ANALYSIS OF THE TEXAS RETAIL AND PROCESSOR MARKETS FOR TURKEY PRODUCTS.

A Report to the
Texas Turkey Federation

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Texas Agricultural Market Research and Development Center
Department of Agricultural Economics and Sociology
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ANALYSIS OF THE TEXAS RETAIL AND PROCESSOR MARKETS FOR TURKEY PRODUCTS

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I. INTRODUCTION

Texas has been a major turkey production area for many years. Its relative rank nationally, however, has undergone change. As of 1945 and 1950, Texas was the second largest producer with a total of 4.6 and 4.4 million birds respectively. In 1951 output declined to 3.2 million birds and the state's national rank dropped to fifth. Since that time it has remained near the same rank compared to other states, although production has expanded to the 5 to 8 million bird range, Table 1. Thus, in recent years, market outlets for expanded production have had to be found.

Compounding the above market expansion problem has been recent shifts in the market for turkey products. Consumers have become increasingly interested in convenience food products--and turkey is no exception. As will be cited later in more detail, the market for turkey parts and for further processed turkey products has grown steadily and appreciably in the United States over the last five years.

Awareness of the foregoing situation motivated the Texas Turkey Federation to request an analysis of the market for turkey products of all types in Texas. This was viewed as a first step in analyzing the

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[1] Assistant Professor and Professor, respectively, Department of Agricultural Economics and Texas Agricultural Market Research and Development Center.

TABLE 1.

PRODUCTION OF TURKEYS IN TEXAS,
SELECTED YEARS 1945-68

Year	Number of Birds	Texas Rank Among U. S. States
	Thousands	
1945	4,602	2
1950	4,423	2
1951	3,187	5
1952	3,677	4
1953	3,383	5
1954	3,006	5
1955	3,018	5
1960	3,929	7
1961	4,784	7
1962	4,074	5
1963	4,577	6
1964	4,858	6
1965	5,272	6
1966	6,397	6
1967	8,071	5
1968	7,205	Not Available

Source: U. S. Department of Agriculture, Agricultural Statistics, Washington, D.C., 1968.

existing marketing problems as well as opportunities that confront the industry. Afterwards, additional steps could be taken to improve market knowledge in or out-of-state to assist in formulating an effective marketing strategy for Texas turkeys.

Interest in market information was further strengthened by the fact that Texas producers make a sizable financial contribution toward national turkey promotion programs. It was felt advisable to assess the relative need for local versus out-of-state market promotion endeavors and the direction either or both should take.

The Texas Turkey Federation sought the assistance of the Texas Agricultural Experiment Station in obtaining the above noted Texas market analysis. The Texas Agricultural Market Research and Development Center at Texas A&M University, meanwhile, was established and the research project was assigned to it for design and completion. This is the final report of the research.

Texas has the prospect of remaining a major turkey producing area in the future according to at least two analyses of interregional aspects of turkey production and marketing. One analysis by Bawden, Carter and Dean at the University of California was made in 1965. Three analytical models were applied with the result that Texas continued to be a major supplier of turkeys.[1] Bawden made a further extension of the above study at the University of Wisconsin, with Texas still indicated as a major producer.[2]

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[1] D. Lee Bawden, H. O. Carter, and G. W. Dean, "Interregional Competition in the United States Turkey Industry," Hilgardia-Journal of Agricultural Science, Vol. 37, No. 13, University of California, June, 1966.

[2] D. Lee Bawden, "The Cost of Producing Turkeys: A Comparison Among States," Bulletin 558, University of Wisconsin, June, 1968.

Although interregional competition models have become quite sophisticated in design, and computers make their use more feasible than before, some limitations due to design simplification remain. Nonetheless, the broad indications generally are valid so long as the production and transportation costs used reasonably reflect existing conditions.

II. THE RESEARCH DESIGN

Design of research to measure and analyze a product market for an area as large as Texas is a formidable task. This is especially so if it is to be accomplished at a reasonable cost. Several alternatives were considered with final adoption of a plan to interview a state-wide sample of retail food supermarkets, and food chains, in order to measure the relative importance of various turkey product retail sales. A further phase included interviewing of the food buyer or manager of a statewide sample of restaurants and cafeterias as well as food service operations of hotels and motels. A third phase was a survey of wholesale brokers and distributors.

Following the above, a complete survey was made of all turkey processing facilities located in Texas, with the exception of a few minor specialized operations. A total of twenty-one were included.

For the retail food outlet survey all major metropolitan areas were included plus a probability sample of the remaining cities. As noted in Table 2, this resulted in a total of 31 cities being selected for survey interviews. A total of 878 retail establishments were represented in the completed survey.

It is not possible, within the framework of this report, to go into a further analysis of the statewide retail food handlers sampling design. Examination of the sample in terms of two major classifications--the number of establishments in the four major cities of Dallas, Ft. Worth, Houston and San Antonio versus the remainder of the state reveals a near optimum balance in the sample.

TABLE 2.

SAMPLE DESIGN FOR TURKEY RETAIL MARKET SURVEY IN TEXAS

Type	Number Included in Sample		
	Cities	Establishments	
		Design	Completed
Restaurants	31	100	102
Cafeterias	18	35	22
Hotels and motels	31	99	84
Independent supermarkets	31	99	90
Chain supermarkets	*		580
TOTAL			878

*All major chain supermarkets were included in the sample. Information was supplied by all central offices, except in a few relatively minor cases.

All interviews were conducted on a personal basis by staff members of the Texas Agricultural Market Research and Development Center and two market research graduate students working with the Center. The research questionnaires used were designed and field tested prior to their final adoption by the Center's staff. Interviewing of retail establishments occurred in the fall and winter of 1968-69. The turkey processors and wholesale distributors were surveyed during the spring and early summer of 1969.

Two deviations were made from the original research design. Rather early in the survey of wholesale distributors, it became evident that the amount of cross selling among firms that were general wholesalers and those that were brand representatives produced a set of figures that were not suited for the intended purpose. Therefore, the distributor phase was dropped from consideration.

The second deviation represented an addition to the sampling procedure. In order to establish a satisfactory base from which to expand the retail survey data to a state figure, a statewide telephone survey was instituted. The purpose was to determine the proportion of restaurants, hotels and motels that serve turkey. To be eligible for the earlier detailed survey of turkey product use, an eating establishment had to serve turkey. Therefore, a count of non-serving establishments was derived from a separate survey to fulfill that need.

III. RESULTS OF THE RETAIL OUTLET SURVEY

Commercial Eating Establishments

A portion of the study was a survey of commercial eating establishments in Texas. The basic objective was to expand the results of the survey to a state consumption total sold through eating establishments. Restaurants, hotels and motels with restaurants, and cafeterias were defined as the universe for commercial eating establishments.

The sample survey included 102 restaurants, 84 hotels or motels with restaurants, and 22 cafeterias, for a total of 208 eating establishments.

Table 3 shows the results of the survey in terms of the mean average number of pounds served per establishment for 1968. The results are disaggregated in this table on the basis of city size.

In order to expand the results of the sample survey to an approximation of total state consumption through all commercial eating establishments, the total number in Texas of each type establishment is multiplied by the approximate percentage of each type that serve turkey. This, in turn, is multiplied by the mean average number of pounds served per establishment with the result being an approximation of the total state consumption of turkey through all commercial eating establishments.

Table 4 shows the total number of each type of commercial eating establishment in the state and the approximate percentage of the total that serve turkey.

The information contained in Tables 3 and 4 was utilized to approximate the total number of pounds of turkey served through all eating establishments in 1968. This estimate is presented in Table 5.

TABLE 3.

MEAN AVERAGE NUMBER OF POUNDS OF TURKEY SERVED PER ESTABLISHMENT, 1968, TEXAS, BY CITY SIZE, BASED ON SAMPLE SURVEY.

Type of Commercial	City Size	
	Major City*	All Other Cities
	---Pounds---	
Restaurants[a]	4,726	1,637
Hotel or Motel with Restaurant[a]	5,463	2,082
Cafeterias	7,304	6,832

* Major city is defined as Dallas, Ft. Worth, San Antonio, and Houston.

[a] Throughout this study, restaurants were defined as retail establishments selling prepared foods and drinks for consumption on premises or for immediate consumption. This definition conforms to the U.S. Bureau of Census definition.

Source: Sample Survey.

TABLE 4.

TOTAL NUMBER OF EATING EATABLISHMENTS BY CITY SIZE IN TEXAS, BY TYPE AND PERCENT THAT SERVE TURKEY, 1968.

Type of Commercial Eating Establishments By City Size	(1) Total Number of Establishments in Texas	(2) Percent of the Total that Serve Turkey	(3) Total Number of Establishments that Serve Turkey (Column 1 times column 2)
Major City[a]			
Restaurants	2,167	42.0%	910
Hotels or Motels[b] with Restaurants	338	89.0%	301
Cafeterias	295	100%	295
All Other Cities			
Restaurants	5,080	30.0%	1,524
Hotels or Motels[b] with Restaurants	927	87.0%	807
Cafeterias	405	100%	405

[a] Major city is defined as Dallas, Ft. Worth, San Antonio, and Houston.

[b] Estimate of total number of hotels and motels with restaurants for 1968 in Texas derived from 1963 U. S. Bureau of Census data and information from the Austin office of the Texas Hotel and Motel Association.

Source: Sample survey and estimates from U. S. Bureau of the Census, Census of Business, 1967 Retail Trade: Texas, BC67-RA45, U. S. Government Printing Office, Washington, D.C., 1969, p. 45-7.

TABLE 5.

APPROXIMATE NUMBER OF POUNDS OF
TURKEY SERVED THROUGH ALL
EATING ESTABLISHMENTS IN TEXAS, 1968

Type of Commercial Eating Establishment	Number of Establishments in Texas that Serve Turkey	Mean Average Number of Pounds Served per Establishment	Total Number of Pounds Served
Major City			
Restaurant	910	4,726	4,300,660
Hotel or Motel with Restaurant	301	5,463	1,644,363
Cafeteria	295	7,304	2,154,680
All Other Cities			
Restaurant	1,524	1,637	2,494,788
Hotel or Motel with Restaurant	807	2,082	1,680,174
Cafeteria	405	6,832	2,766,960
STATE TOTAL	4,242	XXX	15,041,625

Source: Tables 3 and 4.

Of course, the estimate of total state consumption in Table 5 is not considered to be completely accurate, but it does give an approximation that somewhere between 15 and 16 million pounds of turkey were served through commercial eating establishments in Texas during 1968.

Other interesting statistics from the sample survey concern the percent of total turkey sales through commercial eating establishments that was believed from Texas, and the type of turkey purchased by these establishments. Based on the survey data, 74.4 percent of total turkey purchased by commercial eating establishments in Texas during 1968 was believed to be Texas turkey. Conversely, 25.6 percent was believed to be from outside the state.

Table 6 shows the percent of each major type of turkey purchased by commercial eating establishments during 1968. Note that 20.7 percent of all purchases were other than whole birds.

TABLE 6.

PERCENT OF EACH MAJOR TYPE OF TURKEY PURCHASED BY COMMERCIAL EATING ESTABLISHMENTS IN TEXAS, 1968.

Type of Turkey	Percent of Purchases
Whole	79.3
Parts	9.3
Further Processed	11.4

One of the results of the survey that is of prime interest in the consideration of promotional programs is that about 12 percent of all commercial eating establishments except cafeterias in Texas serve turkey at Thanksgiving and Christmas only. This indicates that additional promotional effort directed toward restaurants and hotels or motels with restaurants could induce expansion of turkey sales through this type of retail outlet.

Supermarkets

Another portion of the study was a survey of both independent and chain supermarkets in Texas. The basic objective of this survey was to determine the percent of turkey purchases by these retail outlets that were from Texas, and also to indicate the proportion of purchases by supermarkets that were whole birds as opposed to parts or further processed.

The sample survey consisted of a total of 670 supermarkets in Texas, of which 90 were independent supermarkets and 580 chain supermarkets. The small independent grocery stores--the so-called "Mom and Pop" stores--and drive-ins were not included in the independent store group. These stores nationally sell between 20 and 30 percent of all food. Many do not have meat departments at all. Therefore their share of the turkey retail sales is likely less than 10 percent. Sampling of these small retail outlets was consequently ignored.

Based on the sample survey data, 77.7 percent of the total turkey purchased by independent and chain supermarkets in Texas during 1968 was believed to be Texas turkey. The remaining 22.3 percent was believed to be from outside the state.

The percentage of each major type of turkey purchased by both chain and independent supermarkets during 1968 is presented in Table 7. Note that 12.8 percent of all purchases were either parts or further processed.

As previously mentioned, 690 independent and chain supermarkets were included in the sample survey. There are approximately 1,150 independent

TABLE 7.

TYPE OF TURKEY PURCHASED BY
FOOD SUPERMARKETS, TEXAS, 1968.

Type of Turkey	Percent of Total Purchases
Whole	88.1
Parts	5.7
Roasts and Rolls	2.8
Sliced	1.0
Frozen Food Specialty	0.2
TV Dinners and Pot Pies	2.0
Canned	0.1
Other	0.1

Source: Sample Survey

and chain supermarkets in Texas, not including drive-ins and small grocery stores.[1] Using the sample survey information, approximately 17,500 pounds of turkey were sold per supermarket in Texas during 1968. Multiplying this average times the total number of supermarkets yields a state total for all supermarkets of approximately 20,125,000 pounds. This estimate, as the one for commercial eating establishments, should not be considered completely accurate.

All Retail Outlets

Combining the results of the expansion to state totals for commercial eating establishments and independent and chain supermarkets, an approximate total of between 35 and 37 million pounds of turkey were sold through these outlets in 1968. This total, of course, does not include turkey consumed in various institutions (such as hospitals or school lunch programs) or in-plant cafeterias.

Miscellaneous Survey Results

Other results of the survey are reported in the Appendix of this report. These results are primarily concerned with the attitudes of the managers and meat buyers in the retail establishments surveyed.

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1 1968 Directory of Supermarkets and Grocery Chains, Business Guides, Inc., New York, New York.

IV. RESULTS OF THE PROCESSOR SURVEY

Texas Processors

A total of 21 Texas processors were surveyed during 1969 in order to determine 1) where turkeys processed in Texas were being shipped 2) the composition of the output of Texas processing plants, and 3) whether or not they were being shipped to wholesalers, retail outlets, or further processors.

Approximately 58 percent of all turkey processed in Texas was shipped outside Texas, Table 8. This is a weighted mean average percentage based upon results of the survey of processors.

The percent of turkey processed in Texas that was shipped to various types of first receivers is noted in Table 9. Whereas, about 80 percent of the individually wrapped bulk turkey is going to retail outlets,virtually all of the bulk pack whole turkey is moving to further processors. Approximately 52 percent of the parts and 16 percent of the further processed is sold directly to retail outlets. It is important to note that 31.6 percent of all turkey processed in Texas is going to further processors while 56.1 percent is going directly to a retailer.

The composition of output of all turkey processing plants in Texas is reported in Table 10. Nearly 15 percent of all output is further processed turkey products. This 15 percent includes smoked whole turkeys. Of the total further processed output reported from the survey, approximately 25 percent was smoked whole turkey, which was nearly 4 percent of total output of all processors.

Information was also obtained from the survey concerning the source of processor's raw product procurement. During 1968, 99.4 percent of Texas processor's supply came from Texas.

TABLE 8

GEOGRAPHIC DESTINATION OF TURKEY
PROCESSED IN TEXAS, BY TYPE, 1968

Type of Turkey	Shipped To	
	Texas	Outside Texas
Whole Turkey	47.5[a]	52.5
Individually Wrapped	49.4	50.6
Bulk Pack	42.6	57.4
Parts	34.9	65.1
Further Processed[b]	14.1	85.9
All Turkey[c]	44.6	55.4

[a] Percentages cross total to 100 percent.

[b] Includes smoked turkey.

[c] Weighted mean average of whole, parts, and further processed.

Source: Processor Survey.

TABLE 9.

FIRST RECEIVERS OF TURKEY PROCESSED IN TEXAS, BY TYPE, 1968.[a]

Type of Turkey	Shipped To: Broker or Wholesaler	Retail Outlet	Further Processed	Other[b]	
	---Percent---				
Whole Turkey, Total	8.5	56.7	33.7	1.1	100%
Individually Wrapped	11.9	80.3	6.1	1.7	100%
Bulk Pack	0.2	0.4	99.3	0.1	100%
Parts	6.5	52.3	20.1	21.1	100%
Further Processed[c]	0.1	16.4	0.0	83.5	100%
All Turkey[d]	8.1	56.1	31.6	4.2	100%

a Percentages in this table do not include one processor in Texas who declined to provide information.

b Mostly exports from the United States and sales to institutions.

c Includes smoked turkey.

d Weighted mean average of whole, parts, and further processed.

Source: Processor Survey.

TABLE 10.

COMPOSITION OF TURKEY PROCESSOR OUTPUT, TEXAS, 1968

Type of Turkey	Percent of Total Output[a]
Whole	78.2
Parts	7.0
All Further Processed	14.8
Smoked Whole	3.7
Other Further Processed	11.1

[a] All percentages are based upon reports of several firms and therefore do not reflect the operations of any one firm.

Source: Processor Survey.

Texas Processing vs. U. S. Processing

The results of the survey of Texas processors can easily be compared with the national situation. The output of turkey by all federally inspected turkey processing plants is reported by the U. S. Department of Agriculture by months and annually. These data reveal some significant information.

Total turkey output in the United States increased by about 25 percent between 1963 and 1968, Table 11. The largest percentage growth in the total turkey market has occurred in turkey parts and next is further processed turkey products. The share of the total market accounted for by turkey parts and further processed items has advanced during recent years. In 1963, parts and further processed composed 20.6 percent of the total certified, while in 1968 they composed 35.6 percent of the total certified.

Since annual data include the Thanksgiving and Christmas season, a more complete picture of the increasing importance of parts and further processed over the last few years may be gained from data for the first 6 months of each year, Table 12. For the January-June period of 1963, parts and further processed items composed 64.0 percent of the total turkey certified. For the same period of 1968, they composed 91.4 percent of the total certified. Notice also that the general trend of whole birds as a percent of total certified has been downward since 1963.

The upward trend in parts and further processed turkey items for the United States in recent years is clearly evident from Tables 11 and 12. The data in these tables also suggest that for other than the holiday season, the parts and further processed segment of the total market is where the greatest growth is occurring.

TABLE 11.

UNITED STATES TURKEY UTILIZATION, ABSOLUTE AND AS PERCENTAGE OF TOTAL CERTIFIED, READY-TO-COOK WEIGHT, 1963-1968.

Year	Cut-up	Cut-up As Percentage Of Total Certified	Further Processed	Further Processed As Percentage Of Total Certified	Whole	Whole as Percentage Of Total Certified	Total Certified	(%)
	1,000 lbs.	Percent	1,000 lbs.	Percent	1,000 lbs.	Percent	1,000 lbs.	
1963	48,578	4.2	190,694	16.4	924,500	79.4	1,163,800	100
1964	60,249	4.8	211,009	16.8	981,900	78.4	1,253,200	100
1965	97,245	7.3	252,935	19.0	979,900	73.7	1,330,100	100
1966	121,337	8.2	334,732	22.6	1,021,800	69.2	1,477,900	100
1967	114,540	6.9	318,146	19.1	1,232,300	74.0	1,665,000	100
1968	135,077	9.3	382,754	26.3	937,767	64.4	1,455,598	100
% Increase 1963-1968	178.1		100.7		1.4		25.1	

Source: United States Department of Agriculture, "Selected Series for Poultry and Eggs," Economic Research Service, Washington, D.C., 1969.

TABLE 12.

UNITED STATES TURKEY UTILIZATION, ABSOLUTE AND AS PERCENTAGE OF TOTAL CERTIFIED, READY-TO-COOK WEIGHT, JANUARY TO JUNE, 1963-1969.

Year	Cut-up	Cut-up As Percent Of Total Certified	Further Processed	Further Processed As Percentage Of Total Certified	Whole	Whole As Percentage Of Total Certified	Total Certified	(%)
	1,000 lbs.	Percent	1,000 lbs.	Percent	1,000 lbs	Percent	1,000 lbs.	
1963	18,098	12.4	75,513	51.6	52,671	36.0	146,282	100
1964	19,638	12.2	90,899	56.5	50,327	31.3	160,864	100
1965	27,652	17.6	102,968	65.7	26,075	16.7	15[illegible],695	100
1966	34,302	16.6	143,788	69.7	28,161	13.7	206,251	100
1967	4[illegible],108	17.1	151,449	56.0	72,847	26.9	270,404	100
1968	52,112	22.3	161,324	69.1	19,872	8.6	233,308	100
1969	69,433	29.8	206,196	88.6	-42,888[a]	[a]	232,741	118.4
% Increase 1963-1968	187.9		113.6		62.3		59.5	

[a] Whole birds from storage.

Source: United States Department of Agriculture, "Poultry", Statistical Reporting Service, Crop Reporting Board, POU 2-1, Washington, D.C., 1963 to 1969 issues.

Consumers today are consistently demanding more convenient forms of agricultural products. Parts and especially further processed items other than smoked whole birds are the forms that meet this demand.

Comparing Tables 10 and 11 shows that Texas processing output is substantially different from the national output. For 1968, Texas output of whole birds averaged 78 percent of the total Texas output while tne national average output for whole birds was only about 64 percent of the United States output. Further processed output for the United States was approximately 26 percent of the total during 1968 while less than 15 percent of the total Texas processing output was further processed products. The parts output for Texas and the United States is roughly comparable (7 percent for Texas and about 9 percent for the United States).

V. SUMMARY, CONCLUSIONS, AND IMPLICATIONS.

Retail Phase

The results of the retail phase of the survey contain several interesting findings. Over 25 percent of total turkey purchases by commercial eating establishments were believed to be turkey from outside Texas. Purchases of turkey by all commercial eating establishments in Texas during 1968 were composed of approximately 79 percent whole birds, 9 percent parts, and slightly less than 12 percent further processed products. About 15 to 16 million pounds of turkey were sold through Texas commercial eating establishments during 1968. Results of the survey reveal that cafeterias, on a per establishment basis, serve the most turkey, averaging about 7,000 pounds sold per establishment per year. Of course, not all restaurants serve turkey. Depending on city size, somewhere between 30 and 45 percent of all restaurants[1] in Texas serve turkey at some time during the year. Also significant is that of the total commercial eating establishments in Texas, approximately 12 percent serve turkey during Thanksgiving and Christmas only. Therefore approximately 18 to 33 percent, depending upon city size, serve turkey other than those two holiday periods.

The composition of purchases by independent and chain supermarkets in Texas during 1968 was approximately 88 percent whole birds, 6 percent parts, and 6 percent further processed items. About 20 to 21 million pounds of turkey were sold through this type of retail outlet in 1968. Slightly

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[1] Restaurants, as in the U. S. Census of Business, are defined as retail establishments selling prepared foods and drinks for consumption on the premises or for immediate consumption.

less than ~~9~~78 percent of the total purchases were believed to be turkey from Texas.

Comparison of the results obtained from commercial eating establishments with supermarkets shows that supermarkets, on the average, purchase more whole birds (as a percentage of their respective total turkey purchases) than do eating establishments. Conversely, comparing only further processed purchases reveals that commercial eating establishments purchase a larger proportion of their volume as further processed products than do supermarkets.

With regard to promotion programs, only 29 percent of the managers or meat buyers of commercial eating establishments that serve turkey were familiar with the advertising aids made available through the National Turkey Federation.[1] This information, in combination with the information that about 12 percent of all commercial eating establishments serve turkey at Thanksgiving and Christmas only, indicates that opportunity exists for increased promotional effort directed toward this retail outlet segment to be of benefit.

Total sales of turkey in Texas through commercial eating establishments and independent and chain supermarkets was estimated to be about 35 to 37 million pounds.[2] With approximately 10 million persons in Texas during 1968, the estimated total per capita consumption in Texas would be from 3.5 to 3.7 pounds. This estimate is probably lower than the true per capita consumption in the state since turkey consumed in institutions and in-plant cafeterias is not included in the survey estimate.

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[1] See Appendix tables.

[2] As previously mentioned, this estimate excludes turkey purchased through small grocery stores, institutions, and in-plant cafeterias.

However, of more significance, is the fact that this estimate is substantially below the 1968 national average per capita turkey consumption estimate of 7.9 pounds.[1] These figures indicate that Texans probably do not consume as much turkey as in other areas of the United States.

Processor Phase

As is evident from Tables 11 and 12 of the preceding section, parts and further processed products have been an increasing percentage of the total United States turkey utilization during recent years. During 1968, 35.6 percent of the total turkey certified for slaughter under federal inspection was utilized as either parts or further processed. This compares with 21.8 percent for turkeys processed in Texas. There is no reason to forsee any future slowdown in the increases in relative importance of parts, and especially further processed products in the United States. Thus, adjustments in processor utilization in Texas are indicated if Texas processors wish to align their utilization more closely with consumption trends and processor utilization trends elsewhere in the United States.

The survey of Texas processors revealed that between 31 and 32 percent of all turkey processing plant output was shipped to further processors during 1968. However, only about 11 percent of the total output of Texas processors was further processed (excluding smoked whole turkey).[2] This indicates that a substantial amount of Texas turkey is being processed outside Texas.

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[1] United States Department of Agriculture, "National Food Situation," NFS-128, Economic Research Service, Washington, D.C., May, 1969, p. 21.

[2] Table 10, Section IV.

It is also interesting to note that of the total further processed output in Texas during 1968, nearly 86 percent of it was shipped outside the state. This would indicate that Texas processors are supplying some further processed turkey products to other areas in the United States. In light of recent national trends mentioned above, this market segment has the greatest potential for future expansion.

APPENDICES

APPENDIX A

RETAIL OUTLET

The survey questionnaire utilized for this study contained a number of questions concerning the attitudes toward turkey of the manager or meat buyer of the various retail establishments interviewed. During the retail outlet phase of the study only those establishments that purchased turkey were interviewed. Thus, all responses reported in the tables of this appendix are from only those establishments that purchased some form of turkey during 1968.

Commercial Eating Establishments

A majority of those eating establishments selling turkey felt that Sunday was the best day of the week to sell turkey, Table 1. However, 42 percent felt that there was no difference as to day of the week. The 47 percent that felt Sunday was the best day indicates that turkey still may have a significant "Sunday only" image among commercial eating establishments.

The most frequently occurring menu item among restaurants and cafeterias was turkey and dressing; next was turkey sandwiches, Tables 2 and 3. (Percentages do not add to 100 in Table 2 since a single establishment could, of course, have more than one turkey item on the menu). One reason for the frequency of occurrence for various types of turkey is apparently profit, Table 5. The most frequently occurring menu items were also the most profitable for the establishment.

RESPONSES TO SELECTED QUESTIONS- RESTAURANTS, HOTELS, AND CAFETERIAS: TEXAS TURKEY MARKET SURVEY

TABLE 1.

Question: What particular days, if any, do you find best for serving turkey?

Monday	.5%
Tuesday	.5%
Wednesday	3.5%
Thursday	2.9%
Friday	2.9%
Saturday	.5%
Sunday	46.8%
No difference	42.4%

TABLE 2.

Question: What different ways do you serve turkey?

Turkey and Dressing	85.6%
Turkey Sandwiches	64.9%
Turkey Salad	18.6%
Turkey Tetrazzini	6.2%
Turkey A La King	27.8%
Turkey Roasts	5.7%
Miscellaneous Servings	23.7%

TABLE 3.

Question: Which two ways are the most popular with your customers?

1.	Turkey and Dressing + Turkey Sandwiches	73%
	Turkey and Dressing + Turkey Salad	4%
	Turkey and Dressing + Turkey A La King	21%
	Turkey and Dressing + Turkey Roasts	2%
2.	Turkey Sandwiches + Turkey Salad	66%
	Turkey Sandwiches + Turkey A La King	34%

TABLE 4.

Question: What turkey dishes or items do you feel most profitable to you?

Turkey and Dressing	75.9%
Turkey A La King	12.7%
Other	11.4%

Question: Second most profitable

Turkey Sandwiches	82 %
Turkey Roast	7 %
Turkey Salad	10.2%
Turkey Tetrazzini	.8%

TABLE 5.

Question: What problems, if any, concerning turkey do you have in regard to:

A. Storage and Handling?

1. No problems - 95.9%
2. Other problems - Turkey has to be thawed before cooking
   Difficult to slice and bone
   Turkey products spoil too fast
   Storage facilities inadequate

B. Preparation and Cooking?

1. No problem - 96.4%
2. Other problems - Breast cooks first when roasted
   Slow to cook
   Proper thawing of whole turkey
   Require more labor to cook and prepare whole turkeys

C. Serving and Merchandising?

1. No problems - 96.4%
2. Other problems - Unfrozen turkey preferred
   Too much dark meat
   Difficult to slice breasts
   Requires more labor to prepare and serve

The extent of use and general attitudes of commercial eating establishments toward portion control turkey products is reported in Table 6. Nearly 66 percent of those interviewed did not buy any portion control turkey products. The most popular type portion control product was turkey rolls. Of those buying portion control products, 90 percent said they had no suggestions for improving this type product. Significantly, of those who did not buy portion control products, over 51 percent said they had no particular reason for not buying them. This suggests that there are many commercial easting establishments that may switch to portion control products in the future, given that labor pressures on retail establishments increase in the future. The most frequently occurring reason for not using portion control turkey products was that the management of the establishment felt portion control products to be of inferior quality to the same product prepared in their own establishments.

General attitudes toward the promotion of turkey in commercial eating establishments is reported in Table 7 and 8. Nearly 60 percent of the commercial eating establishments that serve turkey were not familiar with any advertising aids made available through the National Turkey Federation. Of those interviewed, 28 percent said they would use display materials for turkey in their establishments. In addition, 70 percent said they had no opinion. This indicates that, at least, the majority of commercial eating establishments are not <u>against</u> display material for turkey in their establishments. Menu clip-ons and place mats are apparently the most desirable type of display material.

Some suggestions for new or improved turkey products are tabulated in Table 9.

TABLE 6.

Question: Do you buy portion control turkey products? If so, what are they?

None	65.7%
Turkey Breasts	7.1%
Turkey Rolls	24.2%
Turkey Steaks	2.0%
Turkey Legs	.5%
Turkey Thighs	.5%

Question: If you do buy portion control turkey products, do you have any suggestions for improvement of the portion control type product?

No suggestions	89.7%

Some suggestions:

a. Portion type products with price factor comparable to chickens.
b. White turkey rolls of 5-6 lbs. Present rolls either 2 lbs. or 9-12 lbs.
c. Rolls that won't dry out too fast.
d. Rolls with more flavor.
e. Rolls with more gelatin.
f. Rolls with less gelatin.
g. Rolls sliced to fit slice of bread.
h. Rolls of better quality meats.

Question: If you don't buy portion control turkey products, what are your reasons for not using the portion type product?

No reasons	51.5%
Prefer whole turkey because of more profit, more types of dishes, easier to handle, better flavor and quality	34.5%

Other reasons:

a. Portion products too expensive	3.1%
b. Portion products quality inferior	5.2%
c. Portions products too dry	1.0%
d. Do not like pre-cooked products	.5%
e. Portion products have poor flavor	1.0%
f. Limited freezer capacity	1.0%
g. Portion products have too much gelatin	1.0%

TABLE 7.

Question: Are you familiar with the advertising aids made available through the National Turkey Federation?

Yes	29.3%
No	59.8%
No response	10.9%

TABLE 8.

Question: What would be your opinion toward the use of special display materials in your establishment for merchandising turkey dishes or items?

No opinion	70.2%
Display materials would help and would use to merchandise sale of turkey dishes or items	28.3%
Recommends display materials on holidays	1.5%

Question: What kind or type of materials do you feel would be most helpful?

No opinion	63.4%
Menu clip-ons	14.6%
Table tents and place mats	20.0%
Colored pictures on display of turkey dishes or items	2.0%

TABLE 9.

Question: What, in your opinion is needed in the form of new or improved turkey products?

No opinion	79.0%

Suggestions:
  a. Turkey rolls of better quality and flavor
  b. Rolls with less gelatin
  c. Products at cheaper price
  d. Sliced white meat in square cans (bread size)
  e. Larger turkey breasts
  f. More smoked turkey products
  g. Steaks cut from breasts

Supermarkets

The managers or meat buyers of both the independent and chain supermarkets were asked several questions concerning their opinion about t turkey merchandising. This portion of the appendix reports the responses to these questions.

The managers were asked their opinion regarding the increase (or decrease) in their sales of various turkey items over the past 5 years. A majority of managers responded that their sales of whole turkey, sliced turkey, turkey T.V. dinners, and turkey pot pies have increased in sales most during the past 5 years. Other items such as halves, quarters, backs, and necks have increased in sales the least, in the opinion of the managers.

Another question asked the managers was: "In your opinion, what share of the turkey retail market will be held by further processed items 5 and 10 years from now?" The responses to this question were categorized by percent of the turkey retail market that will be held by further processed products 5 and 10 years from now. For example, 13 percent of the managers felt that somewhere between 0 and 15 percent of the turkey retail market would be held by further processed products 5 years from now. However, only 6 percent of the managers felt that 0 to 15 percent of the market would be further processed 10 years from now. Slightly over 35 percent of the managers answered 16 to 39 percent 5 years from now compared with 22 percent who answered the same way for 10 years from now. Slightly less than 30 percent of the managers felt that further processed would be somewhere between 40 and 59 percent of the market 5 years from now compared to 28 percent of the managers who answered the same way for 10 years from now. In contrast, 2? percent of the managers felt that 5 years from now further processed items would hold somewhere between 60 and 100 percent of the retail market compared to 44 percent of the managers who answered the same way for 10 years from now. These responses show that- in the opinion of the managers of supermarkets -further processed products will continue increasing in importance in the total retail turkey market.

One of the questions asked the managers was what form or manner of merchandising they felt generated the most turkey sales during the summer, Table 10. A special or feature price on turkey was the method of merchandising most often mentioned by the managers, next was advertising turkey products. Managers also felt that items such as T.V. dinners, pot pies, and small turkeys or turkey slices sold best in the summer. Note that all of these items, except small turkeys, are further processed items. It is generally agreed among the supermarket trade that sales of whole birds, especially the larger ones, are important only during the holiday season. Further processed products however, will sell during the summer months.

TABLE 10.

Question: In your opinion, what form of turkey or what manner of merchandising seems to generate turkey or turkey product sales most in the summer?

Special price	31%
Advertising	16%
T. V. dinners	14%
Pot pies	13%
Special displays	9%
Small turkeys	5%
Turkey slices	4%
Turkey Bar-B-Q	4%
Turkey recipes	2%
Turkey breasts	2%

The managers were also asked if they were familiar with the advertising aids made available through the National Tureky Federation. The majority of managers, 64 percent, were not familiar with these aids. Here again, as with commercial eating establishment managers, a substantial number are not familiar with advertising aids available for turkey which indicates that improvement in communication to these managers is needed.

APPENDIX B

PROCESSORS

The questionnaire utilized for the processor phase of the study contained several questions pertinent to the potential for expanding total processing capacity in Texas. Each processor was asked: "In your plant, what is the physical factor most limiting to an increase in your output?" A total of 18 processors answered this question. Freezing capacity as the most limiting physical factor was mentioned by 7 of the 18 processors. The problem of adequate labor was mentioned by 3 processors, one answered that the kill line was most limiting, one said the dress line, and one said chilling. A total of 3 processors had no physical factor limiting increased output, and 2 said that all factors (kill line, dress line, packing, chilling, and freezing) were all equally limiting factors in increasing their output.

Only 3 of 18 processors felt they had no physical factor limiting an increase in their output. This indicates that with the labor and plants available in Texas today, processing output could not be increased substantially without further capital being committed to additional processing facilities.