

Lamb Merchandising in Ohio Retail Stores With Related Industry Surveys

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Wooster, Ohio

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LAMB MERCHANDISING IN OHIO RETAIL STORES

With Related Industry Surveys

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SUMMARY

Each year Ohio farmers receive about one percent of their cash receipts from sales of sheep and lambs. Ohio consistently ranks first among all states east of the Mississippi River in sheep and lamb production, annually marketing over 725,000 head, excluding interfarm sales. Production is heaviest in Central Ohio. Still, the industry has faced a general decline relative to total Ohio agriculture.

Consumption Characteristics

Per capita lamb consumption in Ohio apparently is undergoing a similar decline. The demand for lamb is influenced strongly by ethnic and religious considerations as well as by price and income. Examination of these characteristics has shown that demand for lamb tends to be higher among white-collar workers, professional groups, Jewish populations, and people of Eastern Mediterranean heritage. These populations tend to be concentrated in large coastal cities.

Per capita lamb consumption in the United States averages about 5.1 pounds per year, and most of this lamb is consumed in principal cities in Massachusetts, New York, and California. Ohio lamb consumption averages about 2.2 pounds per capita, far below the national average, but large Ohio cities rank high in lamb consumption characteristics displayed by cities like Boston, New York City, and Los Angeles. Cleveland and Dayton, for example, have higher average family incomes than other Ohio cities. Jewish population is higher in Cuyahoga County (Cleveland) than in any other county in which a principal city is located. Foreign-born white population is higher in Cleveland and Youngstown than in other large Ohio cities.

All of these factors are associated with higher per capita lamb consumption. But other factors are significant also, and some of them seem to restrict Ohio consumption. For example, resident consumption of a product necessarily is restricted to the amount that is available for customers to buy and take home.

Availability at Retail

Characteristics of the availability of eight cuts of lamb in Ohio grocery stores were examined in a sample of 210 retail stores in 8 major cities. Lamb slaughterers and retail meat buyers also were interviewed.

Lamb is offered to consumers most frequently in chain stores. The incidence of chain stores in the 210-store sample was somewhat higher in high-income areas than in low-income areas, and the best lamb displays usually were found in chain stores located in these high-income areas. Nevertheless, major cuts of lamb such as leg roasts, shoulder roasts, and chops were on display during fewer than a third of the visits to sample stores. Each store was visited 12 times. Minor cuts of lamb such as stew meats, shanks, and other lower-quality cuts were offered much less frequently, and the variation in incidence of these offerings was extreme.

The amount and type of newspaper advertising devoted to meat varied among the sampled cities. Beef consistently claimed the most advertising space. Pork had the second largest amount, although chicken was given advertising space in similar proportions. Lamb specials seldom had space allotments similar in size or attractiveness to those of other meats.

Limiting Factors

Chain stores usually bought lamb through central buyers who represented many stores, but among independent stores telephone order purchases were most common. When pressed for reasons that would explain the low preference for lamb by Ohio consumers, these meat buyers often reported that they thought this a matter subject to control by retail meat department managers. If managers themselves were unenthusiastic about lamb, they were less likely to display and merchandise the product to its greatest advantage. The buyers further reported that they often bought lamb from out-of-state packers, who could give them constant levels of quantity and quality which were hard to find among domestic slaughterers.

There are only about 9 lamb slaughterers of consequence in the state, and only 3 that slaughter over 15,000 head per year. Only about 30 percent of the sheep and lambs sold from Ohio farms are slaughtered in the state. The remainder are shipped live to out-of-state packers, mostly in the East. Ohio, therefore, exports live lambs and imports lamb carcasses, creating a trade pattern that increases retail lamb prices and perhaps unnecessarily dampens demand in areas that display strong demand characteristics.

Slaughter Potential

When questioned about this shipment pattern, Ohio packers confirmed that lamb slaughter in the state had been declining, but maintained that labor costs and typically small plant volumes made profit opportunities negligible. All packers agreed that large volume operations could be profitable, but many were concerned about declining consumption which they attributed to the disintegration of nationality groups in their respective areas.

The Ohio sheep and lamb industry probably would benefit from aggressive educational and promotional efforts. People tend to eat the meats to which they are accustomed. Nationality and certain religious groups are an important asset to lamb consumption and the disintegration of such consumer groups can be a serious loss. Traditional diet patterns are easier maintained than rebuilt. Educational work with consumers and producers, promotional efforts by producer groups and merchandising elements in the trade, and encouragement of increased slaughter activity, all hold interesting potential for improved profit prospects in the industry.

THE SAMPLE

A sample of 210 retail grocery stores in eight major Ohio cities and selected rural areas was used in the analysis (Table 2). There were 100 chain stores, 52 affiliated chains, and 58 unaffiliated independent stores. The sample was not random, being stratified by (1) area, (2) type of store, and (3) size of store in order to examine various characteristics of lamb retailing procedures which might be relevant but might not appear in a random sample. For example, a random sample might contain an unduly large number of small independent operations whose actual volume would not accurately reflect the volume characteristics of stores in which lamb is more commonly offered for sale.

Sample Stratification

Areas used in the analysis were (1) Canton, (2) Cincinnati, (3) Cleveland, (4) Columbus and five surrounding counties, (5) Dayton, (6) Lima, (7) Toledo, and (8) Youngstown. The urban areas of Canton, Columbus, Lima, Toledo, and Youngstown comply with the Bureau of the Census definition of "metropolitan area", being the county in which the city is located. But also included in the Columbus classification were the rural counties of Delaware, Fairfield, Madison, Pickaway, and Union. The Lima sample consisted of stores in small towns outside of the city limits but within Allen county. Youngstown

included Mahoning and Trumbull counties. The Cleveland, Cincinnati, and Dayton areas included only the parent counties, (Table 1). Hereafter, discussion of cities such as Columbus or Lima will assume the inclusion of the rural sample.

Store type was a major intra-sample stratification. Corporate chains have ten or more stores under one ownership with management and merchandising policies originating from a common point. Affiliated chains are independent stores with pooled purchasing power.¹ They may be either wholesale-sponsored **voluntary groups** or retail-sponsored wholesale **cooperative groups**. Independent stores have no affiliation as such and commonly are referred to as unaffiliated independents. Sample size is shown in Table 2.

Minimum Store Size A lower size limit was imposed on all stores regardless of store type. The minimum was set at two check-out counters and minimum sales per counter of approximately \$5,000 per week or \$250,000 per year. The latter was imposed subjectively in many instances.

¹Butz, D. E., and Baker, G. L., Jr., *The Changing Structure of the Meat Economy*, Harvard University, 1960.

TABLE 1.—Population, Total Number of Retail Grocery Stores, and Population-Store Ratio in Selected Cities of Ohio, 1958-60.

Sample Areas ¹	Population	Retail Grocery Stores, 1958	Per Store Population
1. Canton	337,984	398	849.2
2. Cincinnati	860,817	1,203	721.7
3. Cleveland	1,638,625	2,064	794.0
4. Columbus ²	860,183	656	1,036.9
5. Dayton	521,876	547	954.1
6. Lima	102,785	144	713.8
7. Toledo	454,472	482	942.9
8. Youngstown ³	507,557	605	838.9
Total Sample	5,104,299	—	529.1
Total Ohio Population	9,647,079	—	—
Percent Sample of Total	52.9	—	—

¹Includes entire county.

²Includes Mahoning and Trumbull Counties.

³Includes Delaware, Fairfield, Madison, Pickaway and Union Counties.

Source: Population: U.S. Census of Population, 1960, PC(1), 37B, Ohio, U.S. Department of Commerce, Bureau of the Census, U.S. Government Printing Office, Washington: 1961. Retail Stores: Retail Trade—Area Statistics, Part 2, Census of Business, U.S. Government Printing Office, Washington: 1961.

TABLE 2.—Number of Retail Grocery Stores Interviewed in Eight Sample Areas, Ohio, 1961.

Sample Areas	Chain	Affiliated Chain	Unaffiliated Independents	Total
1. Canton	10	3	7	20
2. Cincinnati	10	7	3	20
3. Cleveland	21	9	10	40
4. Columbus	23	15	12	50
5. Dayton	10	3	7	20
6. Lima	6	7	7	20
7. Toledo	10	5	5	20
8. Youngstown	10	3	7	20
Total	100	52	58	210

Sampling Procedure

Names and addresses of all retail food stores located within each sample area were obtained from “food store” or “grocery route” lists generally published by leading newspapers in the respective cities. These lists contained enough information to enable immediate elimination of some of the small volume stores.²

Data Collection

Each store was visited by a trained enumerator for 12 consecutive weeks, March 31 to June 16, 1961. Store visits were scheduled to coincide with periods of heaviest sales volume and probable periods of most complete display. Time limitations for data collection therefore were set between 12:00 noon Thursday and 12:00 noon Saturday in order to minimize the occurrence of insufficient or exhausted supplies. An additional questionnaire was completed by store managers at the termination of the 12-week period to supply deficient information.

AVAILABILITY AND PRICE OF LAMB

Availability

Lamb availability figures presented in accompanying tables are based upon the appearance of retail lamb displays during store visits, and generally are stated in terms of percentages. A lamb leg availability of 50 percent for a given store, for example, would mean that lamb legs were on display 50 percent of the times the store was visited (six times).

²Sample Size (N) for each major urban area was predetermined at 20, based upon a sampling rate of approximately 1 in 15 to 1 in 20.

The availability at retail of the **eight lamb cuts** included in this study varied substantially among the sampled cities, but was on display in only about one-third of the in-store observations in all 210 stores (Table 3). Availability was highest in Cleveland (41.7 percent) and lowest in Lima (8.6 percent). Generally, the availability among individual types of lamb cuts was more consistent in cities having the highest aggregate availability. Variability among cuts was most extreme in Columbus and Canton, which ranked sixth and seventh among all eight cities in aggregate availability.

Display Space by Store Type The amount of display space devoted to lamb was estimated during each visit to every store. Aggregate display areas that were accumulated by sampled stores during the 12-week period were totaled (Table 4). Data in Table 4 provided some contrast relative to Table 3 inasmuch as city rank is altered by this method of measurement. It would appear from comparison of these two tables that lamb display areas varied widely from city to city. In the case of Youngstown and Cincinnati, for example, average lamb displays in Cincinnati must have been larger than in Youngstown because, though Youngstown ranked second and Cincinnati fifth in lamb availability in Table 3, the order has been reversed in Table 4.

The significance of store type to lamb availability also is indicated with great clarity in Table 4. Chain stores allotted more space to lamb displays than did affiliated chains and unaffiliated independents combined, and the consistency with which lamb was displayed by chains was much more uniform than that of other store types.

Similar differences among cities existed on the basis of total length of meat counters or display cases. Average counter lengths for chains, affiliated chains and unaffiliated independents were 75 feet, 55 feet and 35 feet, respectively. Chains and affiliated chains more commonly used open, self-service cases. Closed cases were more popular among unaffiliated independents.

Other Factors Affecting Availability Results presented in Tables 3 and 4 tend to concur with and to reflect the importance of factors such as consumer income, population composition, and store type as factors positively associated with higher levels of lamb availability and consumption. When the eight cities were ranked in terms of these significant factors their order of importance was similar to the ranking they displayed in terms of percentage availability of lamb (Table 5). Their ranking was not closely related to their order of importance in terms of display space allotted to lamb (Table 5, columns 1 and 7).

TABLE 3.—Percentage Availability of Eight Cuts of Lamb, 210 Retail Grocery Stores, Eight Ohio Cities, March 31 - June 16, 1961.

City	Rib Chop	Loin Chop	Sirloin Chop	Blade Chop	Shoulder Roast	Leg Roast	Shank	Breast	Total
Cleveland	66.2	48.9	6.2	63.3	29.2	44.0	37.3	38.8	41.7
Youngstown	45.4	35.8	8.8	47.9	41.7	43.8	20.8	15.8	32.6
Toledo	37.1	38.8	5.8	29.6	46.7	49.6	28.3	24.6	32.5
Dayton	32.5	33.8	15.0	19.6	33.8	28.8	10.4	18.3	24.0
Cincinnati	35.0	30.0	37.5	36.2	27.5	26.2	15.4	10.4	23.1
Columbus	27.8	29.8	1.4	22.8	20.3	27.2	9.5	10.8	20.3
Canton	18.3	14.2	1.7	7.5	31.2	27.1	13.3	16.2	16.1
Lima	10.0	7.5	5.0	9.2	18.3	12.9	4.2	2.1	8.6
Total	45.3	39.6	10.4	39.7	36.6	41.0	22.7	22.9	32.3

TABLE 4.—Mean Accumulated Square Feet of Display Space Allotted to Lamb in Twelve Weeks, 210 Retail Grocery Stores, by Type, Eight Ohio Cities, March 31 - June 16, 1961.

City	Rank	Corporate Chain	Affiliated Chain	Unaffiliated Independent	Average
				Square Feet	
Cleveland	1	85.3	62.1	17.6	62.7
Cincinnati	2	86.6	11.4	24.7	51.0
Toledo	3	45.8	19.6	20.2	32.8
Canton	4	60.4	2.7	3.9	31.9
Youngstown	5	53.2	14.0	8.1	31.6
Dayton	6	42.0	11.7	19.6	29.6
Columbus	7	42.1	6.7	0.5	21.5
Lima	8	21.5	9.1	—	9.6
Average		57.7	18.6	10.0	34.8

Availability by Lamb Cut Generally, major cuts of lamb such as rib chops, loin chops, shoulder roasts and whole leg roasts were offered with regularity during the period studied, appearing in about 30 to 40 percent of total observations (Table 6). But minor lamb cuts such as shanks, patties, breast, stew meat, and neck slices were less regularly offered by the sampled stores. Variation in availability of minor cuts was extreme (Table 7).

Availability by Store Type Store type and consumer income classifications displayed a direct relationship with lamb availability. In all instances, lamb availability was higher in chain stores (Table 8). Affiliated chains ranked second, and unaffiliated independents third. However, shanks and breast, two "less desired" cuts, were more frequently available in chains than in other store types. Perhaps the greater volume and the associated merchandising flexibility of chains along with the fact that they purchased more whole carcasses serves to explain this pattern. The comparatively low availability of sirloin chops may be associated with the merchandising technique of cutting the carcass to include the sirloin as part of the whole leg roast.

Availability by Consumer Income Availability of lamb was directly related to consumer income levels for most lamb cuts (Table 9). Only sirloin and breast decreased in availability in high income classifications. Cutting techniques could explain the inconsistency. Sirloin can be included with the leg roast, and breast can be offered in stew or patties or can be cut as part of a shoulder roast.

TABLE 5.—Rank of Lamb Availability in Retail Grocery Stores and Related Data, Eight Sampled Cities, Ohio, 1961.

City	Rank of Cities		Median Income	Percent Foreign Born	Percent Jewish	Percent Chains in High Income Areas	Range ¹	Index ²
	Rank in Availability of Lamb							
	Table 3	Table 4						
Cleveland	1	1	1	1	1	1	0	1.0
Youngstown	2	5	3	3	4	6	4	3.7
Toledo	3	3	6	2	— ³	4	4	3.8
Dayton	4	6	2	7	5	7	5	5.0
Cincinnati	5	2	5	5	2	5	3	4.2
Columbus	6	7	7	4	6	2	5	5.0
Canton	7	4	4	6	3	3	4	4.5
Lima	8	8	8	8	— ³	8	0	8.0

¹The difference between the highest and the lowest rank, by city. Generally, the narrower the range, the more reliable the index in column 8 may be as an indicator of city rank.

²The index is an average of individual ranks for the city.

³No data.

Source: Tables 3, 4 5 and survey data

TABLE 6.—The Percentage Availability of Five Principal Lamb Cuts, 210 Retail Grocery Stores, Ohio, March 31 - June 16, 1961.

Week	Cut of Lamb ¹				
	Rib Chop	Loin Chop	Blade	Shoulder Roast	Whole Leg
			(Percent)		
1	31.90	32.38	23.81	28.57	31.90
2	39.05	30.00	24.76	32.38	28.57
3	34.29	32.86	28.57	25.24	34.29
4	35.24	32.38	29.05	28.10	29.52
5	39.52	30.48	33.81	33.33	36.19
6	36.19	34.29	33.81	32.86	33.81
7	38.10	34.76	37.14	29.05	33.81
8	37.62	31.43	34.76	29.52	31.43
9	34.76	30.95	31.90	26.67	31.43
10	32.86	28.57	33.33	28.10	30.95
11	40.48	32.86	35.71	28.57	36.67
12	34.76	29.06	35.24	29.05	34.76

¹These cuts were selected as "major" ones due to their comparative popularity and consequent greater frequency in most weeks

TABLE 7.—Percentage Availability of Five Minor Lamb Cuts, 210 Retail Grocery Stores, March 31 - June 16, 1961.

Week	Cut of Lamb				
	Shanks	Patties	Breast	Stew	Neck Slices
			Percent		
1	15.2	11.4	10.5	15.7	6.2
2	15.2	6.7	14.3	15.7	9.5
3	13.3	11.0	10.0	16.2	10.0
4	19.0	9.5	16.7	12.4	10.5
5	19.5	10.5	20.5	14.8	13.3
6	19.5	9.5	21.9	12.9	14.3
7	22.3	15.2	20.5	17.6	12.9
8	19.5	12.9	20.5	11.0	10.0
9	21.4	8.6	19.5	10.5	11.0
10	18.6	7.6	20.5	11.4	13.3
11	21.4	9.0	22.9	14.8	12.4
12	22.3	10.0	21.9	7.6	14.8

TABLE 8.—Percentage Availability of Eight Cuts of Lamb, by Store Type, 210 Retail Grocery Stores, Ohio, 1961.

Cut of Lamb	Chain	Affiliated Chain	Unaffiliated Independent	Average
Rib Chop	55.7	23.1	14.5	36.2
Loin Chop	46.8	20.5	15.5	31.7
Sirloin Chop	15.6	3.0	1.4	8.6
Blade Chop	48.9	19.6	13.4	31.8
Shoulder Roast	41.3	22.3	14.8	29.3
Whole Leg	46.2	22.0	19.4	32.8
Shanks	27.9	10.4	11.2	19.0
Breast	29.5	7.7	8.5	18.3
Average	38.99	16.07	12.34	25.95

¹Number of observations divided by total possible observations for that type of store.

Price by Type of Store Prices for the various cuts of lamb were recorded weekly for each store, compiled by store type with an arithmetic mean computed for each cut of lamb for the entire period (Table 10). In the three store types sampled, corporate chain stores had consistently lower mean prices per pound for the selected cuts of lamb than did affiliated chain stores or unaffiliated independent stores.

TABLE 9.—Percentage Distribution, Eight Cuts of Lamb, by Consumer Income Classification, 210 Retail Grocery Stores, Ohio, 1961.

Cut of Lamb	Consumer Income Level					Average ¹
	Low	Medium Low	Medium	Medium High	High	
Rib Chop	23.3	32.1	35.6	45.1	47.5	35.9
Loin Chop	14.1	26.0	29.8	39.5	62.9	31.6
Sirloin Chop	1.4	7.3	9.2	12.0	10.4	8.3
Blade Chop	21.6	28.6	30.5	36.3	47.5	31.4
Shoulder Roast	21.8	25.4	26.4	33.6	48.3	28.8
Whole Leg	20.4	24.2	29.0	40.7	67.9	32.5
Shank	12.6	17.5	18.0	22.8	28.3	18.9
Breast	13.8	19.6	19.9	19.4	13.3	18.3
Average	16.13	21.59	24.80	31.16	40.78	25.71

¹Sum of observations divided by total possible observation (number of stores in income group X 12 weeks X 8 cities).

TABLE 10.—Mean Prices of Eight Cuts of Lamb, 210 Ohio Retail Grocery Stores, by Store Type, March 31 - June 16, 1961.

Cut of Lamb	Chain	Affiliated Chain	Unaffiliated Independents
Rib Chop	\$1.04	\$1.07	\$1.03
Loin Chop	1.20	1.35	1.35
Sirloin Chop	.94	.97	1.10
Blade Chop	.64	.73	.77
Shoulder Roast	.53	.64	.61
Leg Roast	.73	.79	.81
Shanks	.49	.55	.52
Breast	.23	.29	.25

Lamb Prices, by Income Classification Price per pound displayed a weak direct relationship to increases in consumer income for most cuts, (Table 11). Stew meat and leg roast prices did not follow this pattern, and the positive relationship between price and income was quite weak for blade chops. Strongest apparent positive relationships existed for rib chops, loin chops, and sirloin.

Variance Analysis Tests were made for significant differences in mean prices of selected lamb cuts relative to consumer income classifications, city-store differences, and sources of lamb purchases. All price differences relative to city-store classifications were significant at the .01 or the .05 level (F test). Price differences relative to income classes were significant (.01 level) with the exception of sirloin. Price dif-

TABLE 11.—Mean Prices, Eight Cuts of Lamb, 210 Ohio Retail Grocery Stores, March 31 - June 16, 1961.

Cut of Lamb	Income Group					Group Average
	Low	Medium Low	Medium	Medium High	High	
Rib Chop	\$.96	\$1.05	\$1.04	\$1.03	\$1.17	\$1.04
Loin Chop	1.14	1.23	1.20	1.23	1.41	1.25
Sirloin Chop	.85	.94	.95	.92	1.00	.94
Blade Chop	.68	.69	.67	.71	.71	.69
Shoulder Roast	.56	.57	.55	.56	.62	.56
Leg Roast	.82	.73	.74	.73	.80	.76
Breast	.48	.49	.52	.46	.55	.50
Stew	.23	.28	.23	.21	.23	.24

ferences relative to source of purchase were significant (.01 level) for all cuts except sirloin.

ADVERTISING, MERCHANDISING AND PRODUCT CHARACTERISTICS

Advertising

The pattern of average weekly prices and price fluctuations for leg roasts and rib and loin chops was examined for relationship with store "specials". Local morning newspapers for six cities³ were consulted for the study period to determine if stores were conducting "specials" during the same time that lower prices actually were observed. Each of these six newspapers was reviewed to determine which day of the week the most retail food store advertisements were carried (Table 12) and to determine any relationship that might exist between newspaper advertising and weekly lamb price fluctuations in the sampled stores.

In some of the cities, Cincinnati for example, corporate chain stores presented major advertisements one day and smaller stores such as affiliated chains and unaffiliated independents advertised on succeeding days. The amount and type of advertising devoted to meat and chicken varied between the sampled cities. Significant to this study was the amount of advertising space devoted to lamb in relation to competing meats (Table 13). In the six cities observed: (a) Beef consistently averaged the most advertising space; (b) Pork had the second largest amount of space; (c) Chicken received advertising in amounts almost equal to that devoted to pork; and (d) Lamb was allotted the least advertising space. Lamb specials seldom had space allotments similar in size or attractiveness to those of other meats even though occasionally, large, pictorial advertisements were presented for lamb sponsored by the American Sheep Producers Council. It was

³Dayton and Lima papers were not available.

TABLE 12.—Day of the Week Used by Retail Grocery Stores for Major Meat Advertising in Six Ohio Cities, March 31 - June 16, 1961.

City	Newspaper	Day (Carrying most food advertising)
Canton	Repository	Wednesday
Cincinnati	Enquirer	Thursday
Cleveland	Plain Dealer	Friday
Columbus	Citizen Journal	Thursday
Toledo	Blade	Wednesday
Youngstown	Vindicator	Wednesday

TABLE 13.—Retail Meat Advertising Emphasis in Local Newspapers, Six Ohio Cities, March 31 - June 16, 1961.

Week	Canton				Cincinnati				Cleveland			
	Beef	Pork	Chicken	Lamb	Beef	Pork	Chicken	Lamb	Beef	Pork	Chicken	Lamb
1	1 ¹	2	3	4	2	1	4	3	2	1	3	4
2	1	2	3	4	1	2	3	—	1	2	—	—
3	1	2	3	4	1	2	3	—	1	3	4	2
4	1	2	3	4	1	4	2	3	2	1	4	3
5	1	2	3	—	1	2	3	4	1	2	4	3
6	1	3	2	—	1	3	2	—	1	2	4	3
7	1	2	—	—	1	2	3	—	1	4	3	2
8	1	2	3	—	1	2	4	3	1	2	3	4
9	1	2	3	4	2	3	1	4	1	4	3	2
10	1	3	2	4	1	2	3	—	1	2	3	4
11	1	3	2	4	1	4	3	2	1	2	3	4
12	1	2	3	4	1	2	3	4	1	2	3	4
Total	12	27	30	32	14	29	34	23	14	27	37	35
Average ²	1	2.2	2.7	4.0	1.2	2.4	2.3	3.3	1.2	2.2	3.4	3.2

Week	Columbus				Toledo				Youngstown			
	Beef	Pork	Chicken	Lamb	Beef	Pork	Chicken	Lamb	Beef	Pork	Chicken	Lamb
1	1	—	2	—	—	—	—	—	1	2	3	4
2	1	2	3	—	1	2	3	4	1	2	4	3
3	2	1	3	—	1	2	3	4	1	3	2	—
4	1	2	3	—	1	2	4	3	1	4	2	3
5	2	3	1	—	1	2	4	3	1	2	3	—
6	2	3	1	—	1	2	3	4	1	3	2	4
7	1	2	4	3	1	2	4	3	1	2	3	—
8	3	2	1	—	1	2	—	3	1	3	2	4
9	3	2	1	—	1	2	3	—	1	3	2	4
10	3	—	1	2	1	2	3	4	1	3	2	—
11	1	—	2	—	1	—	2	3	1	3	2	—
12	1	3	2	—	1	2	—	—	1	4	2	3
Total	21	20	24	5	11	20	29	31	12	34	29	29
Average ²	1.8	2.2	2.0	2.5	1	2.0	3.2	3.4	1	2.8	2.4	3.6

¹Numbers indicate importance (first, second, third, fourth) of ads relative to competing meats.

²The total divided by the number of observations in each species advertisement.

Source: Canton Repository, Cincinnati Enquirer, Cleveland Plain Dealer, Columbus Citizen Journal, Toledo Blade and Youngstown Vindicator.

difficult to determine whether advertisements were associated with “specials” or not. As a solution, weekly per pound price fluctuations were derived from the mean weekly prices for rib and loin chops and leg roasts.⁴ Price fluctuations and advertisements then were related (Table 14).

In all sampled cities there was a direct relationship between the the appearance of lamb “special” advertisements and lower mean prices per pound although the relationship was more apparent in some cities

⁴These three cuts were most frequently available.

TABLE 14.—Lamb Prices: Occurrence of Newspaper Advertising and Related Weekly Price Fluctuation in Cents per Pound, Six Ohio Cities, March 31 - June 16, 1961.¹

Week	Canton			Cincinnati			Cleveland		
	Rib Chop	Loin Chop	Leg Roast	Rib Chop	Loin Chop	Leg Roast	Rib Chop	Loin Chop	Leg Roast
1	—	—	—	—	—	—	—	—	—
2	— 7*	+13	+5	—	—	—	—	—	—
3	— 4*	—20*	—4*	—	—	—	+ 6	+ 8	+5
4	— 0	—20*	+2	—21*	—11*	—1*	+ 5	+ 7	+5
5	—	—	—	+ 7	+11	+5	+ 2	— 6	—2
6	—	—	—	—	—	—	—11*	—10*	—9*
7	—	—	—	—	—	—	+ 3	+ 6	+5
8	—	—	—	— 4*	— 5*	+1*	+ 9	+ 8	+2
9	+11	+ 2	+1	+25	+26	+7	— 3	— 4	+2
10	— 8*	— 2*	—1*	—	—	—	+ 2	+ 2	—1
11	— 2*	—18*	—5*	—12	—18	—6	— 2*	— 7*	—4*
12	+ 6	+ 2	+1	— 1*	0	—2*	+ 6	+ 9	+4

Week	Columbus			Toledo			Youngstown		
	Rib Chop	Loin Chop	Leg Roast	Rib Chop	Loin Chop	Leg Roast	Rib Chop	Loin Chop	Leg Roast
1	—	—	—	—	—	—	—	—	—
2	—	—	—	0	—10	+3	— 6*	— 1*	+3
3	—	—	—	— 5*	— 1	—2*	—	—	—
4	—	—	—	+ 4	— 3	+2	— 3	— 6	—1
5	—	—	—	+ 6	+14	—1	—	—	—
6	—	—	—	— 3*	0*	—2*	+ 7	+12	—2*
7	— 4*	— 2*	+6	—22	—31	—4	—	—	—
8	—	—	—	+11	+11	+1	— 2	+ 2	—1
9	—	—	—	—	—	—	+ 4	— 9	+1
10	— 2	— 3	+1	+11	— 5	+3	— 1	+ 9	—3
11	—	—	—	— 2	—10	—1	—	—	—
12	—	—	—	—	—	—	0	+ 6	+4

¹A dash (—) designates no ads and therefore no known relationship. A zero (0) indicates there was a lamb ad (not necessarily a special) but that observed store prices showed no change from the preceding week. A positive figure means that advertising occurred and was associated with a price rise. A negative figure means that advertising occurred and was associated with a price decline from the previous week. An asterisk means that the advertising specifically offered a "special" or otherwise indicated that customers should expect a price decrease.

Source: Newspapers and survey data

than in others. Lamb was advertised frequently, however, (but not specifically as a special) when prices rose rather than fell. No particular week appeared most popular for lamb advertisements for any city during the 12 weeks studied. It appeared that in some cities (Canton for example) lamb advertising occurred specifically with "sales" or lowered prices. In other cities (Cleveland for example), lamb advertisements were more of an accepted retailing function and appeared consistently throughout the 12 weeks.

TABLE 15.—Time and Costs Associated with Retail Lamb Merchandising, One Grocery Chain, Ohio, 1961.

Variable	Cost ¹
Cutting and Time	
Breaking of carcass, 20 minutes	\$0.94
Boarding 5 minutes	0.20
Wrapping 8 minutes	0.29
Weighing 4 minutes	0.16
Materials	
26 sheets of cellophane	0.13
22 trays	0.18
Total ²	\$1.90 = 4.1 cents per pound

¹Labor charges used were: cutting, \$2.83 per hour; other, \$2.33 per hour.

²A 46 pound carcass was used at 41¢ per pound wholesale.

Source: Confidentially supplied by a retail grocery chain

Merchandising

Although perishable, meat lends itself well to merchandising programs. Variety in methods of preparation at retail is a great asset to meat merchandising. Various cutting methods may be employed by retailers to stimulate competition. Versatility of retail preparation is an aid to adapting to various market conditions. The less desirable lamb cuts (breast, stew, etc.) often can be sold more readily by changing their form. Even though a large number of cuts can create pricing problems, this can be an asset, too. A retailer can plan to absorb losses through specials on one cut with higher prices on other cuts, other special meats, or on other days.

Unit costs can become critical when volume is limited, as in retail lamb displays. Although this study does not provide comparisons of merchandising beef and lamb, Table 15 offers an example of what is entailed in merchandising lamb. Meat managers interviewed in the study often expressed a belief that lamb was too expensive to merchandise "properly" because of its small volume.

Product Characteristics

Appeal Rating The lamb evaluated in the sampled stores was given a "customer appeal" rating each week. This was a numerical value ranging from 1 to 9, 1 being the least appealing, 5 being average, and 9 being the most appealing. Factors such as appearance of the meat (fresh, stale, dark or dry lean, fatness, etc.) and manner of dis-

play (neat arrangement, good packaging, etc.) were important contributors to this rating. Results of an analysis of variance (F test) indicated significant differences (.01 level) between cities and store types. Chain stores generally had the most appealing supplies and displays of lamb. More variety of lamb cuts was present and attempts had been made to maintain a fresh, desirable product. Affiliated chains were comparable in this respect although smaller volume lamb sales tended to bias the evaluation. Unaffiliated independents rated the lowest. In the majority of these cases, lamb was not in view of the public but was in a cooler instead. Without specifically requesting the product both its availability and its customer appeal were unknown.

Fatness Rating In conjunction with the appeal rating, the fatness of available lamb cuts was evaluated in a similar manner. This rating was made using cuts of lamb as they were presented to the consuming public. Trimming may or may not have been done by the retailer. Values ranged from 1 to 9, 1 being the fattest and 9 the least fat, but still desirable in finish. Variance analysis of this factor relative to source of purchases made by the retail meat buyers resulted in significant F values (.01 level) for all eight cuts of lamb tested. There exist variations in the amount of fatness of lamb from different regions of the state and the nation. Using grade of lamb as a treatment classification relative to fatness also provided significant differences (.01 - .05 levels) but not as consistently as did the previous test. No significant differences (.05 level) existed for sirloin and blade chops. Shoulder roasts were significant at the .05 level, with the remaining four cuts displaying significant differences at the .01 level, verifying that there are differences between grades of lamb relative to fatness, but they may not occur uniformly.

Lean Ratio Another aspect of the evaluation of quality and acceptability of available lamb was an examination of the percent of lean visible in any cut surface. To facilitate collection of reliable data, this "lean ratio" was obtained only from rib, loin, sirloin, and blade chops. The measurement was made from packaged meats, some of which had been trimmed and others which had not, which greatly reduced the reliability of the measurement. But it provides the same product evaluation that is employed intuitively by customers. A plastic grid marked in one-half inch squares was placed on top of representative packaged cuts of lamb and the squares of total area and lean area were counted, recorded, and later converted to percentages.

Results were sorted relative to consumer income and store type (Tables 16 and 17). Generally, a very weak inverse relationship

TABLE 16.—Percentage of Lean Meat in Selected Cuts of Lamb, by Consumer Income Groups, 210 Ohio Retail Grocery Stores, March 31 - June 16, 1961.

Cut of Lamb	Low	Medium Low	Medium	Medium High	High	Average
	Percent					
Rib Chop	49.9	48.0	47.7	48.0	45.8	47.7
Loin Chop	60.3	54.1	57.8	63.1	59.5	59.1
Sirloin Chop	— ¹	69.0	64.2	58.4	62.3	61.8
Blade Chop	56.2	52.0	54.4	56.4	50.5	54.2

¹Insufficient data.

occurred between consumer income classes and the percentage lean found in rib, loin, sirloin, and blade lamb chops, those in the low income classifications having a higher percentage of lean (Table 16). This could be related to the weight of carcass purchased by stores in the various income groups. It suggests that stores serving wealthier clientele tend to use lamb with more finish than stores in lower income areas.

Variance Analysis The F tests were used to investigate differences in lean ratio associated with (1) consumer income, (2) grade of lamb, (3) source of lamb purchases, and (4) city and store type. Tests of lean ratio with respect to consumer income resulted in significant differences (.05 level) only in the case of loin chops. No significant differences existed in lean ratio between grades of lamb. Differences in lean ratio between purchase sources were significant (.01 level) only for rib and loin chops. Lean ratio in rib and blade chops was significantly different (.01 level) between types of stores. The erratic nature of these results provides little assurance that stores serving higher income areas would or could present a more acceptable product to the consumers than those in low income areas.

Size of Cut Total square inches of chop and lean ratio were, with the exception of blade chops, directly related in all three types of stores (Table 17).

While total size of all four chops increased consistently among chains and affiliated chains, blade chops sold by unaffiliated independents were smaller than other chops (Table 17). This inconsistency may in part be explained by the practice among small independent retailers of purchasing broken and lighter weight carcasses. The blade chop, being from a different part of the carcass than the other three

TABLE 17.—Total Area and Percentage Lean Meat in Four Cuts of Lamb, by Type of Store, 210 Ohio Retail Grocery Stores, March 31 - June 16, 1961.

Cut of Lamb	Chain		Affiliated Chain		Independent	
	Area Sq. Inches	Percent Lean	Area Sq. Inches	Percent Lean	Area Sq. Inches	Percent Lean
Rib Chop	4.46	47.18	4.73	46.43	3.77	53.66
Loin Chop	5.97	59.58	6.49	53.68	5.01	60.97
Sirloin Chop	7.35	62.04	7.60	62.67	9.48	62.00
Blade Chop	8.86	53.08	9.36	58.00	4.85	56.55

chops, could show more variation in size if not derived from the same carcasses as the other cuts.

Variance Analysis The four types of chops were tested for size differences (area in square inches) relative to (1) city-store differences, (2) differences in purchase sources and (3) lamb grades. Size or uniformity of all four chops varied significantly (.01 level) among cities and stores. Size differences relative to purchase sources were not consistent, being significant at the .01 level only for rib and loin chops. Size differences relative to grades were significant at the .01 level only for rib and blade chops. (About 75 percent of all lamb was rolled with a Federal grade, but in the present analysis, all kinds of grade specifications were permitted rather than just Federal grades.) Rib chops, therefore, were the only cuts showing a significant difference in size (.01 level) relative to each of the variables investigated. But differences in size relative to selected variables were significant more often than were differences in the lean-ratio cited previously.

Correlation Analysis Simple correlation yielded no significant relationships between (1) size of chops and carcass weight, or between (2) lean-ratio and carcass weight. Significant relationships were found, however, between (3) lean-ratio and cut size.

PROCUREMENT CONSIDERATIONS

Lamb Buying Methods

Retail grocery stores customarily have alternate means of purchasing meats as well as a variety of sources. Among the 210 sampled stores, variations in purchasing methods were apparent between cities and by types of stores (Table 18). Buying methods were classified as (1) central meat buyers (purchasers for chains or affiliated groups, usually buying for delivery to or distribution from a retail-owned or

TABLE 18.—Percentage Distribution of Meat Buying Methods, 210 Retail Grocery Stores, Eight Ohio Cities, March 31 - June 16, 1961.

Store Type and Method of Purchase	Canton	Cincinnati	Cleveland	Columbus	Dayton	Lima	Toledo	Youngstown	Total or Average
Chain Stores (No.)	10	10	21	23	10	6	10	10	100
Phone Order	10.0	10.0	29.0	3.0	10.0	0.0	20.0	0.0	12
Store Buyer	0.0	0.0	0.0	9.0	0.0	0.0	0.0	0.0	2
Central Buyer	80.0	80.0	66.0	79.0	90.0	50.0	0.0	90.0	69
Other ¹	10.0	0.0	0.0	0.0	0.0	0.0	10.0	0.0	2
No Answer	0.0	10.0	5.0	9.0	0.0	50.0	70.0	10.0	15
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100
Affiliated Chains (No.)	3	7	9	15	3	7	5	3	52
Phone Order	67.0	72.0	78.0	7.0	0.0	14.0	80.0	0.0	39
Store Buyer	0.0	0.0	11.0	13.0	0.0	0.0	0.0	0.0	6
Central Buyer	0.0	14.0	11.0	46.0	0.0	14.0	0.0	0.0	19
Other ¹	0.0	0.0	0.0	7.0	100.0	14.0	0.0	100.0	15
No Answer	33.0	14.0	0.0	27.0	0.0	58.0	20.0	0.0	21
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100
Unaffiliated Independents (No.)	7	3	10	12	7	7	5	7	58
Phone Order	71.0	0.0	90.0	17.0	29.0	0.0	40.0	43.0	40
Store Buyer	0.0	0.0	0.0	8.0	0.0	0.0	0.0	0.0	1
Central Buyer	0.0	67.0	0.0	8.0	0.0	0.0	0.0	0.0	5
Other ¹	0.0	0.0	0.0	17.0	29.0	29.0	0.0	57.0	16
No Answer	29.0	33.0	10.0	50.0	42.0	71.0	60.0	0.0	38
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100

¹Seventy-five percent of those using "other" purchased from contact salesmen.

affiliated wholesale warehouse), (2) store buyers (proprietors or meat department buyers purchasing by inspection only and representing only one or a few stores), (3) telephone orders (representing purchases by store buyers by description and usually for one store only), and (4) "other" methods, which included route trucks, meat salesmen, or some similar means where a contract was initiated by the seller rather than the buyer of meat.

Corporate chain stores purchased lamb through central meat buyers in about 70 percent of all purchases. The high incidence of this method is a reflection of chain policy in many instances where not only the meat purchases but the meat programs as well are determined for the individual store by the central or regional office. Telephone orders were second in importance, being employed for 12 percent of all purchases. Lamb purchases by individual store buyers, or as a result of contacts by meat sellers of one kind or another were almost non-existent.

Affiliated chains did not pursue the advantages of affiliation as much as might have been anticipated and employed central buyers only for about 20 percent of all lamb purchases. Most lamb purchases by affiliated chains apparently were made by telephone order. Store buyer purchases were relatively infrequent, but purchases by "other" means as a result of seller contracts accounted for about 15 percent of all sales.

Telephone orders accounted for the great majority of lamb purchases among independents. Central buyers were reported by some independents as a means of purchasing lamb. This may have been a misunderstanding, or it may have represented multi-unit operations not numerous enough to classify properly under the definition of a chain.

Source of Lamb

Sources of lamb purchases were divided into four area classifications, namely, (1) within the city, (2) within an area encompassed by a 30 mile radius, (3) inside the state but outside the area, and (4) "other" purchases, the latter being a miscellaneous category indicative of out-of-state purchases and mixed procurement sources.

Among corporate chains, Cincinnati was the only city where most purchases of lamb were obtained from suppliers within the city (Table 19). Chains in Canton, Cleveland, and Dayton relied principally upon "other" sources, most of which were out-of-state national packers (foot-note, Table 19).

TABLE 19.—Percentage Distribution of Meat Procurement Methods, 210 Retail Grocery Stores, Eight Ohio Cities, 1961.

City	Canton	Cincinnati	Cleveland	Columbus	Dayton	Lima	Toledo	Youngstown	Total
Chain									
Total Stores	10	10	21	23	10	6	10	10	100
No Information ¹	—	10.0	9.5	13.0	20.00	66.7	90.0	10.00	23.0
City ²	—	60.0	33.3	30.4	—	—	—	—	20.0
Area	40.0	—	—	34.9	—	—	—	—	19.0
State	10.0	—	—	—	10.0	—	10.0	—	3.0
Other ³	50.0	30.0	57.2	21.7	70.0	33.3	—	—	36.0
Affiliated Chain									
Total Stores	3	7	9	15	3	7	5	3	52
No Information	33.4	14.3	—	53.3	—	28.6	20.0	—	25.0
City	33.3	71.4	77.8	13.3	33.3	—	—	—	30.88
Area	—	—	—	20.0	66.7	14.3	40.0	33.3	17.3
State	—	—	—	6.7	—	—	—	—	1.92
Other	33.3	14.3	22.2	6.7	—	57.1	40.0	66.7	25.0
Unaffiliated Independents									
Total Stores	7	3	10	12	7	7	5	7	58
No Information	71.5	33.3	70.0	75.0	57.1	71.4	60.0	—	51.7
City	—	66.7	30.0	—	14.3	14.3	—	—	12.1
Area	28.6	—	—	8.3	14.3	—	—	71.4	13.8
State	14.3	—	—	—	—	—	20.0	—	3.5
Other	28.6	—	—	16.7	14.3	14.3	20.0	28.6	19.0

¹Percentage of stores either not having lamb or withholding information.

²Percentage of total number of stores for each affiliation and city.

³In this classification, 35 percent of the corporate chains, 27 percent of the affiliated chains, and 24 percent of the unaffiliated chains purchased lamb out of the state. The remainder of each store type in this classification purchased from the three alternative in-state sources

Affiliated chain stores in Canton, Cleveland and Cincinnati made major purchases of lamb from within the city limits and made secondary purchases from "other" sources. Affiliated chains in Dayton relied mainly on area purchases.

Unaffiliated independent stores displayed no strong tendency toward any one source of purchases. Many independent store meat managers apparently believed that their sources were extraordinary and were much less willing to divulge information on this matter than were chain or affiliated chain spokesmen. "Other" sources accounted for perhaps one in five purchases, but purchases from within the city or the area occurred almost as frequently.

Type of Lamb Carcasses Purchased

There is no set method of breaking a lamb carcass.⁵ The method varies considerably among regions of the United States. Often, a local packer will wholesale a lamb carcass in a different form than will a national packer, and both will be attempting to meet the demands of their buyers. Carcass classifications used in this investigation were (1) whole carcass, (2) sides, (3) halves (fore or hind saddles), and (4) "other" (racks, legs, shoulders, etc.).

All three store types purchased more whole lamb carcasses than any alternative forms (Table 20). Chain stores made the largest percentage purchases of whole carcasses, affiliated chains preferred relatively more sides or saddles, and unaffiliated independents showed the greatest comparative preference for saddles relative to other carcass portions. The "other" classification was most used by chains and secondly by unaffiliated independents. It was used as a means for them to round out necessary orders with supplementary cuts of lamb.

⁵Lamb Cutting and Merchandising Manual, American Sheep Producers Council, Denver, Colorado: Chapter 2.

TABLE 20.—Percentage Distribution of Form of Lamb Carcasses Purchased, 210 Ohio Retail Grocery Stores, by Store Type, 1961.

Form of Lamb Purchased	Chains	Affiliated Chains	Unaffiliated Independents	Total
Whole Carcass	68.0	42.3	36.2	52.9
Side	6.0	21.2	5.2	9.5
Half	12.0	21.2	17.3	15.7
Other ¹	14.0	9.6	10.3	11.9
No Answer ²	0.0	5.7	31.0	10.0
Total	100.0	100.0	100.0	100.0

¹Refers to legs, racks, shoulders, etc.

²Stores that withheld information or did not handle lamb

TABLE 21.—Total and Average Carcass Weight of Lamb Purchased, 144 Retail Grocery Stores, Eight Ohio Cities, 1961.

Type of Store	Number of Stores	Total Pounds of Carcass Purchased	Average Carcass Weight ²
Chain	76	3226	42.45
Affiliated Chain	34	1440	42.35
Unaffiliated Independents	34	1317	38.74
Total	144	5983	(Average) 41.55

¹Due to store policy, some stores withheld information. Other stores did not carry lamb.

²Weighted arithmetic mean.

Weight of Lamb Carcasses

There was no evident difference between the average weight of lamb carcasses purchased by corporate chain stores and affiliated chain stores (Table 21). But the average weight of lamb carcass preferred by unaffiliated independent stores sampled was lighter than that preferred by the other two store types. Regardless of the weight of carcass preferred, store managers justified their choice with reasons like "best quality", "less waste", "more flavor", etc. Some indicated that the specific weights of their choice yielded less waste.

Grade of Lamb

Data were collected regarding preferences of retail meat buyers as to lamb grades. Four categories were used, namely, (1) Federal grades, (2) store grades, (3) no grade, and (4) "other" which included packer grades, (Table 22). Data were sorted by city and by store type. All three store types preferred Federal grades of lamb. Second preference was for "other" grades but was noticeably less than that for

TABLE 22.—Percentage Distribution of Lamb Grade Preferences by 210 Ohio Retail Grocery Stores, 1961.

Preferred Grade	Chain Stores	Affiliated Chain	Unaffiliated Independents	Average
Federal Grade	81.0	77.9	57.0	73.7
Store Grade	2.0	0.0	0.0	1.0
Other Grade ¹	3.0	1.9	3.4	2.9
No Grade	2.0	0.0	3.4	1.9
No Answer	12.0	19.2	36.2	20.5
Total	100.0	100.0	100.0	100.0

¹Includes packer grades.

Federal grades, and was used most by unaffiliated independents. Local store managers stated "consumer demand", better quality", and "more uniformity" as principal reasons for choosing Federal graded lamb. Lamb having no grade was usually obtained from a local plant supplying the retail outlet.

PRODUCTION AND SLAUGHTER

Trends and Potentials

The volume of sheep and lamb slaughter in Ohio has declined. In 1960 there were only about nine lamb slaughterers of consequence in the state and only three that killed over 15,000 head. Lamb production also has declined in the state over the past decade, though sheep and lamb numbers have increased in large, scattered areas East of the Mississippi River (Charts A and B). Areas of heaviest marketings, however, are not near points of slaughter. Total lamb slaughter is only about 30 percent of production and the bulk of the annual lamb crop is shipped live to out-of-state packers, mostly in the East. Live lambs, therefore, are exported to distant packers, lamb and mutton are imported from packers outside the state, consumer demand for lamb continues to weaken, and the retail offering of a product of inconsistent quality is erratic.

Meat packers and buyers for retail stores in the Cleveland area sample were interviewed with regard to these characteristics of the Ohio sheep and lamb industry.

Meat Buyers Discussions of lamb procurement sources and policies with retail meat buyers revealed that the major portion of lamb was purchased from large national packers in order to realize levels of volume and product uniformity which were difficult or impossible to obtain from Ohio packers. Some buyers additionally considered Ohio lamb to be over-finished and therefore associated with lower acceptance levels and higher merchandising costs. When asked to explain the weak demand for lamb, buyers were prone to talk instead in terms of supply limitations and inadequate retail displays and promotion. They judged these limitations to be associated with retail meat department managers who entertained a low opinion of lamb relative to competing meats. Considerable differences in amounts of retail lamb sales seemed to be explained to buyers' satisfactions by the amount of display space and the extent of promotion allotted to lamb by retail managers. Finally, buyers indicated also that consumers often regarded lamb as an expensive meat.

CHART A

Total Sheep and Lambs Per Rural Square Mile, 1959.

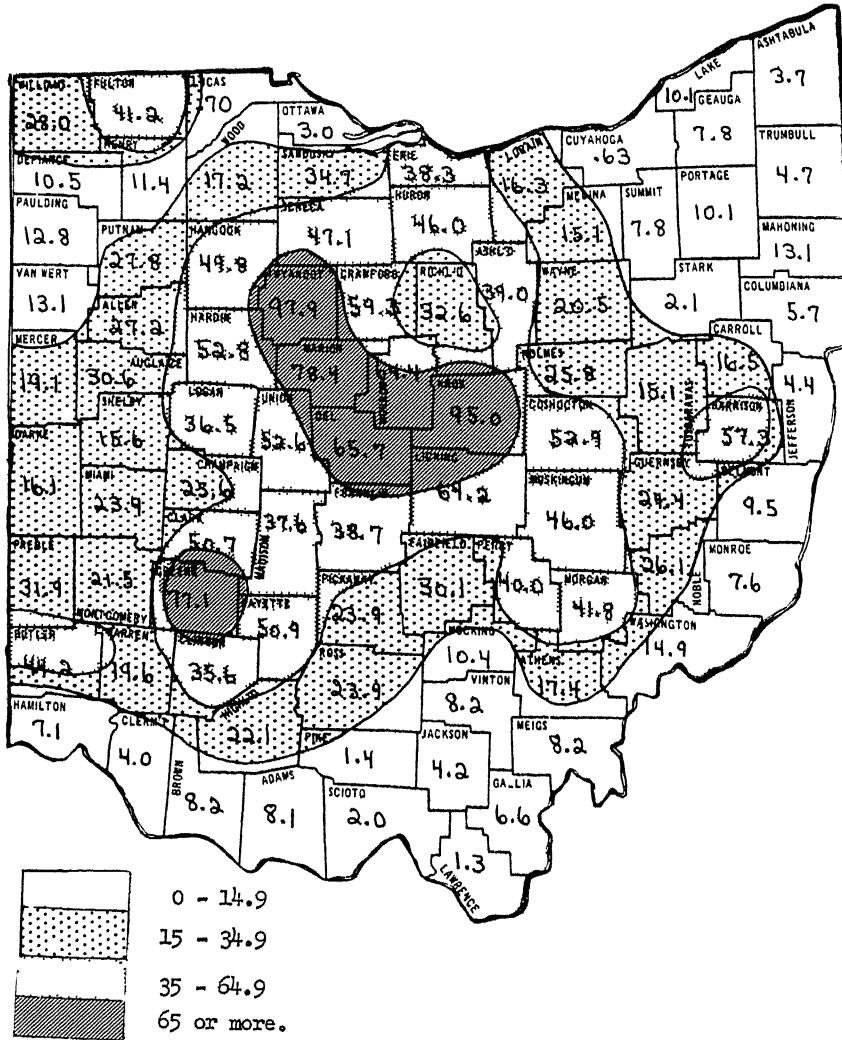
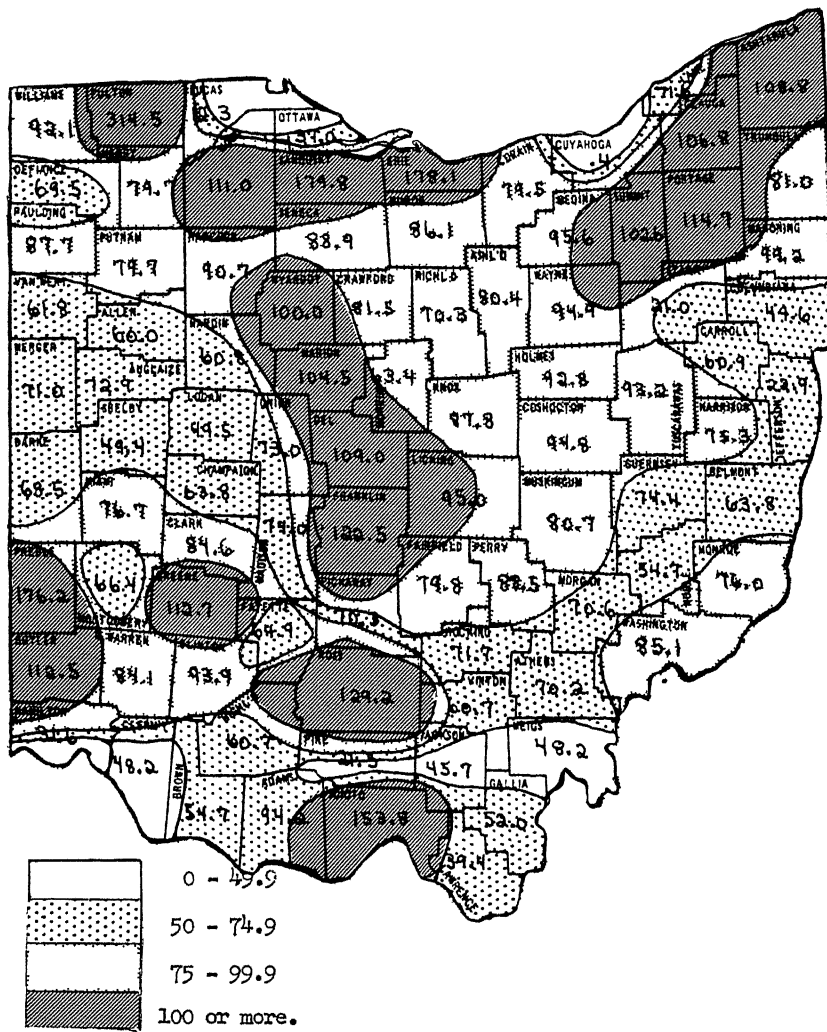


CHART B

Total Sheep and Lambs Per Rural Square Mile, 1959 as a Percent of 1949. 1949 = 100.



STATE AVERAGE - 81.8

Source Census of Agriculture

Meatpackers Packers emphasized high labor costs and unsatisfactory union contracts as principal reasons for terminating lamb killing operations. All packers interviewed agreed that, with large volume, a profit could be realized from slaughtering lambs. This would, among other things, eliminate problems stemming from guaranteed minimum work weeks and would also result in lower unit costs associated with adequate supplies, permitting fuller and more efficient use of facilities. But a remaining problem, these packers contended, was that the demand for lamb had decreased significantly due to the disintegration of various nationality groups in the Cleveland area.

But it remains true that great quantities of lambs are shipped live from Ohio to Eastern destinations. In terms of supply concentrations alone, an unexploited potential for supply-oriented slaughter to supply either in-state or out-of-state markets exists in Ohio. There are alternative locations in the state that could support slaughter operations approaching 50,000 head per year by slaughtering fewer than half the total lamb marketings within a 30- to 50-mile radius of the plant location (Chart C). Labor costs and skills might be less of a problem than those associated with evident variations in lamb quality and seasonality of production.

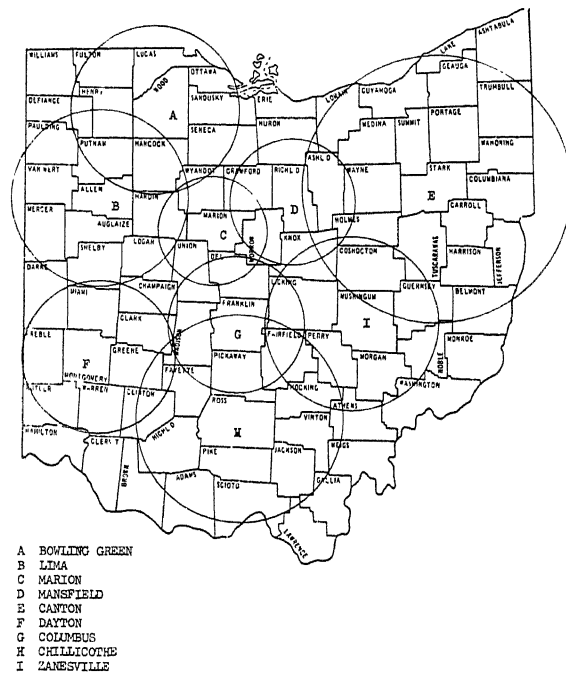


CHART C.—Areas containing approximately 100,000 sheep and lambs, 1960.

CONCLUSIONS AND RECOMMENDATIONS

The Ohio sheep and lamb industry needs a vigorous program of re-appraisal and re-education among producers, packers and wholesalers, retailers, and consumers if Ohioans wish to maintain this industry at a level of interregionally competitive strength.

Much of the difficulty stems from a weakened demand for lamb, many of the reasons for which rest in the complexities of changing consumer tastes and preferences and the rigorous competition afforded by substitute specie meats. But it is not clear that "consumers are directing the economic order" of this Ohio industry. It seems that early stages of industry disintegration are accompanied by lethargy in the face of profitable alternatives, that market structure departs radically from competitive norms, that marketing efficiency and pricing accuracy decrease,⁶ and that supply becomes erratic and of unpredictable quality and uniformity. Moreover, it seems that such forces become self-generating and that supply response becomes less a function of consumer demands than one of response to the aggregate malfunctions of a disabled industry. As conditions stand, the communication permitted by neither prices nor grade standards provides adequate assurance that required levels of quality and uniformity will be forthcoming.

Under such conditions, meat merchandisers' lack of enthusiasm for the product probably is no greater than that of their co-workers in other sectors of the trade, but it is of more strategic importance in maintaining the critically important liaison between consumers and producers wherein demands and performance expectations are initiated. High consumer income and related non-monetary population characteristics are associated with substantially lower levels of lamb consumption in the sampled Ohio cities than in similar metropolitan centers of the United States where lamb consumption is greatest. Low levels of lamb availability may reflect as much the performance of a disabled industry as a declining consumer demand and, under such conditions, availability may serve to limit rather than augment Ohio lamb consumption.

Educational and promotional efforts have been demonstrably successful in raising consumption levels. Lamb promotion campaigns in Cleveland have been particularly successful, and if the achievement has

⁶Brunthaver, C. G., Jr., "A Study of the Ohio Lamb Marketing Structure, With Particular Emphasis on Competitive Bidding Versus Negotiated Pricing Systems," unpublished doctoral dissertation, The Ohio State University, 1960.

been temporary, so, as often, has been the effort. Sound consumer education may be of a more enduring nature. Retail managers and merchandisers are as much subject to enlightenment perhaps, as are customers in terms of preparation, costs, nutritional and dietary advantages, and inherent product versatility. Nationality and religious groups are an asset to the sheep and lamb industry and their disintegration can be a serious loss should traditional diet patterns be lost. Perhaps diet patterns are easier maintained than rebuilt.

The unexploited potential resting in large reservoirs of Ohio lambs moving of necessity to distant slaughter points needs to be re-emphasized to Ohio meatpackers who recognize the advantages of location near supply sources, particularly where a few buyers are dominant.⁷ It might be appropriate to encourage national packers who have greater locational flexibility to consider such possibilities. Finally, producers could benefit from encouragement to participate actively in production and progeny testing programs as a means of obtaining a more uniform product.

It appears that the major need at present is action in bridging the gap between existing knowledge and its application in the trade.

⁷Brunthaver, C. G., Jr., *ibid.*