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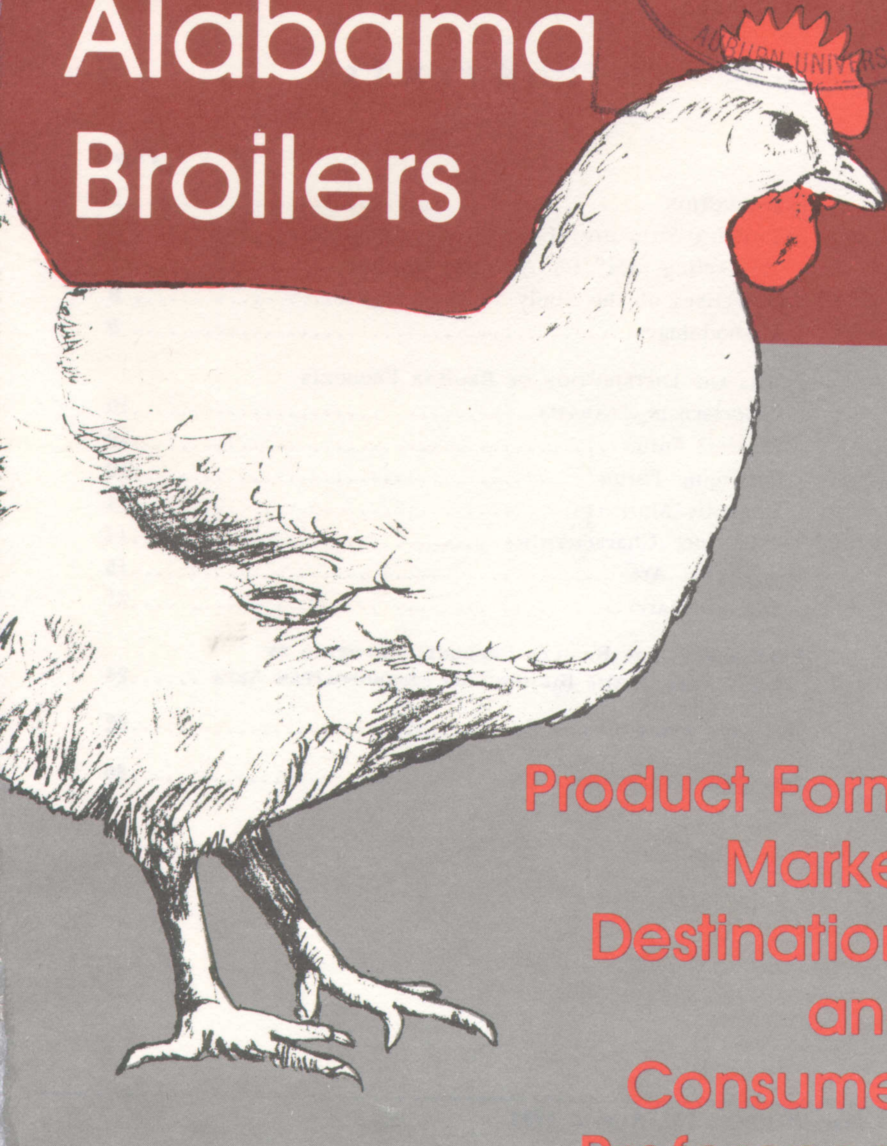
Alabama Broilers



Product Form, Market Destination, and Consumer Preferences

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Alabama Broilers: Product Form, Market Destination, and Consumer Preferences

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INTRODUCTION

The value of economic activity generated by the broiler industry in Alabama is generally underestimated. During the past 30 years the industry has been expanding in the State. It has developed to the extent that the estimated farm value of the industry's output is greater than that of any other farm enterprise (1). A total of 1.9 billion pounds of live broilers was grown in the State in 1980 (6). At an estimated farm price of 26 cents per pound, the farm value of broilers was approximately $495 million.

The value of processed broiler products further illustrates the importance of the industry in Alabama. From the 1.9 billion pounds of live broilers, processors obtained an estimated 1.4 billion pounds of ready-to-cook broiler products.[2] Using an estimated average wholesale price of 43 cents per pound for whole, ice-packed broilers in Alabama in 1980, the gross value was $655 million.

Alabama has been a surplus broiler producing area for many years. In 1980, plants in Alabama processed 496 million broilers, an increase of 74 percent over the number processed 15 years earlier (6, 4). In 1965, processors in the State sold 87 percent of the broiler products in out-of-state markets (4). The percentage rate changed very little during the next 15 years, as reflected by the 88.4 percent of broiler products sold in out-of-state markets in 1980. This study also found that plants in Alabama accounted for 12.8 percent of the broilers processed nationally. The State is currently ranked third in broiler production in the nation (6).

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[2]Calculated from an average liveweight of 3.85 pounds per broiler and a dressing percentage of 75 percent.

Evolving Structure of the Broiler Industry

The broiler industry in Alabama has experienced at least part of two and possibly three stages of an industry life cycle. During the 1940's and 1950's, the broiler industry was still in the stages of introduction and innovation. Although broilers were not a new product, innovations had, for the first time, enabled broilers to be processed and marketed in sufficient numbers to encourage new development and additional growth in the young industry.

The industry also experienced a period of rapid growth during the 1950's and 1960's. Consumers began to accept a preprocessed broiler which resulted in increasing sales. During this period in the development of the broiler industry, major emphasis was on production. Organizational innovations resulted in vertical integration of the industry, but little emphasis was placed on marketing broilers. This seemed to reflect the general attitude of those in the industry at that time, an attitude that was quite successful for many years since there were still many economies of size and scale to be realized in the industry. It was also during this era that the broiler industry's capability to supply sufficient amounts of broiler products was just beginning to approach the nation's continually growing demand.

Some evidence supports the argument that the broiler industry, as a whole, has not yet reached a state of maturity. Some individual broiler products, however, have reached the maturity stage in their production life cycles and, perhaps, some have even progressed to the point of reaching the declining stage of their life cycles. Specific products in the declining stage are the New York Dressed (NYD) broilers and nonbranded whole, ice-packed broilers. The New York Dressed broiler was the prominent form up until the mid to late 1940's. It had been introduced earlier in the century and had gained acceptance from consumers. The introduction of nonbranded whole, ice-packed broilers marked the NYD broilers' movement into the declining stage of its product life cycle. From the time of its introduction into the market, the whole, ice-packed broiler enjoyed an extraordinary and fairly continuous growth in demand. This was apparently the result of its acceptance by consumers over other new product forms introduced on the market.

Gradually, however, consumer preferences shifted. The shifts may have occurred because of consumers' desires to conserve more time or because of their desires to buy only the specific chicken parts needed, thereby economizing. For whatever reason, shifts in consumer preference effectively ended the growth stage in the life cycle of whole, ice-packed broiler products, which then entered the maturity stage. It now appears that the whole, ice-packed broiler product is nearing the end of this stage. Broilers now are processed into many different forms; in fact, broilers now are shipped in approximately 30 different forms. Indeed, it may be much more appropriate to refer to the different forms of processed broilers as broiler products instead of referring to them only as broilers.

Distribution channels used by poultry processors vary in the number of transfers of a product prior to reaching its destination, and as to the type(s) of transfer involved. Interviews with firm managers in the broiler industry provided information necessary to describe distribution channels in the industry. Distribution channels vary for several reasons. First of all, processors may be members of various types of companies. Some processing operations are part of multi-state companies. These processors may distribute the product, or it may be distributed at company-owned warehouses. Usually, when transfer of the product takes place, whether to an outside buyer or to a company-owned distribution operation, it is sold. In this way, each segment of the company-owned distribution channel stands on its own merits.

An independent poultry processor is responsible for the distribution of his own products. Each processor's distribution channel is very much like those of the company-owned distribution warehouse, the only difference being a somewhat more limited capacity to supply products. Figure 1 shows the distribution channels for poultry products and the approximate percentage of Alabama products distributed through each channel. Plant A1 and Plant A2 represent plants that are a part of the same company. Broiler products are distributed by this type organization through one or more of three major channels: direct sales, transfer of product to company-owned distribution warehouses, and independent distributors. Broiler products sold by the plant directly to buyers in the market at the product's market destination flow by means of direct sales. The product may also be transferred to company-owned warehouses, located to serve specific markets, for distribution. Finally, the products may be shipped to independent distributors. In 1980, 71.1 percent of Alabama's total broiler production came from large, stockholder-owned companies; the remaining 28.9 percent came from privately-owned firms.

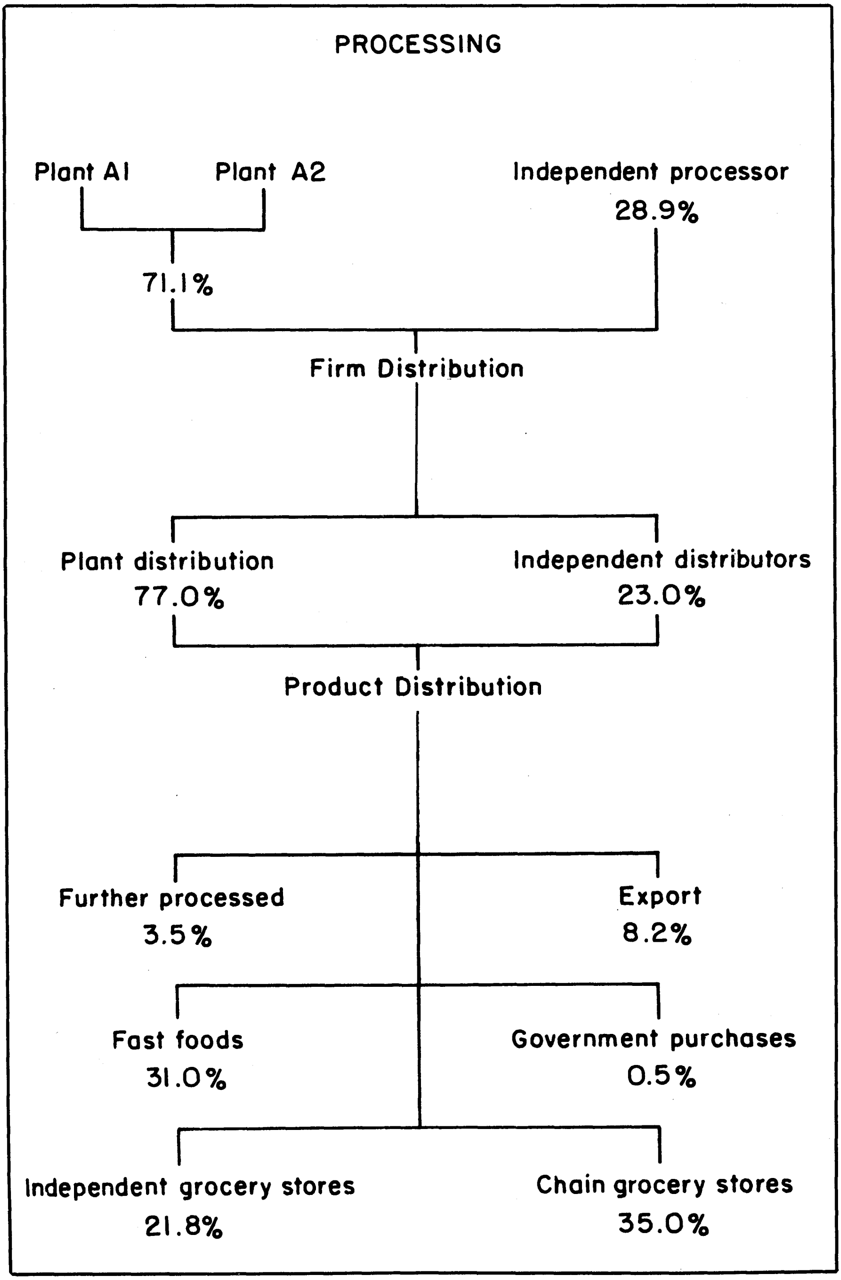

FIG. 1. Marketing and distribution channels for broiler products processed in Alabama, 1980.

The distribution channel that has experienced the greatest decline in the last few years is that of the independent distributor. The percentage of output shipped through this channel decreased from 71.5 percent in 1963 to 23 percent in 1980 (4). During this same period, company-owned distribution warehouses showed a dramatic increase in the amount of product handled, increasing from 8 percent in 1963 to 77 percent in 1980.

The two markets that showed the greatest increase in volume of product received were export and the fast foods industry. In 1963, none of the processors in Alabama reported any of their production being sold in the export markets (4). In 1980, this market outlet received 8.2 percent of the total broiler production of Alabama. Over the past decade and a half, the fast food industry has experienced an extraordinary rate of growth. In 1980, approximately 31 percent of the broiler products processed in Alabama were distributed through fast food outlets. The volume distributed through this channel was second only to the 35 percent of product marketed through chain stores.

"Marketing Mix" for Alabama Broilers

The term "marketing mix" is meant to describe a set of variable factors involved with marketing a product. E. Jerome McCarthy (2) has promoted the use of the four P's as the major factors involved in the marketing mix. The four P's stand for price, promotion, product, and place.

Two basic ways to gain some control of a market are "market segmentation" and "product differentiation." In dealing with a marketing mix for broilers in the State, it is helpful to first understand these concepts (2). The concept of "market segmentation" is that each market is made up of consumers who have varied demographic backgrounds and varied personal tastes and preferences. Upon close observation, it becomes evident that each market can be viewed as being made up of different pieces or segments of personal preferences. By trying to define and satisfy these various segments, new segments are often discovered. For example, if broiler processors use a market segmentation policy in selling their output, they soon realize there must be a limit placed on the number of product forms or consumer services long before all the individual consumer tastes and preferences are satisfied. The result of following this policy may be the establishment of more inelastic demand curves in several different market segments. The market segmentation approach does recognize that consumer demand may be different in various market segments. The focus of a company on smaller markets tends to provide greater consumer satisfaction and, in return, provides the company with a more stable or predictable market.

If a broiler company does attempt a market segmentation approach it will probably find that, because of some of the other companies in the industry following its lead, it will soon have to institute a strategy of "product differentiation," including the brand naming of products. Companies following marketing strategies that include emphasis on "product differentiation" are attempting to shift consumers' demand or preference from products produced by identifiable competitors or by other members of the industry as a whole to their own identifiable product. The broiler industry is now entering the threshold of this stage, even though there are distinct possibilities remaining in the market segmentation area. This is not to say that some of the broiler processors may continue to have some very good returns from the markets that do not desire additional changes.

There is evidence that members of the broiler marketing channels are realizing the importance of understanding the concepts of market segmentation. During the past 10 to 15 years, an increasing number of product forms have been introduced in broiler marketing. Marketing enables broiler processors to obtain premium prices for products. Marketing services not only apply to additional processing, packaging, pre-pricing, and shipping arrangements that are now available from most processors and usually associated with the retail grocery market, but also apply to the varying requirements of an expanding fast foods market, the export market, purchases by the United States government, and the market for processed foods. In each of these markets there is a potential for both volume sales of broilers and for premium prices for the product. Marketing also allows a broiler processing company to find its optimal utilization of these markets in accordance with its own marketing strategy.

Objectives of the Study

The purpose of this study was to examine the marketing of Alabama broiler products from both processors' and consumers' viewpoints. There were two major objectives in the study:

(1) To determine market destinations served by broiler processors in Alabama and proportions of product forms shipped to each destination, and
(2) To determine consumer preferences for various forms and retail packs of ready-to-cook broiler products.

Methodology

One goal of this study was to obtain information from broiler processors in Alabama concerning geographic locations of market areas and proportions of their output shipped to these various areas. Processors were also asked to describe the form products were in when they were shipped. The end result of this questionnaire was the ability to quantify where each processor's major market areas were and, by percentage of total plant capacity, what forms were shipped to each of the areas. Most data were obtained through a mail-out questionnaire with follow-up telephone interviews. In some cases, a personal interview was used to secure the information. Questionnaires were completed for 19 of the 20 broiler processing plants in Alabama, representing 97 percent of the total broiler processing capacity of the State.

Information concerning individual plant capacity of Alabama broiler processors was available from a previous study (5). From this information, the percentage that each broiler processing plant represented of the State's total capacity was calculated. It was then possible to enumerate the various outlet markets for the State, to calculate the percentage of Alabama's processing capacity shipped to each, and the form products were in when shipped.

The second objective pertained to consumer preferences. Demographic information from the Birmingham metropolitan area was furnished by *The Birmingham News/Post Herald* from a continuing market study conducted by a marketing research firm (3). The study identified seven specific geographic market areas. Residents in these areas were categorized by age, race, sex, number of children, occupation, income, and number of people over 18 years old in the area. The information obtained about these seven geographic market areas was used to weight the survey sample according to the number of people over 18 years old.

Analysis of demand for broiler products in the Birmingham metropolitan area was based on data collected by means of telephone interviews. This survey was constructed specifically to identify the forms of broiler products desired by residents in the

TABLE 1. NUMBER OF ADULTS AND PROPORTION, BY AREAS AND ADJUSTED SAMPLE SIZE, BIRMINGHAM METROPOLITAN AREA, SEPTEMBER 1978-JUNE 1979

Area	Population age 18 and older	Proportion of total	Adjusted sample size
	No.	*Pct.*	*No.*
1	138,000	26.5	57
2	44,000	8.5	20
3	107,000	20.6	44
4	91,000	17.5	38
5	63,000	12.1	26
6	27,000	5.2	20
7	50,000	9.6	21
1-7	520,000	100.0	226

Birmingham metropolitan area. The survey was also constructed to determine some of the reasons *why* broilers were desired in various product forms.

The proportion of the population residing in each of the seven demographic areas of Birmingham was used to weight the number of interviews to be conducted in each of these areas. Of the 520,000 persons 18 years and older in the Birmingham area, 26.5 percent, or 138,000 people, lived in area one, table 1. It was determined that a sample of 57 people was needed for area one. After this procedure had been completed for all market areas, those weighted to have less than 20 samples were increased so at least 20 would be drawn.

FORMS AND DISTRIBUTION OF BROILER PRODUCTS PROCESSED IN ALABAMA

Now more than ever before, Alabama broiler processors are dependent on markets which they have developed for their products. Because of the high percentage of total production sold in out-of-state markets, there is a need for processors in the State to have superior knowledge concerning the product mix of broiler products processed in Alabama. The product mix for broiler products is composed of both the physical form of products and the form or method of packaging.

Physical Forms

The continued success of the broiler industry in Alabama has not been a matter of chance. The broiler industry has continued to grow because its members have been able and willing to adopt the necessary changes. Among the most important of those were changes in forms of broiler products processed in the State. In

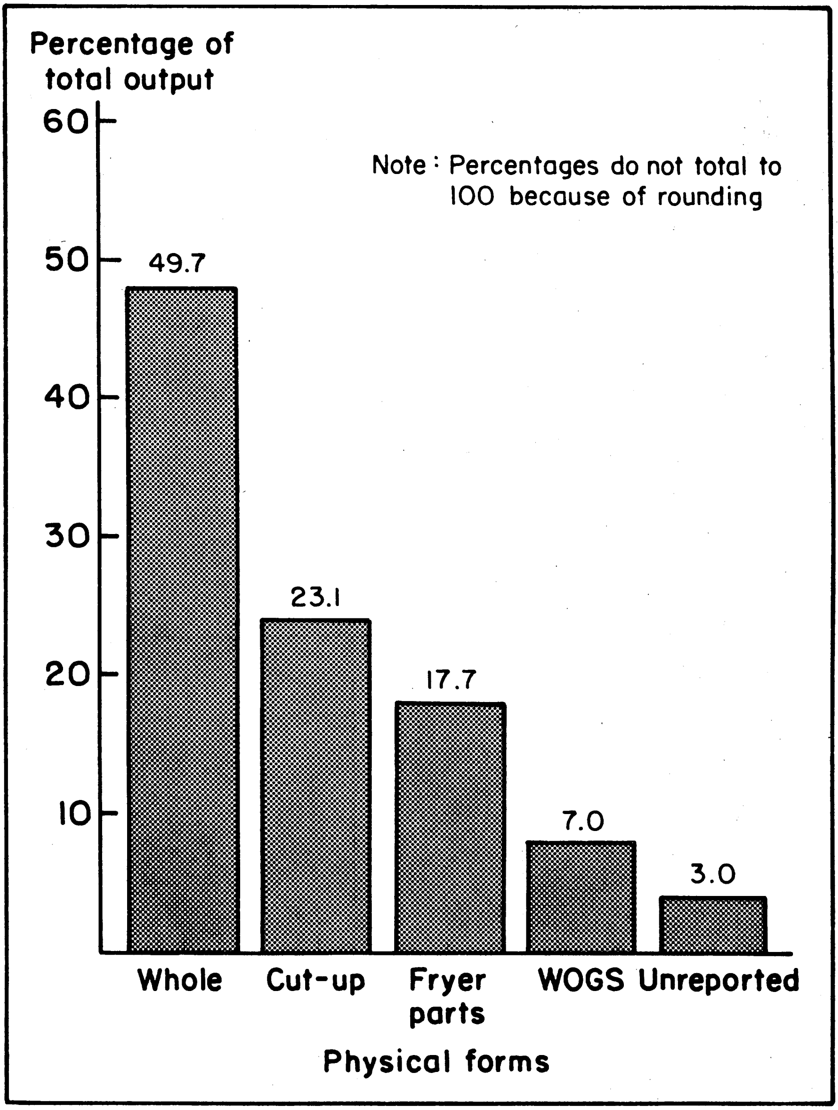

FIG. 2. Proportion of broiler products processed into each physical form, Alabama, 1980.

1965, 98 percent of the State's total production was marketed in the physical form of whole broilers. In 1980, however, whole broilers represented only 49.7 percent of the broiler products processed, figure 2.

During this same period, there were significant increases in the amount of output that was processed into cut-up, fryer parts, and whole birds without giblets (WOGS). The output of cut-up broiler products increased from 2 percent of total output to a level of 23.1 percent. The processing of broilers into fryer parts was not reported in Alabama prior to 1965, but fryer parts comprised 17.7 percent of the total broiler products processed in the State in 1980. WOGS is a broiler product form, the volume of which is closely correlated with increases in restaurant and fast food industries' growth. WOGS is also one of the physical broiler product forms that was previously unreported, but comprised 7 percent of Alabama's total broiler product output in 1980.

Large capital investments made by processors in equipment are necessary to process broiler products into new product forms and are evidence that long range commitments have been made in the State towards continued marketing of broiler products in these forms. Already, definite shifts have occurred in the amount of broiler products processed into various product forms.

Packaging Forms

An important detail in the marketing and distribution of broiler products is the packaging form in which they are shipped. This is a sector of the broiler processing operation in which there has been a great deal of change. Information obtained in this study showed that the predominant form of packaging broiler products continues to be the ice pack. In 1980, approximately 81.3 percent of the broilers processed in the State were shipped in an ice-packed form, figure 3. This represented a decrease from the 91 percent packaged in this form in 1963.

Through utilization of relatively new value-adding packaging forms, transportation costs were reduced and advantages in marketing and merchandising were realized in the broiler industry. The value-adding forms of packaging were: chill packed, vacuum packed, further processed, and frozen. Use of these forms has increased significantly during the past 15 years. Although freezing broilers is not a new form of packaging, there was a 21 percent increase in the volume of broiler products frozen. In addition, Alabama processors reported packaging 7.6 percent of their total output into the chill pack, vacuum pack, CO_2 pack, and further processing forms. Of the State processors' total output, 3.3 percent was chill packed, the most popular new product form.

The significance of changes in product form that have occurred in the broiler industry was most obvious when the changes in

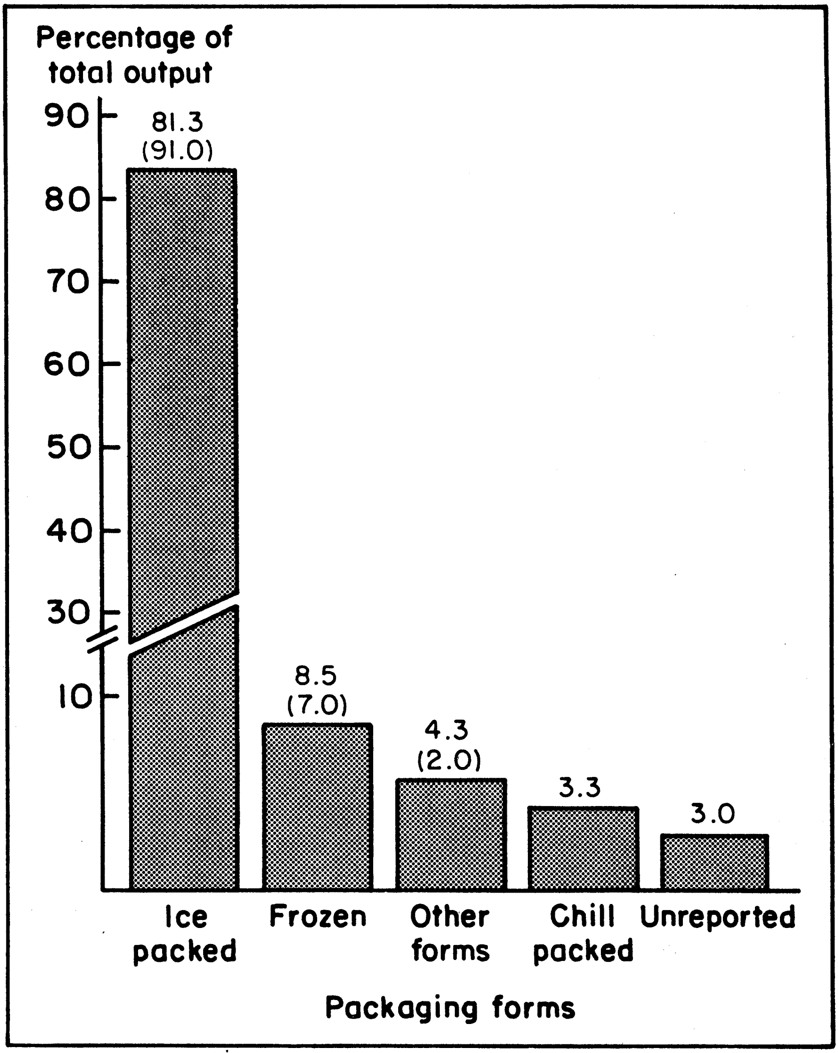

FIG. 3. Proportion of broiler output packed in various forms, Alabama, 1980 (figures in parenthesis are for 1963).

physical forms and packaging forms of broiler products were observed simultaneously. Figure 4 shows the percentage of broilers processed into each combination of physical and packaging forms in Alabama. When compared with information in the report by White and Leath, each combination became significant (4). Whole, ice-packed broilers continued to be the dominant method

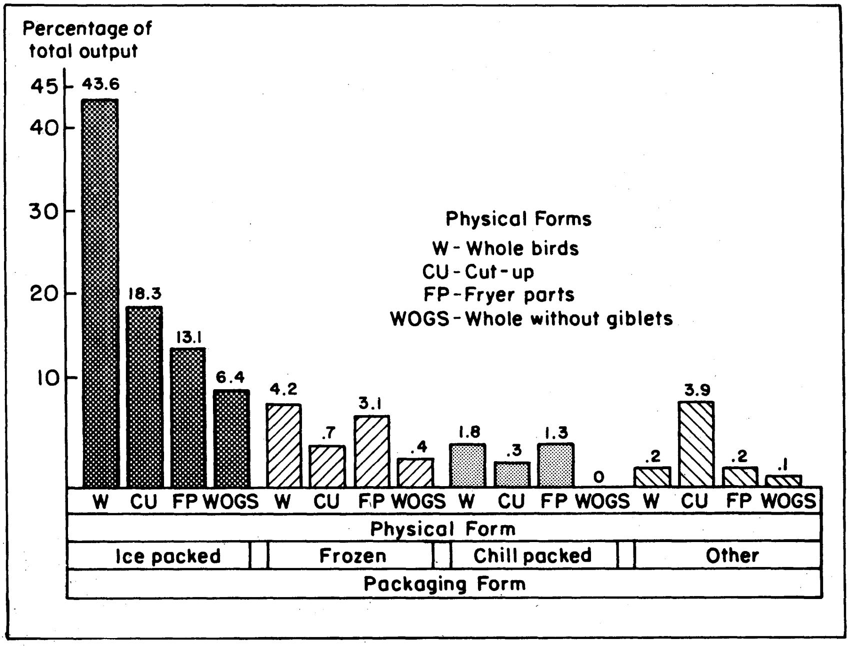

FIG. 4. Proportion of broiler products processed into various physical and packaging forms, Alabama, 1980.

used for the shipment of broilers by processors in the State. In 1980, 43.6 percent of the total output was prepared and shipped in this manner. The earlier study reported 91 percent shipped in a whole, ice-packed form. Processors are still shipping a great majority, 81.3 percent, of production in the ice-packed form. Its use, however, is on the decline, while further increases in value-adding product forms are being utilized.

Domestic Markets

Product Characteristics

The domestic broiler market had certain identifiable characteristics, even though individual regions were, in some cases, quite unique. In 1980, 51 percent of the broiler products sold by processors in Alabama to markets in the United States was in the physical form of whole broilers; this was the dominant physical form shipped from Alabama to domestic markets. The second most used physical form was cut-up broiler products, accounting for 25 percent of Alabama processors' total sales in the nation.

This form was closely followed by fryer parts, at 17 percent. Finally, WOGS comprised the remaining 7 percent of Alabama's national market volume.

In 1980, 96 percent of the broiler products were shipped from Alabama processors to domestic markets in an ice-pack form of packaging. The ice-pack form was by far the most widely used method of distributing broiler products in domestic markets. The chill pack was the second most widely used form of packaging, 2 percent. Less than 1 percent of the shipments from Alabama processors to domestic market destinations were frozen. Also, less than 1 percent of broiler output was shipped in other packaging forms.

The final product attribute that was examined was whether broiler products shipped from Alabama to various regions were name branded products or nonbranded products. This study showed that 91 percent of the broiler products marketed in domestic markets by processors in Alabama were nonbranded.

Market Areas

Alabama broiler processors have developed several profitable out-of-state markets over the years. These markets were necessary if a high production level was to be continued. Only 11.6 percent of total broilers processed in Alabama were marketed in the State in 1980. Also, in 1980, the top 10 states receiving broiler products processed in Alabama, as shown in figure 5, were:

State	*Proportion*
1. Illinois	10.6
2. Tennessee	8.9
3. Florida	6.5
4. Michigan	6.4
5. Missouri	6.1
6. Wisconsin	4.6
7. California	3.6
8. Louisiana	3.2
9. Ohio	3.2
10. Minnesota	3.1

Markets in the top 10 states collectively received 56.2 percent of the State's total processed output.

One factor definitely related to development and maintenance of broiler markets is transportation costs. Because of rising fue' and energy costs, the cost of transportation is becoming more sig nificant. A study conducted at North Carolina State Universit

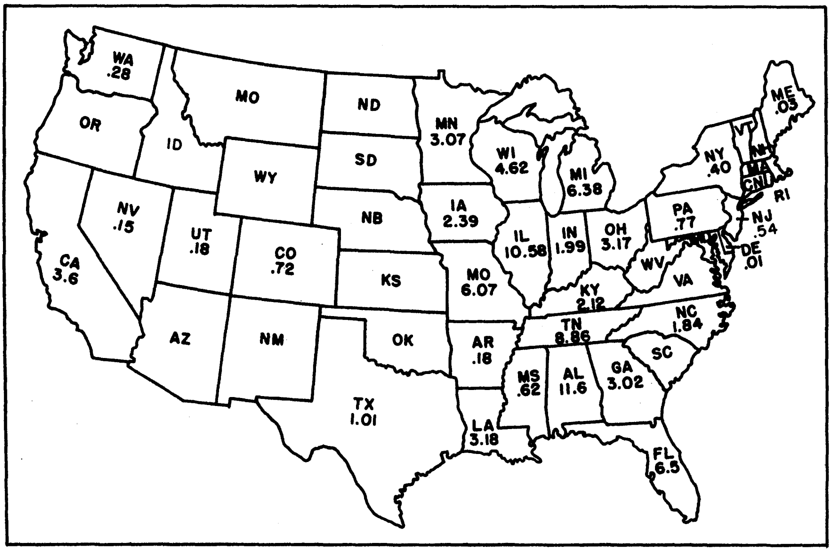

FIG. 5. Percentage of Alabama broiler products shipped to various states, 1980.

indicated that the most profitable markets for broiler products processed in Alabama were the New Orleans, Louisiana, and the Great Lakes areas. The Great Lakes area has, in fact, traditionally been a primary market for Alabama broiler processors. Although much slower in developing, the New Orleans area has now begun to evolve into a stable, reliable market for broiler products from Alabama.

Figure 6 shows the percentage of broiler products shipped from Alabama to various regions of the United States. In the early 1960's, the East North Central region received 59 percent of the broiler output, and was the processors' dominant market (6). Evidently, the market there for broiler products from Alabama was not developed proportionately with the growth of the broiler industry in Alabama. In 1980, the East North Central region was the second largest market area, receiving 28.96 percent of the broiler products processed in Alabama. During the past 17 years, broiler production in the State increased approximately 120 percent, while the amount of broiler products shipped to the East North Central region increased by only 9 percent.

Processors in Alabama have developed new and profitable markets. One market region that has shown significant growth is the Southeast, where consumption increased from 20.2 percent of Ala-

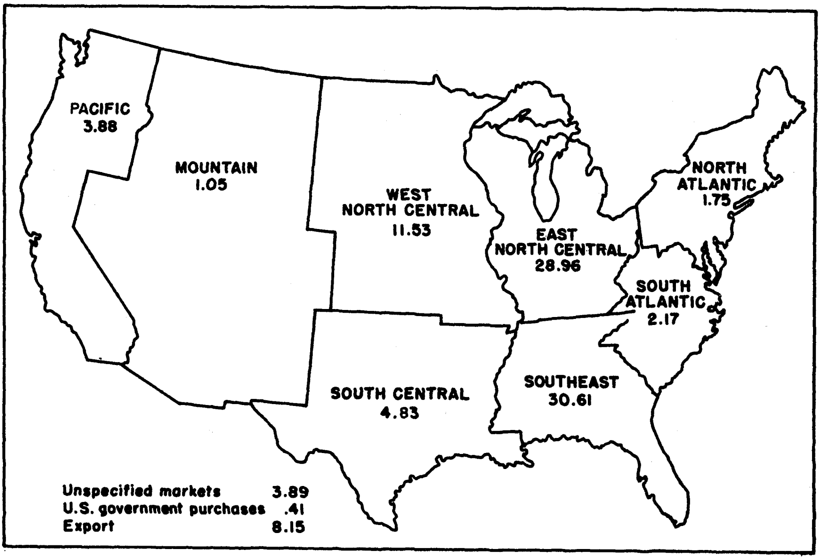

FIG. 6. Percentage of Alabama broiler products shipped from the State to geographic regions, 1980.

bama's output in 1965 to 30.61 percent in 1980. The third largest market region, according to the current marketing study of Alabama broiler products, was the West North Central region, which received 11.53 percent of total output from processors in the State.

Although all market regions were important to processors in the State, the top three regions received 71.1 percent of the total output from Alabama. This contrasts with the earlier study (6) where the top three regions received 98.3 percent of the total broiler products processed in the State. This means that new or previously smaller markets for Alabama broiler products have now developed to the extent that about one-fifth more product is shipped to those regions. A development of this type permits processors to obtain a more secure position in the marketplace, since it allows them to exercise increased flexibility in the marketing and distribution of broiler products.

Generally, transportation costs incurred in the distribution of broiler products from Alabama are lower within the Southeastern region than for any of the other market regions served by its processors. This could have been the major factor contributing to the increased volume marketed in the region.

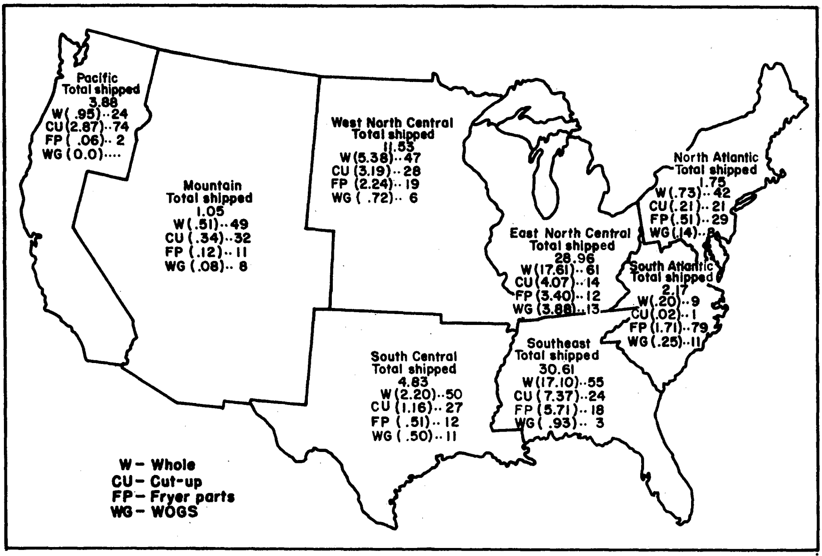

FIG. 7. Percentage of Alabama processed broiler products shipped to each domestic region and the proportion each physical form was of the volume shipped to that region, 1980.

A majority (55 percent) of the broiler products marketed by processors of Alabama in the Southeast region was in the physical form of whole broilers, figure 7. Amounts of cut-up broilers and fryer parts were at 24 and 18 percent, respectively. WOGS comprised 3 percent of the broiler products shipped to this region, a smaller proportion than that received by any other region with the exception of the Pacific, to which no WOGS were shipped.

The Southeastern market region also received a wider variety of product forms than any of the other regions. The ice pack was by far the major packaging form, representing 90 percent of the total broiler products received from processors in Alabama, table 2. Markets in the Southeast received 7 percent of the broiler products shipped from Alabama in the form of a chill pack. Proportionately, the only other region to receive that volume of chill-packed products was the North Atlantic. Of the remaining 3 percent, 1 percent was frozen and 2 percent was packed in one of the other forms.

Twenty-one percent of the broiler products shipped to the Southeast region from processors in Alabama were name branded. This was a larger proportion of name branded broiler products than Alabama processors marketed in any of the other regions.

TABLE 2. THE PROPORTION OF ALABAMA BROILER PRODUCTS SHIPPED BY PACKAGE FORM AND BRAND NAMED, BY GEOGRAPHIC REGION, 1980

Region	Packaged form				Brand named	
	Ice pack	Chill pack	Frozen	Other	Yes	No
	Pct.	*Pct.*	*Pct.*	*Pct.*	*Pct.*	*Pct.*
Southeast	90	7	1	2	21	79
East North Central	97	3	0	0	3	97
West North Central	99	0	0	1	0	100
South Central	94	6	0	0	0	100
Pacific	94	5	1	0	5	95
South Atlantic	100	0	0	0	0	100
North Atlantic	93	7	0	0	7	93
Mountain	85	0	0	15	0	100
Foreign Markets	12	0	88	0	32	68

The physical form predominantly preferred by buyers in the East North Central region was whole broiler products. Sixty-one percent of the broiler products shipped from Alabama to this region were whole broilers. This was a larger proportion of whole broilers than was shipped to any other region. Also, 13 percent of the broiler products that went to the East North Central region from Alabama was in the physical form of WOGS. This was also a higher proportion than that received by any other region. The remaining 26 percent of broiler products from Alabama were in the physical forms of cut-up at 14 percent and fryer parts at 12 percent. These two physical forms were unusually low in comparison to the rest of the domestic market regions. The East North Central region received broiler products packaged in only two ways, ice pack and chill pack. This region was predominantly an ice-pack market as 97 percent of the broiler products from Alabama were packed in this form. The chill pack accounts for the remaining 3 percent. Processors in Alabama sold only 3 percent of the broiler products shipped from Alabama to the East North Central region in the form of a name branded product.

The proportion of physical forms received in the West North Central region from Alabama was near the national average. Ninety-nine percent of the broiler products shipped from Alabama to the West North Central region was ice packed for shipment. The other 1 percent was shipped in the other forms of packaging.

Approximately half of the broiler products shipped to the South Central region from Alabama were whole broilers. The proportions of fryer parts and WOGS were about equal at 12 and

11 percent, respectively. The remaining 27 percent of the products were in the physical form of cut-up broilers. As was true for all domestic regions, the ice pack was the dominant packaging form used in shipping products to this region. The other 6 percent was in the form of a chill pack. All of the broiler products shipped to the West North Central region were in nonbranded form.

Contrary to all other domestic regions, the Pacific received the majority (74 percent) of broiler products from Alabama in the physical form of cut-up broilers, 24 percent was whole, and the remaining 2 percent was in fryer parts. No WOGS were shipped to this region from Alabama. Ninety-four percent of the volume shipped was in the packaging form of ice-packed broiler products. Of the remaining 6 percent, 5 percent was chill packed and 1 percent was frozen. The amount of broiler products marketed by Alabama processors in the Pacific region under a name branded product was exactly the same proportion as the national average, 5 percent.

The South Atlantic region was unique in that the major physical form received from Alabama was fryer parts, which accounted for 79 percent. Of the volume shipped to this area, it was also unique in that more WOGS were received, 11 percent, than whole broilers, 9 percent. In addition to these peculiarities, the region received only 1 percent of the broiler products shipped to it from Alabama in the physical form of cut-up. It was also the only region to which 100 percent of the broiler products shipped from Alabama were ice packed. Alabama processors shipped 100 percent of the broiler products they marketed in the South Atlantic as nonbranded product.

The proportion of various physical forms of broiler products shipped to the North Atlantic region from Alabama was representative of the average proportions of broiler products shipped from Alabama to domestic market regions. This region received the major portion, 93 percent of its volume, from Alabama in ice-packed form. The remaining 7 percent was received as a chill-packed product. The North Atlantic region received 7 percent of the broiler products obtained from Alabama producers in a name branded form. This proportion was larger than average for the domestic markets, second only to the proportion received by the Southeast. The volume of broiler products shipped to the Mountain region was the smallest sent to any of the domestic regions from Alabama. Other than receiving a larger portion of cut-up and a slightly lower portion of fryer parts than average for the domestic market, the Mountain region was a relatively average region in terms of the volumes comprised by various physical and packing forms.

Foreign Markets

Broiler processors in Alabama have continued the development of export markets. In 1980, processors in the State reported shipping broiler products to 17 specific foreign markets. As a result, exports from broiler plants in Alabama were shipped to every continent in the world, with the exceptions of Australia and Antarctica.

Because of the enormous differences that exist in the social, cultural, and demographic profiles in these foreign markets, no attempt was made in this study to analyze them on an individual basis. Instead, the goal was to obtain an overall view of the export markets for broiler products processed in Alabama.

In 1980, broiler processors in the State shipped 8.2 percent of their total output to foreign markets. The largest continental market for broiler products was Asia, which received 3.21 percent of the total broilers processed in the State, figure 8. Of the total shipments to Asia, 61 percent were in the form of fryer parts, higher than for any other continent. Asian markets also received the lowest proportion of broiler products in the whole and cut-up forms. All broiler products shipped to the Asian market by processors in Alabama were frozen. Finally, 37 percent of the broiler products shipped to Asia by processors were name brand products.

Japan received 2.28 percent of the total output of Alabama processors and was the largest importer of broiler products from Alabama on the Asian continent. Japan was typical of other foreign markets in that all of its Alabama purchases were in the frozen packaged form. Eighty-five percent of the broilers shipped from processors in Alabama to Japanese markets were in the form of fryer parts. Several of the processors marketing broilers in this area mentioned that it was a strong market for certain specific fryer parts.

Markets in Africa received 1.66 percent of the broiler output from Alabama, enough to make it the second largest importer of broiler products from the State. Unlike the Asian markets, Afri-

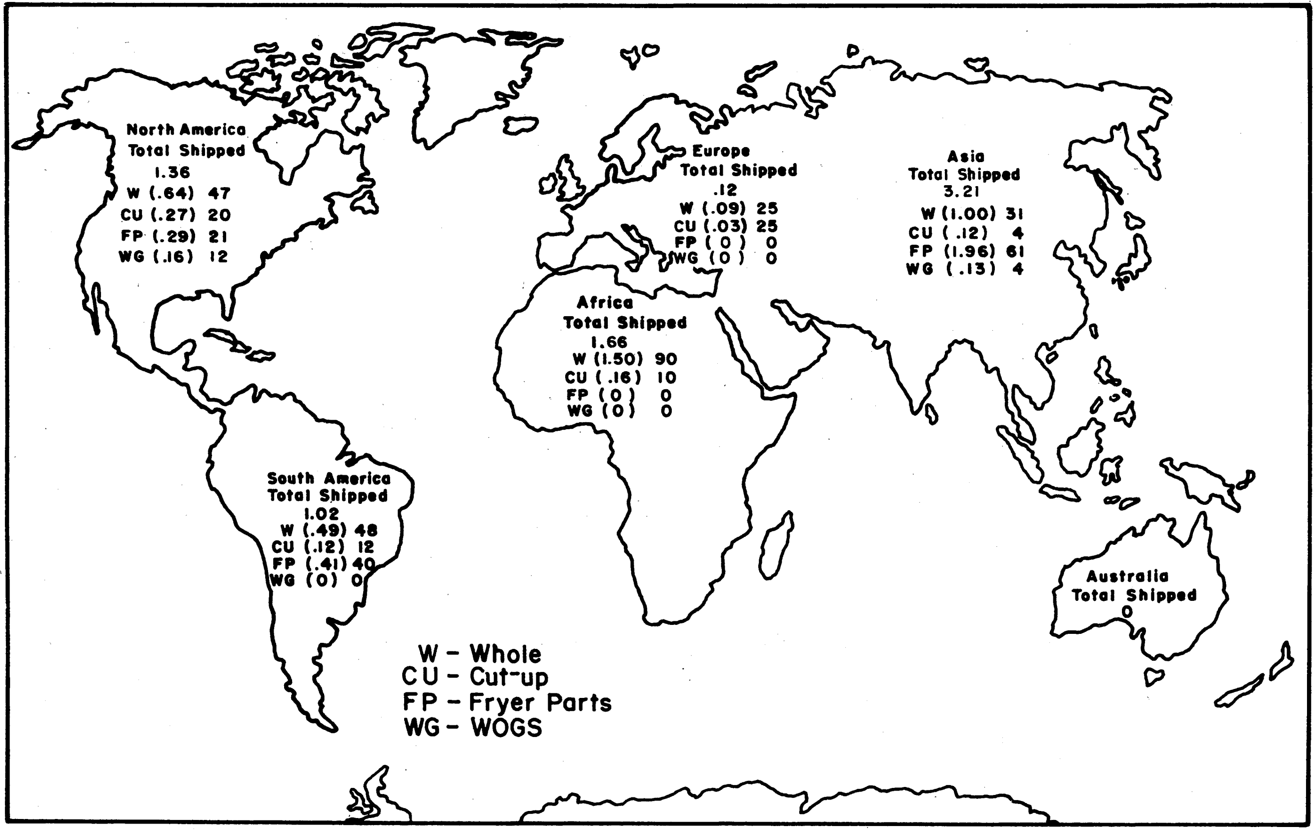

FIG. 8. Percentage of broiler products shipped from the State to each continent, 1980.

can markets received 90 percent of their broiler imports in the form of whole broiler products. The remaining 10 percent was in cut-up form. Processors in Alabama shipped no fryer parts or WOGS to the African markets in 1980. The frozen package form was the only one shipped to Africa by Alabama processors. The markets in Africa received 84 percent of their broiler imports from Alabama in nonbranded packages. The primary market in Africa was the United Arab Republic, which received 1.46 percent of Alabama's total production, or 88 percent of the broiler products shipped to the continent.

The North American continent, as referred to here, is composed of all countries in North America except the United States. It includes Canada, the Caribbean Islands, Central America, and Hawaii. Although Hawaii is a part of the United States, it was referred to as an export market because it is not attached to the continental United States. In 1980, the North American continent received 1.36 percent of the broiler products processed in Alabama. Eighty-six percent of these products were frozen; the remaining 14 percent were ice-packed products. The physical forms shipped to this continent were nearly proportionate to those shipped to the United States by processors in the State. Differences consisted of slight increases in the volume of WOGS and fryer parts and slight decreases in the volume of whole and cut-up broiler products. The North American continent received 86 percent of the broiler products from Alabama processors in nonbranded packages.

In 1980, processors in the State shipped 1.02 percent of the broiler products processed in Alabama to South America. All of these broiler products were in frozen form. South American markets received no WOGS from Alabama and only 12 percent in cut-up form. The predominant physical form was whole, which comprised 48 percent of their broiler products from Alabama. There was also a strong market for fryer parts in South America; 40 percent of broiler products were bought in this form.

The European continent received only 0.12 percent of broilers produced in Alabama, all of which were in frozen form. Seventy-five percent of these broiler products were whole with the remaining 25 percent received in cut-up form. Broiler products shipped to European markets were 50 percent nonbranded and 50 percent name branded product.

PREFERENCES FOR BROILER PRODUCTS REPORTED BY CONSUMERS IN THE BIRMINGHAM METROPOLITAN AREA

Modern chain and supermarket stores stock thousands of items. This provides consumers the convenience of one-stop shopping with many alternatives.

Consumers in the Birmingham area were asked about the number of grocery stores at which they usually shopped. The proportion with the number of stores shopped is shown below:

Stores, no.	*Proportion of shoppers, pct.*
1	22.0
2	45.8
3	24.7
4	6.2
5 or more	1.3

Approximately 46 percent reported they shopped at two stores, while only about 7 percent shopped at more than three stores. Ninety percent of the time shoppers purchased a majority of broiler products at the store where they shopped most often.

Consumers were asked to give four reasons for purchasing broiler products where they did. These four reasons were ranked and are presented in table 3. The most popular reason was "convenience." This reason was consistently ranked high by consumers for each of the four possible reasons. The second most popular reason consumers gave for purchasing broiler products was "freshness." The "price" of products was important for the first two responses, but its frequency as a response dropped off quickly for the last two responses. The "appearance" of products was not a popular reason for the first response, but remained in the top five for the other responses. Two reasons were noticeably low: "package weight" and "color" of product. The "color" of product was ranked last as a reason for three of the four responses. The "weight" of products was ranked near the bottom of the scale for each of the four responses.

One question was: "How often do you buy chicken?" Responses to this question are shown below:

Frequency	*Proportion, pct.*
Less than monthly	5.3
Monthly	21.6
Every 2 weeks	26.0
Every week	38.3
Twice weekly	6.6
When it is on special	1.8
Other	.4

TABLE 3. RANK OF REASONS FOR BROILER PRODUCT PURCHASES AND PROPORTION OF CONSUMERS THAT GAVE THE REASON, BY REASONS, METROPOLITAN AREA, BIRMINGHAM, 1980

Reasons for purchase	First response		Reasons for purchase	Second response	
	Rank	*Pct.*		*Rank*	*Pct.*
Convenience	1	30.4	What store had to offer	1	18.5
Price	2	21.1	Price	2	15.0
Freshness	3	18.9	Freshness	2	15.0
What store had to offer	4	6.6	Convenience	3	13.2
No regular preference	5	5.2	Appearance	4	12.7
Cut the way I want it	6	4.0	Cut the way I want it	5	6.2
Cheapest per pound	6	4.0	Neatest package	6	4.0
Appearance	7	1.6	No regular preference	7	3.1
Neatest package	7	1.6	Cheapest per pound	8	2.6
Most expensive (so best)	NR	—	Package was weight wanted	9	.9
Package was weight wanted	NR	—	Color	10	.4
Color	NR	—	Most expensive (so best)	NR	—
Other reasons	—	6.5	Other reasons	—	8.4
Total		100.0			100.0

Reasons for purchase	Third response		Reasons for purchase	Fourth response	
	Rank	*Pct.*		*Rank*	*Pct.*
Freshness	1	17.2	Convenience	1	15.9
No regular preference	2	16.3	What store had to offer	2	14.5
Appearance	3	14.1	Freshness	3	13.2
Price	4	12.3	Appearance	4	12.8
What store had to offer	5	11.9	No regular preference	5	9.3
Convenience	6	11.5	Cut the way I want it	6	7.5
Neatest package	7	3.1	Price	7	7.0
Cheapest per pound	8	2.6	Neatest package	8	4.4
Cut the way I want it	9	2.2	Cheapest per pound	9	3.5
Package was weight wanted	11	1.8	Package was weight wanted	10	1.8
Most expensive (so best)	10	1.8	Most expensive (so best)	11	.9
Color	NR	—	Color	11	.8
Other reasons	—	5.2	Other	—	8.4
		100.0			100.0

NR = Reason not ranked on the response.

These data showed 64.3 percent bought broiler products either every 2 weeks or every week. A large portion of this, 38.3 percent, was made up of shoppers who purchased broiler products every week. It was also shown that only 1.8 percent usually bought broiler products only when they were on special.

Consumers were also asked how many pounds of broiler products they usually bought.[3] As shown below, 32.2 percent reported buying between 2 and 3 pounds of broiler products per purchase.

[3]Consumer purchases of broiler products through fast food outlets were not collected in this study and consumption volumes do not include broiler products marketed through these outlets.

Only 5.7 percent of the consumers purchased less than 2 pounds of broiler products at a time. Another point was that nearly 3 percent more purchased 6 or more pounds of broiler products than those who purchased 5 to 6 pounds.

Amount, lb.	*Proportion of responses, pct.*
1.0 - 1.99	5.7
2.0 - 2.99	32.2
3.0 - 3.99	20.7
4.0 - 4.99	18.5
5.0 - 5.99	10.1
6.0 and over	12.8

National studies have shown per-person consumption of broiler and other poultry products to be increasing. Data gathered from the previous two questions permitted calculation of per-person consumption of broiler products in the survey area for 1980, table 4. A majority, 55.2 percent, consumed between 25 and 39 pounds of broilers per year. The average consumption was higher since 33.8 percent consumed more than 39 pounds of broiler products per year. Also, 4.8 percent consumed 96 pounds of product or more per year or more than 6.0 pounds per week, table 4.

By relating the average of 46.2 pounds consumed per person per year to the total population of 818,200 in the Birmingham metropolitan area in 1980, the total pounds of broiler products consumed in the area may be estimated.[4] The approximate number of pounds of broiler products consumed in the area in 1980 was 37,800,840.

Individual consumption of broiler products per year varied from household to household and from person to person. Table 4 shows seven major consumption groups. In this case, the proportion stands for the percentage of samples represented in each of the consumption categories. For example, 11.0 percent of the households surveyed consumed between zero and 0.99 pound of broiler products per week. The yearly consumption rate was calculated by multiplying the average consumption per week in each of the seven groups by 52 weeks per year. Finally, consumption per person per year was calculated by dividing the related annual consumption per household by 3.23, the average size of households for the area.

[4]Sum of pounds per week (648.16) $\times$ 52 weeks per year $=$ 33,704.32 pounds per year $\div$ 226 (number of households surveyed) $=$ 149.13 pounds of broiler products per year $\div$ 3.23 (number of people in an average household) $=$ 46.2 pounds of broiler products consumed per person per year.

TABLE 4. ESTIMATED WEEKLY AND ANNUAL BROILER PRODUCT CONSUMPTION PER HOUSEHOLD AND PER PERSON, BIRMINGHAM METROPOLITAN AREA, 1980[1,2]

Pounds of broiler products consumed/ week/ household	Pounds of broiler products consumed/ year/ household	Pounds of broiler products consumed/ week/ person	Pounds of broiler products consumed/ year/ person	Percentage of sample in each category
0 - 0.99	26	0.15	7.8	11.0
1.0 - 1.99	78	.48	25.0	30.0
2.0 - 2.99	130	.75	39.0	25.2
3.0 - 3.99	182	1.05	54.6	13.3
4.0 - 4.99	234	1.38	71.8	9.0
5.0 - 5.99	286	1.67	86.8	6.7
6.0 and over	312	1.84	95.7	4.8

[1]This calculation of per-person consumption of broiler products in the Birmingham metropolitan area does not include the products consumed from fast food services and restaurants.

[2]Average consumption per person per year, 46.2 pounds.

The amount of broiler products most often consumed was between 1.0 and 1.99 pounds per week per household or ½ pound of product on a per-person basis. Thirty percent of the households surveyed were in this category. The second largest number of responses was in the third group; 25.2 percent of the households surveyed consumed between 2.0 and 2.99 pounds of broiler products per week. Over 50 percent of the responses were in one of these groups.

Consumer preference for the physical forms of broiler products was also investigated. Shown below is what consumers reported as their preference for physical forms of broiler products:

Physical form	*Proportion, pct.*
Whole broilers	35.2
Cut-up broilers	30.0
Fryer parts	34.8

Although whole broilers remained the most preferred form, the physical forms of cut-up broilers and fryer parts accounted for large portions of the market.

Data were gathered from another question that was related to product form. Specifically, it concerned that proportion of consumers in the survey who bought broiler products for freezing when broiler products were advertised as a special. As shown below, approximately half bought broiler products when they were on special specifically to freeze them.

Response	*Proportion, pct.*
Yes	51.1
No	47.6
Don't know	1.3

The next section of the questionnaire was designed to obtain information on consumer preferences and opinions of name branded and nonbranded broiler products. One question asked the consumers was, "How, in your opinion, do name branded broiler products compare to nonbranded ones?" The information gathered is shown below:

Response	*Proportion, pct.*
The name branded product was a premium product	26.4
Name branded products are no better than the other	35.3
Name branded products are a more reliable purchase	30.4
Other	7.9

These data showed that 56.8 percent of consumers felt that name branded broiler products were in some way better. At the same time, a large proportion, 35.3 percent, felt that name branded broiler products were no better than non-branded ones. The remaining 7.9 percent of respondents had some other opinion of the comparison.

Consumers were then asked what proportion of their broiler purchases were name branded products. Information gathered on this question is shown below:

Proportion of total broiler purchases represented by name branded products, pct.	*Proportion of consumers, pct.*
0	12.3
5.0	1.8
10.0	2.2
20.0	3.5
25.0	2.6
30.0	1.3
50.0	11.5
70.0	1.8
75.0	1.3
80.0	4.0
90.0	9.7
100.0	43.2
Other	4.8

Data show the largest single group purchased name branded products 100 percent of the time. This proportion contrasted to 12.3 percent of the respondents who purchased no name branded broiler products. Another item of interest shown in these data was that at least 71.5 percent purchased 50 percent or more of their broiler products in a name branded form. The remaining 4.8 percent was scattered in small groups between the various proportions.

Next, people were asked why they preferred a name branded product to a nonbranded one. Responses indicated that most consumers did not buy name branded broiler products because they had received a "bad" nonbranded product, but because they simply believed the name branded products were, in some way, better or fresher than nonbranded ones.

Response	*Proportion, pct.*
I get a better product	18.9
I get a fresher product	10.1
I have had a bad experience with nonbranded broiler products	2.2
I have always received a good name branded broiler product	15.9
My regular grocery store carries only the name branded products	15.9
Other	21.6
Don't prefer name branded broiler products over nonbranded ones	15.4

It should be noted that about one out of six consumers reported they did not prefer name branded broiler products over nonbranded ones. Another point was that 15.9 percent reported their preference was based simply on what their regular grocery store carried.

When asked, "Why do you prefer nonbranded to branded broiler products?," responses differed greatly from responses for the previous question:

Response	*Proportion, pct.*
Cheaper price	20.7
Fresher product	5.7
Have had a bad experience with name branded broiler products	.0
Have always received a good nonbranded broiler product	4.8
My regular grocery store carried only nonbranded products	4.0
Other	10.6
Don't know	5.3
Don't prefer nonbranded broiler products over name branded	48.9

Almost half of the respondents reported they did not prefer nonbranded broiler products over name branded ones. This implied that consumer purchases were strongly influenced by factors other than the physical product itself. The data above supported this as 20.7 percent preferred the nonbranded products because they were lower cost items. Another 4.0 percent responded that nonbranded products were preferred because they were the only types of broiler products their regular grocery store stocked. Less than 6.0 percent felt that the nonbranded broiler products were fresher products.

The final section of the questionnaire dealt with consumers' opinions regarding availability and price of name branded and nonbranded broiler products. Consumers were asked whether, in their opinion, name branded products were available at about the same price from store to store, and whether nonbranded broiler products were available at about the same price from store to store. These questions were answered with no attention given to any store specials concerning broiler products. Fifty-eight percent felt that name branded broiler products were available at about the same price from store to store. A slightly smaller proportion, 51.5 percent, felt that nonbranded broiler products were similarly available. Responses to this question showed that a large proportion of consumers felt price did vary from store to store. Slightly less confidence and knowledge was shown regarding the price of nonbranded broiler products; a larger proportion of consumers responded that they did not know about price variations from store to store.

Item	*Yes pct.*	*No pct.*	*Don't know pct.*
Are name branded broiler products available at about the same price from store to store?	57.7	26.0	16.3
Are nonbranded broiler products available at about the same price from store to store?	51.5	28.6	19.4

Consumers were next asked to give their opinion of the price differentials between name branded and nonbranded broiler products. The data shown below indicate that about half, 49.7 percent, felt the price of name branded broiler products was higher than that of nonbranded products.

Response	*Proportion, pct.*
Lower	4.0
Higher	49.7
Fair, about the same	27.8
Don't know	18.1
Other	.4

Only 4.0 percent felt name branded products were lower in price than the nonbranded. There was also a large proportion, 27.8 percent, indicating the prices of name branded and nonbranded broiler products were about the same. The remaining 18.1 percent were shoppers who did not appear to have considered or been concerned with the price differentials between name branded and nonbranded broiler products.

The final question in this section was, "How many more cents per pound would you be willing to pay for a name branded broiler product?" Both those who preferred nonbranded and those who chose name branded broiler products were asked to respond to this question. The results are shown below:

Response, cents/lb.	*Proportion, pct.*
0	39.6
1	.9
2	7.0
3	6.3
4	4.0
5	12.8
6	1.3
7	1.3
8	2.2
10	13.2
13	.4
15	2.2
16	.4
18	.9
20	4.4
25	.9
30	.9
More	1.3

A large proportion of the respondents, 39.6 percent, indicated they would be willing to pay no more for a name branded broiler product than for a nonbranded one. This meant 60.4 percent of the people interviewed indicated they would be willing to pay more per pound for name branded broiler products. Nearly 13 percent of the respondents indicated they would pay as much as 5 cents more per pound for the name branded product. Another 13.2 percent reported they would pay as much as 10 cents more per pound for the name branded broiler product. Finally, 10.9 percent stated they would be willing to pay more than 10 cents per pound extra, if necessary, for name branded broiler products.

SUMMARY AND CONCLUSIONS

The Alabama broiler industry has now evolved to a position of importance on both the national and State levels. Not only has the broiler industry become economically important, but more and more broiler products are becoming a major item in American consumers' food purchases. Among states, Alabama was the third largest producer of broiler products in 1980, a position it has held for nearly 20 years. Improved techniques involved in the marketing and distribution of broiler products processed by firms in Alabama have become increasingly important as the costs of goods and services have fluctuated.

The purpose of this study was to examine the marketing of broiler products processed in Alabama from both processors' and consumers' viewpoints. Objectives of this study were:

(1) To determine the market destinations served by broiler processors in Alabama, and proportions of product forms shipped to each destination;

(2) To determine consumer preferences for various forms and retail packs of ready-to-cook broiler products.

Primary data were gathered from two sources. First, data concerning market destination and the related product's physical and packaging forms were requested from operators of 20 processing plants in Alabama. This survey consisted of a mail-out questionnaire, followed by telephone and/or personal interviews when necessary. Response from members of the industry was high. Operators of 19 out of 20, or 95 percent, of the plants in the State responded to the survey. The other source of primary data was a telephone survey of consumers in the Birmingham metropolitan area. It was determined that a sample of 216 should be drawn from the total area. This number was weighted according to the populations in the seven demographic divisions of the area. It was then adjusted so that at least 20 questionnaires would be gathered from each of the areas. This increased the sample size to 226.

Broiler processors are dependent on the markets they have developed to give them stability and predictability for their output and their total organization. In 1980, 88 percent of the broiler production in Alabama was shipped to out-of-state destinations.

Packaged forms most commonly used to ship Alabama's broiler output were ice packed, chill packed, frozen, further processed, and other forms. Broiler products were processed into four different physical forms; whole, cut-up, fryer parts, and WOGS. In addition, broiler products could be either name branded or non-branded.

The packaging forms used for broiler products were an important feature of marketing and distributing these products. In 1980, broiler firms in Alabama processed 81 percent of their output in the form of ice-packed broiler products. This was a 10 percent decrease from the proportion marketed in this form in 1965.

Broiler processors are producing increasing amounts of broilers in product forms more suitable for the marketing and distribution of value-added broiler products. Packaging forms utilized as value-added forms are frozen, chill packed, vacuum packed, and further processed. Collectively in 1980, broiler firms in Alabama packaged 19 percent of their output in these value-added forms. The most popular of these forms was the frozen. Approximately 8 percent of the broiler output in the State was processed into this form. The second most popular of these packaging forms was the chill pack, with 3 percent of the output.

Perhaps the most important changes that have occurred in broiler product marketing during the past 20 years were the introduction and utilization of value-added broiler product forms. The four basic physical forms for broiler products were: whole, cut-up, fryer parts, and WOGS. Any one of these forms may be marketed in a manner that adds to its value, as value adding includes many possible types of additional service. The physical forms that permitted the quickest success as value-added forms were the cut-up, fryer parts, and WOGS.

The industry's utilization and consumers' acceptance of these three physical forms have been revolutionary to the processing and marketing of broiler products. In 1965, 98 percent of the broiler output in Alabama was shipped as whole broilers; in 1980, only half of the output was shipped in this form. At the time of this study, processors in the State shipped 23 percent of the total broiler output in Alabama in the physical form of cut-up broiler products. Another 18 percent was shipped as fryer parts, and the remaining 7 percent was processed into WOGS. WOGS is a broiler product form, the demand of which is closely associated with increases in the restaurant and fast food industry's growth.

Analyses indicated the Southeast received the largest proportion of broiler output from Alabama, 31 percent of the total. This represented a significant shift in market regions for Alabama processors, as the East North Central region received only 29 percent in 1980 compared with 59 percent of the total in 1965. The region receiving the third largest proportion of the broiler production in Alabama was the West North Central at 12 percent.

Although the domestic market, as a whole, had certain identifiable characteristics, individual regions were even more unique in the type of purchases made from broiler processors in Alabama. Most of the variation among regions in the type of purchases was in the physical form of the product. An example of this was that the Pacific market region received 75 percent of the broiler products shipped from Alabama processors in the cut-up form. The South Atlantic market region received 70 percent of the broiler products shipped from Alabama in the form of fryer parts. Finally, 61 percent of the broiler products shipped to the East North Central from processors in Alabama were in the form of whole broilers.

Foreign countries have now begun to play an important role as markets for broiler products processed in Alabama. In 1980, 8 percent of the broilers processed in Alabama were shipped to foreign markets. Markets for broiler products in foreign countries exhibited characteristics that were different from those of the domestic market. One notable difference was that foreign markets purchased 32 percent of their broiler products as name branded products; whereas, only 5 percent of the product shipped to domestic markets from Alabama was name branded. Another major difference established by this research was that while Alabama shipped 96 percent of the broiler products it sold in domestic markets in an ice-packed form, foreign markets received 88 percent of their broiler products shipped from Alabama in frozen packaging form.

Forty-eight percent of the broiler products Alabama shipped to foreign markets were in the form of whole broilers. Another 8 percent were cut-up and 3 percent were WOGS. The most striking contrast between Alabama's domestic and foreign markets relating to the physical form of products was that 40 percent of the product shipped to foreign markets was fryer parts, whereas only 13 percent shipped to domestic markets was in the form of fryer parts.

Most of Alabama's foreign broiler sales were accomplished on a contract bid basis. Alabama's largest foreign continental market for broiler products was Asia, which received 3 percent of the total output in the State. Included in this continent was Japan, which received 2 percent of the broiler production in Alabama. Japan imported a larger volume of broiler products from Alabama than any of the other importing countries.

Nationally, consumer purchases of different types of meats have been undergoing some radical changes. As a result, volume of consumption of each of the three major meat types is converging. If the present trends continue, American consumers may indeed consume a larger volume of poultry than they do of either pork or beef.

Data concerning consumers' preferences for broiler products were gathered through the use of a telephone survey of 226 households in the Birmingham metropolitan area. The households surveyed were drawn at random from the Greater Birmingham telephone directory.

Consumers were asked to give four reasons why they purchased broiler products from the stores they did. The two most popular responses were "convenience" and "what the store had to offer." Also, two of the more popular reasons consumers gave for purchasing broiler products were "freshness" and "price."

Data were gathered concerning the frequency of purchase and amounts of broiler products purchased. It was found that the largest proportion of consumers, 38 percent, purchased broiler products every week. Additionally, 32 percent purchased between 2 and 3 pounds at a time. A comprehensive review of these data showed that the average amount consumed per person per year in the Birmingham metropolitan area was 46 pounds. This figure did not include the broiler products purchased at restaurants and fast food establishments.

Another question was concerned with consumer preferences for the physical form of broiler products. Whole broilers were preferred by the largest proportion, 35 percent, of consumers. The proportion purchasing cut-up broilers and fryer parts has increased significantly.

Data showed that 57 percent of the people interviewed were of the opinion that brand named broiler products were in some way better products. The study also found that only 12 percent of the households contacted reported that they bought no name branded broiler products, whereas 22 percent purchased only name branded broiler products.

The final section of the questionnaire dealt with consumer opinion of price relationships between name branded and nonbranded broiler products. Results showed that 50 percent responded that name branded broiler products were higher in price than nonbranded ones. Another 28 percent considered the price to be about the same among retail stores. When asked to comment on the price relationship between name branded and nonbranded broiler products, 60 percent reported they would be willing to pay more per pound for name branded products than for nonbranded ones. Also, 24 percent reported they would be willing to pay 10 cents or more extra to obtain name branded broiler products than they would for nonbranded products.

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