.0 | 9.1 | 9 |
| 63.0 and over (high) | 68.9 | 8.0 | 14.6 | 10.4 | 9 |
| Average* | 61.7 | -- | --- | 10.5 | - |

TABLE 5.-Weekly Dairy Department Sales, by Percentage of Dairy Department Space Allocated to Dairy Products, 24 Selected Retail Stores, Cleveland, Columbus, and Dayton, September 6 to December 10, 1958

| Percentage of Space | Number of | Weekly Dairy Department Sales |  |  |
| :---: | :---: | :---: | :---: | :---: |
|  |  | Lowest | Highest | Average |
| 56.9 or less (low) | 6 | \$ 420 | \$4,550 | \$1,831 |
| 57.0-62.9 (medium) | 9 | 375 | 4,800 | 2,285 |
| 63.0 and over (high) | 9 | 1,500 | 6,220 | 3,132 |
| Average* | - | ---- | -- | 2,489 |

[^1]Source: Primary data

## Fluid Milk

The average number of units of fluid milk ${ }^{2}$ sold per thousand dollars of gross weekly store sales was 129.7 units for all cities. Cleveland stores sold an average of 126.7 units, Columbus stores, 115.9 units, and Dayton stores average 146.7 units of fluid milk per thousand dollars of store sales.

Computation of a simple regression line showed that there was some association between the percentage of space allocated to fluid milk and the volume of fluid milk sales. Within the range of these data a one percent increase in space was associated with a 3.2 percent increase in sales. The percentage of dairy case space allocated to fluid milk varied between 6.9 and 38.1 percent. Over one-half of the stores allocated between 10 and 14 percent of the dairy case to fluid milk (Table 6).

## TABLE 6.-Average Sales of Fluid Milk Per Store, by Percentage of Space Allocated to Fluid Milk, 60 Retail Stores, Cleveland, Columbus, and Dayton, September 6 to December 10, 1958

| Percentage of <br> Dairy Case Devoted <br> to Fluid Milk | Number of <br> Stores | Average* Units <br> Sales Per Store |  |
| :---: | :---: | :---: | :---: |
| $6.0-7.9$ | 4 | 114.1 |  |
| $8.0-9.9$ | 7 | 91.5 |  |
| $10.0-11.9$ | 18 | 131.5 |  |
| $12.0-13.9$ | 5 | 134.9 |  |
| $14.0-15.9$ | 6 | 124.7 |  |
| $16.0-17.9$ | 6 | 148.5 |  |
| 18.0 and over | 167.9 |  |  |
| *Average units per thousand dollars of gross weekly store |  |  |  |
| sales. |  |  |  |
| Source: Primary data. |  |  |  |

In high income areas sales of fluid milk were generally lower than fluid milk sales in low income areas. The inverse relationship between store purchased milk and income may be partially attributed to the fact that persons with higher incomes often prefer the convenience of home delivery.

There was no apparent relationship between the number of frontages and the volume of fluid milk sold.

## Fluid Cream

For the stores included in the study a one percent increase in the allocation of space for cream was
associated with a 1.3 percent increase in sales. The percentage of space in the dairy case allocated to fluid cream ranged from 0.7 to 8.3 percent (Table 7).

TABLE 7.-Average Sales of Fluid Cream Per Store, by Percentage of Space Allocated to Fluid Cream, 56 Retail Stores, Cleveland, Columbus, and Dayton, September 6 to December 10, 1958

| Percentage of <br> Space | Number <br> of <br> Stores | Average* Unit <br> Sales Per Store |
| :---: | :---: | :---: |
| $0.1-1.0$ | 14 | 5.2 |
| $1.1-2.0$ | 24 | 4.6 |
| $2.1-3.0$ | 7 | 11.5 |
| $3.1-4.0$ | 7 | 13.1 |
| $4.1-5.0$ | 1 | 6.3 |
| over 5.0 | 14.5 |  |

[^2]In most instances stores allocated from 2.0 to 3.0 percent of their dairy case to cream. Stores allocating over 3.0 percent of their dairy case to cream were generally located in the higher income areas and the number of units of cream sold per thousand dollars of gross weekly sales was generally high. These data indicate that a store patronized by persons in the higher income brackets might devote up to 4.0 percent of the dairy case to fluid cream.

As the number of frontages of fluid cream increased, sales also increased, but not at a proportionate rate. An analysis of data for the individual markets revealed no significant differences from the aggregate.

## Cheese

There was an average of 31.5 units of cheese sold per thousand dollars of gross weekly store sales for the stores in this sample (Table 8): There was little association between the number of frontages, the level of income and the volume of cheese sales. The percentage of space allocated to cheese varied between 16.2 and 55.3 percent and with the exception of the lowest volume group there was little association between space and sales.

[^3]TABLE 8.-Average Sales of Cheese Per Store, by Percentage of Space Allocated to Cheese, 58 Retail Stores, Cleveland, Columbus, and Dayton, September 6 to December 10, 1958

| Percentage of <br> Space | Number <br> of <br> Stores | 2 |
| :---: | :---: | :---: |
| $15.0-19.9$ | 4 | Average* Unit <br> Sales Per Store |
| $20.0-24.9$ | 7 | 37.2 |
| $25.0-29.9$ | 9 | 26.8 |
| $30.0-34.9$ | 19 | 30.1 |
| $35.0-39.9$ | 12 | 33.5 |
| $40.0-44.9$ | 5 | 37.1 |
| 45.0 and over |  | 25.1 |

*Average units per thousand dollars of gross w eekly store sales.
Source: Primary data

## Butter

An analysis of the data indicated that a one percent increase in space was associated with an increase of 2.4-percent in butter sales (Table 9). The percentage of space allocated to butter varied from 2.5 to 9.7 percent, while the number of frontages ranged from 1 to 26 . In approximately one-half of the stores from 4 to 6 percent of the dairy case space was allocated to butter.

Stores located in high income areas generally had higher butter sales than did stores located in low. income areas. This tendency prevailed in each individual market. There was an average of 4.7 brands of butter carried per store.

TABLE 9.-Average Sales of Butter Per Store, by Percentage of Space Allocated to Butter, 60 Retail Stores, Cleveland, Columbus, and Dayton, September 6 to<br>December 10, 1958

| Percentage of <br> Space | Number <br> of <br> Stores | Average* Unit <br> Sales Per Store |
| :---: | :---: | :---: |
| $2.00-2.9$ | 3 | 21.1 |
| $3.00-3.9$ | 11 | 20.0 |
| $4.00-4.9$ | 13 | 20.4 |
| $5.00-5.9$ | 15 | 23.4 |
| $6.00-6.9$ | 8 | 28.1 |
| $7.00-7.9$ | 5 | 22.0 |
| 8.00 and over | 5 | 35.5 |
| *Average units per thousand dollars of gross weekly store |  |  |
| sales. |  |  |
| Source: Primary data |  |  |

## Margarine

There was little association between margarine sales and the allocation of space, frontages, and the number of brands (Table 10). The percentage of the dairy case devoted to margarine ranged from 3.3 to 18.5 percent. In over two-thirds of the stores from 6 to 12 perc̣ent of the dairy case was allocated to margarine. The number of brands of margarine carried per store varied between 4 and 27 with an average of 11.2.

> TABLE 10.-Average Sales of Margarine Per Store, by Percentage of Space Allocated to Margarine, 59 Retail Stores, Cleveland, Columbus; and Dayton, September 6 to December 10, 1958

| Percentage of <br> Space | Number <br> of <br> Stores | Average** Sales <br> Per Store |  |
| :---: | :---: | :---: | :---: |
| $4.0-5.9$ | 1 | 18.2 |  |
| $6.0-7.9$ | 14 | 34.7 |  |
| $8.0-9.9$ | 16 | 30.0 |  |
| $10.0-11.9$ | 12 | 36.8 |  |
| $12.0-13.9$ | 9 | 38.1 |  |
| $14.0-15.9$ | 5 | 40.3 |  |
| 16.0 and over | 2 | 33.4 |  |
| ** Average units per thousand dollars of gross weekly store |  |  |  |
| sales. |  |  |  |
| Source: Primary data |  |  |  |
| Cottage Cheese |  |  |  |

Sales of cottage cheese averaged 10.5 units per thousand dollars of gross weekly store sales (Table 11). There was little association between sales of cottage cheese and the allocation of dairy case space and the number of frontages. In approximately twothirds of the stores from 2.1 to 4 percent of the dairy case was allocated to cottage cheese.

## OPERATION OF THE DAIRY DEPARTMENT <br> Labor Allocation

There were many variations in the duties performed by labor assigned to the dairy department (Table 12). It is evident from Table 12 that it is the policy of larger stores to perform most of the functions sometime assigned to dairy product deliverymen. For example, in some stores the dairy clerk marked prices on milk and dairy products, placed products in the display case, and cut and wrapped cheese. In the smaller stores the task of stocking cases was generally

TABLE 11.-Average Sales of Cottage Cheese Per
Store, by Percentage of Space Allocated to Cottage Cheese, 60 Retail Stores, Cleveland, Columbus, and Dayton, September 6 to December 10, 1958

| Percentage of Space | Number of Stores: | Average** Sales Per Store |
| :---: | :---: | :---: |
| 0.1-1.0 | 1 | 7.7 |
| 1.0-2.0 | 12 | 10.0 |
| 2.1-3.0 | 20 | 9.6 |
| 3.1-4.0 | 18 | 9.4 |
| 4.1-5.0 | 7 | 14.0 |
| Over 5.0 | 2 | 12.2 |
| **Average units per thousand dollars of gross weekly store sales. |  |  |
| Source: Pr |  |  |

did 74 percent of the stores in the $\$ 20,000$ to $\$ 39,999$ weekly sales grouping. Only 20 percent of the stores having gross weekly sales of $\$ 10,000$ to $\$ 19,999$ and 38 percent of the stores in the lowest volume grouping had training programs. Other store managers reported that training manuals, night classes, and incentive bonuses were being used.

## Point-of-Sale Materials

Fifty-seven store managers used point-of-sale materials relating to dairy products in their stores. The average number used for products displayed in the dairy department was 4.3 per store in Cleyveland, 2.5 per store in Columbus, and 4.5 per store in Dayton.

Point-of-sale materials were used most extensively in the sale of ice cream, followed in order of

TABLE 12.-Percentage of Dairy Departments Receiving Special Services Provided by the Supplier, 60 Selected Retail Stores, Cleveland, Columbus, and Dayton, September 6 to December 10, 1958

| Volume Group (Weekly Sales) | Number of Stores | Number of Stores <br> Receiving No Services | Percentage of Stores Receiving Services |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | Stocking Case. | Price Marketing | Checking Dates | Other |
| \$ 5,000-\$ 9,999 | 13 | 4 | 62\% | 23\% | 15\% | - \% |
| 10,000 - 19,999 | 10 | I | 80 | 30 | 40 | - |
| 20,000 - 39,999 | 19 | 5 | 16 | 11 | - | - |
| 40,000 and over | 18 | 10 | 33 | 6 | - | 1 |
| Total or Average* | 60 | 20 | 42* | 15* | 10* | ** |

> *Weighted arithmetic mean
> **Less than 0.5 parcent
> Source: Primary data
performed by the deliverymen, especially in the Dayton and Columbus market. In the Cleveland market wholesale drivers were not permitted to stock cases.

Table 13 shows the wide variation in the labor required to operate the dairy departments of the various stores. This variation reflects the differences in the performance of certain duties by either the store employee or dairy firm employees.

## Training Programs

Sixty percent of the store managers provided some type of training for their dairy department clerks (Table 14). Twelve percent of the managers stated that the dairy clerks took an actual training course, and 48 percent provided on-the-job training.

Larger stores generally used the training programs. About 83 percent of the stores having gross weekly sales of $\$ 40,000$ or over had a training program, as
importance by cheese, milk, margarine and butter. The various types of point-of-sale materials used are shown below.

| Type Material Used | Percent of Stores Using <br> Various |
| :--- | :---: |
| Point-of-Sale Material |  |,

TABLE 13.-Average and.Range of Store Labor Allocated to the Dairy Department, by City and Volume Group, 57 Selected Retail Stores; Cleveland, Columbus, and Dayton, September 6 to December 10, 1958

| City and Volume Group | Number of <br> Stores | Percent of Labor. Allocated to Dairy Department |  |  |
| :---: | :---: | :---: | :---: | :---: |
| (Weekly Store Sales) |  | Low | High | Group Average |
| Cleveland |  |  |  |  |
| \$ 5,000-\$ 9,999 | - 5 | 1.5 | 8.3 | 4.6 |
| 10,000 - 19,999 | 2 | 1.2 | 1.6 | 1.4 |
| 20,000 - 39,999 | 5 | 2.6 | 9.4 | 6.7 |
| 40,000 and over | 8 | 5.4 | 9.7 | 6.8 |
| Columbus |  |  |  |  |
| \$ 5,000 - \$ 9,999 | 4 | . 2 | 2.4 | 1.4 |
| 10,000 - 19,999 | 2 | . 9 | 7.8 | 4.4 |
| 20,000 - 39,999 | 9 | 2.8 | 4.5 | 3.8 |
| 40,000 and over | 5 | 2.1 | 8.0 | 4.0 |
| Dayton |  |  |  |  |
| \$ 5,000-\$ 9,999 | 4 | 1.1 | 13.8 | 7.9 |
| 10,000 - 19,999 | 6 | . 6 | 4.7 | 1.9 |
| 20,000 - 39,999 | 3 | 2.2 | 4.3 | 3.8 |
| 40,000 and over | 4 | 3.9 | 5.0 | 4.3 |
| Total or Average | 57 | - | - | 4.5* |

*Weighted arithmetic mean

TABLE 14.-Percentage of Stores Providing Training Programs for Dairy Department Personnel, by Volume Group, 60 Selected Retail Ștores, Cleveland, Columbus, and Dayton, September 6 to December 10, 1958

| Volume Group <br> (Weekly Sales) | Number of <br> Stores | No Training <br> Program | Training <br> Course | On-the-Job <br> Training | Total Stores <br> Provides <br> Training Programs |
| :--- | :---: | :---: | :---: | :---: | :---: |
| $\$ 5,000-\$ 9,999$ | 13 | $62 \%$ | - | $38 \%$ | $38 \%$ |
| $10,000-19,999$ | 10 | 80 | - | 20 | 20 |
| $20,000-39,999$ | 19 | 26 | $26 \%$ | 48 | 74 |
| 40,000 and over | 18 | 17 | 11 | 72 | 83 |
| Total or Average | 60 | 40 | 12 | 48 | 60 |

Source: Primary data

## Determination of the Price of Milk

Store managers determined the retail price in several different ways. They indicated that prices were determined by competition, by a percentage or actual mark-up, by the supplier or by the central offices of chain stores.

Approximately 85 percent of the voluntary group and independent store managers stated that the retail price was based on competitive prices. Five percent of the voluntary group and 17 percent of the independent store managers based their price on a speci-
fied margin. The remaining store managers in this group priced milk as suggested by the dairy company.

The prices of milk within a given city were found to be the same within specific chains, since the division office determined the prices for the stores. Although many of the independent and voluntary group managers reported that price was determined by competition, there was much variation in prices established by this method. Some prices were set at the prevailing chain store prices, others were less than competitive prices, and some prices were set at the same level as that for home-delivered milk.

## SUMMARY AND CONCLUSION

1. Average sales of whole milk per thousand dollars of gross weekly stores sales varied from store to store and from city to city. Average sales per thousand dollars of gross weekly store sales were: Cleveland 30.1 gallons, Columbus. 26.6 gallons and Dayton 33.5 gallons.
2. The amount of dairy case space allocated to dairy products varied between stores, but, on an average approximately 60 percent of the dairy case was allocated to dairy products. The remainder of the dairy case space was allocated to products such as eggs, salads, refrigerated bread and dough products.
3. Computation of a simple regression line showed that there was some association between the percentage of space allocated to fluid milk, fluid cream and butter with the volume of sales of the respective products. For the other products the degree of association was negligible.
4. The range in the amount of dairy case space devoted to dairy products was as follows: fluid milk, 6.9 to 38.1 percent, fluid cream 0.7 to 8.3 percent, cheese 16.2 to 55.3 percent, and butter 2.5 to 9.7 percent.
5. The duties assigned to the dairy clerks varied among stores. In the larger stores the dairy clerk generally marked prices on milk and dairy products, placed products in the display and cut and wrapped cheese. In the smaller stores the task of stocking cases was generally performed by the deliverymen, especially in the Columbus and Dayton markets.
6. Approximately 83 percent of the stores having gross weekly sales of $\$ 40,000$ or more had a training program for dairy clerks, as did 74 percent of the stores having weekly sales of $\$ 20,000$ to $\$ 39,999$. Only 20 percent of the stores in the $\$ 10,000$ to $\$ 19,999$ had training programs.
7. Retail prices of dairy products were determined in several different ways depending on the type of store ownership. For retail chains prices were determined by division offices while 35 percent of the voluntary groups and independent stores set their prices according to competitive conditions.

[^0]:    1.Unpublished data, Department of Agricultural Economics and Rural Sociology, The Ohio State University.

[^1]:    *Weighted average

[^2]:    * Average Units per thousand dollars of gross weekly store sales.
    Source: Primary data

[^3]:    ${ }^{2}$ Fluid milk included homogenized milk ${ }_{0}$ chocolate milk, buttermilk and skim milk.

