

Chapter 20

Peanut Marketing

By MAX K. HINDS¹ AND GEORGE W. KROMER¹

The purpose of this chapter will be to describe the functions of marketing and define it in the broad sense and indicate more specific concepts within that sense including theoretical concepts and principles. Then the role of government will be discussed and aspects of quality. The latter part of the chapter deals with changes that have occurred in marketing, marketing margins, and factors affecting supply, demand, and price, during the latter 1950's and the decade of the 1960's. A brief statement on marketing research will conclude the chapter. The objective is to give the reader a basis for understanding the interaction of forces that have influenced peanut marketing as it has evolved over the years and to be aware of influences that are likely to bring about changes in the future. Marketing is a dynamic activity that is subject to many influences and responds to them in many different ways. Entire books are devoted to marketing as well as to economics. In this treatise often only a paragraph will be devoted to an item of subject matter to which a complete chapter would be devoted in a marketing text.

The function of marketing is to have a certain product in a certain place at a certain time. In the case of peanuts, marketing starts with the farmer who sells to a

¹Max K. Hinds, Science and Education Staff, Office of the Secretary, USDA, Washington, D. C., formerly Executive Secretary, USDA Oilseed and Peanut Crops Research Advisory Committee.
George W. Kromer, Agricultural Economist, Head, Fats and Oils Section, Economic and Statistical Analysis Division, Economic Research Service, USDA, Washington, D. C.

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local sheller (or his commission buyer) who stores and shells them. Some manufacturers own and operate shelling facilities. The sheller sells them directly or through brokers to a manufacturer who makes them into peanut butter, candy, or other products. The manufacturer sells the products to a retailer directly or through wholesalers who in turn sells the product to the final consumer.

There are different definitions of marketing. The broad concept includes all those activities that occur between the farm gate and the consumer. A more narrow concept includes the factors of "time" and "place" as distinguished from the "form" of a product. Marketing activities involving "time" and "place" include assembly of the raw material, inspection, grading, transfer of ownership at different places within marketing channels, handling, storage, and transportation. The "form" of a product is affected by processing and manufacturing. People often refer to "processing" and "manufacturing" as interchangeable terms. Yet for cost accounting purposes and for analyzing the spread between the farm price of raw product and the consumer price, technical persons such as accountants and researchers make distinctions between processing and manufacturing. For them "processing" would include such activities as cleaning, shelling, sorting, grinding, and roasting. There might even be a question whether grinding was processing or manufacturing. The reasoning applied here is that in grinding nothing has been added or taken away. "Manufacturing" would refer to activities that change the product from one form to another and might add other products or take away some of the components of peanuts, ending up with peanut butter, candy, snack food, meal or oil.

Looking at it another way, the distinction can be made that marketing has to do with "when" and "where" a product is wanted, and processing and manufacturing have to do with "what" is wanted. Before considering the marketing system for peanuts let us look at the marketing system in general. If we were to think of the marketing system in the United States as encompassing all buying and selling we would immediately think of many categories such as industrial products, agricultural products and marketing services. Then we would think of sub-categories of automobiles, refrigerators, livestock, crops, transportation, and financing. These can be further subdivided into hundreds of subsystems. If we had an ideal marketing system, buyers and sellers would have complete knowledge about all the factors affecting their transactions; consumers would be provided exactly what they want; the product quality would be measured by objective methods and described in simple terms; there would be competition between many buyers and many sellers so the price would be at an equilibrium level determined by the forces of supply and demand. Producers would know exactly what consumers wanted. Handlers and processors would be able to communicate with each other and with producers and consumers in understandable terminology that would describe product attributes; and prices would reflect value differences of well-defined gradations of quality. In reality we have never had an "ideal" marketing system, perhaps for much the same reasons that mankind has never reached "utopia".

The "ideal" system described above would be considered a free-price system where forces of supply and demand determine the price, which in turn influences the decisions of producers and consumers. The price serves as a common denominator, much the same as a governor on a tractor makes it run faster or slower, or a thermostat in a house regulates the temperature. The pricing mechanism provides the media

for transmitting economic signals or stimuli to people. These signals influence people in making decisions. The decisions may be to produce more, less, or the same; or to buy more, less, or the same; or to raise or lower the price or leave it unchanged. The same factors that cause one person to decide on a particular action may cause another to decide to do just the opposite. The total of these decisions or forces under a free-price system are likely to bring about a different end result than would be the case under an administered marketing system resulting from a monopoly such as the telephone or electric service in a city, or the U. S. mail service or a modification of the marketing system under a government program. Peanuts have been marketed under a government program for many years and this program will be discussed later.

In most transactions between buyer and seller the negotiation has three important elements — quantity, quality, and price. The price is influenced by the quantity and quality. Quantity is usually expressed in units of weight or volume. Quality is a more uncertain element which pertains to the characteristics of the product that affect its value to the user. For many products, grades and standards have been designed to describe product characteristics. Many current grades and standards are not as useful as they should be. They do not accurately describe the characteristics of the product concerned. The role of an ideal grading system would be to communicate throughout the marketing system the relationship between the physical attributes and the economic values for varying gradations of quality.

The physical handling of peanuts from the time they are dug all the way through the marketing channel has a lot to do with the quality of the product and its cost to the final consumer. Also, differences in varieties of peanuts, the soil and climate in producing areas, and improved techniques in cultural and harvesting practices influence the kind of marketing facilities, equipment, and methods required to accomplish the best results.

Decision makers in the peanut industry, to make sound and accurate judgments, need a great deal of information about the relationship of the peanut industry to the rest of the U. S. economy and the world. Producers, processors, manufacturers, distributors, and consumers use information about the interrelationships among prices, production, and consumption of farm products and other factors. They cannot afford individually, to collect and analyze all the statistical and economic information that underlies making sound production and marketing decisions. This service is usually provided by the U. S. Department of Agriculture, the State Land-Grant Colleges, and the State Departments of Agriculture. Similarly Congress and the administrators of farm programs use such economic information to evaluate the impact of existing and alternative programs or policies upon production, consumption, and prices at both the farm and retail levels.

As products flow through the marketing system the activities pertaining to physical handling and pricing take place simultaneously. Most of the physical activities such as assembly, processing, manufacturing, storing, transporting, and distributing are visible. They can be measured in terms of output per unit of input. These "measurable" activities may be a number of pounds per hour, or storage for a specified number of months, or the cost for moving a "ton-mile", or the profit per unit of product. Many activities affecting price become visible only when stated in a sales agreement or in terms of price. However, prices are affected by many unseen factors such as the size

of the expected peanut crop during the growing season; or some new product that would cause the demand for peanuts to rise substantially. Pricing effectiveness pertains to how well the pricing mechanism gives coordination and direction to the entire production and marketing sequence.

The peanut industry depends on the behavior of more than 200 million consumers. In our complex marketing economy it has become almost impossible for consumers to discuss their preferences, opinions, satisfactions, and dissatisfactions with producers and marketers. Knowledge of consumer reactions is becoming increasingly important—mistakes in developing, producing, and marketing products are costly not only to the farmer but to processors and distributors as well. Consequently, an understanding of consumer reactions and reasons behind them is essential to planning improvements in the production, processing, manufacturing, and marketing of peanuts, and for developing educational programs, setting or revising grades or standards, or evaluating new products.

Market power is the ability to influence prices or terms of trade in a way favorable to a business group. It has long been assumed that, because of the competitive structure of the production process in agriculture, farmers are at a disadvantage in the marketing process and must depend upon competition among buyers to obtain the full value that market conditions justify for their products. Consequently, considerable public enabling legislation has been enacted to strengthen the bargaining and income position of farmers. Examples are the establishment of publicly financed market news, crop and livestock reporting and estimating, and legislation to enable farmers to band together in their buying and selling activities. Farm cooperatives for years have been involved in helping farmers with problems of bargaining power. Farmers have become increasingly concerned as changes have occurred in the marketing system and they want to participate more. This increased interest has led to self-sponsored programs such as advertising to differentiate their products in the market place. Also Federal and State marketing orders and agreements are longstanding examples of instruments conceived and administered to provide certain elements of bargaining power. In the next section we will see the importance of government participation in the peanut industry.

The Role of Government In Peanut Marketing

There are a number of activities in which government may participate in the marketing system. Among these activities are services such as grading, inspection, and market news; regulatory activities to enforce certain standards of conduct and operation for the protection of the public and participants in the marketing activities; assistance to producer groups such as cooperatives; the establishment of marketing orders and agreements; operation of marketing quota or allotment programs to influence production and supply; direct action to support prices of agricultural commodities; programs to expand consumption through distribution to new outlets; research to discover ways of improving marketing; and extension programs to disseminate information about marketing activities.

An important but indirect contribution to marketing by the government is through research and education. By providing up-to-date information on cultural and handling operations farmers are assisted in producing better quality peanuts. The first

direct service occurs at the time the farmer delivers his peanuts to the first buyer. At this point the Federal-State Inspection Service grades farmers' stock peanuts to determine the following:

1. The proportion of sound mature kernels that will not pass through a specified screen opening.
2. The proportion of other kernels, i.e., "immature", split, or broken, that will pass through the specified screen.
3. The proportion of defective or damaged kernels including discolored, diseased, decayed, and insect-damaged.
4. The proportion of loose shelled kernels, i.e., those shelled in harvesting.
5. The amount of foreign material.
6. The moisture content.
7. For Virginia-type, the proportion of "extra large" sound kernels included in the sound mature kernels.

As a service to the peanut industry and its related trade, the USDA issues periodical Peanut Market News Reports. These contain information on the marketing of peanuts and by-products such as meal and oil as well as competitive oilseed meals, shipping-point market conditions, and comments on movement and price quotations by shellers and brokers. During the summer and fall months, a summary of growing and harvest conditions is carried and prices of farmers' stock peanuts. Also, information showing quantities of farmers' stock peanuts graded by the Federal-State Inspection Service is carried during the harvest season, which provides an indication of harvest progress in each State. The Peanut Stocks and Processing Report issued monthly by USDA shows the stocks, millings, domestic uses of peanuts, and crushings. Also the Fats and Oils Situation, issued 5 times a year by USDA, appraises the current and prospective economic position of peanuts and products.

Undoubtedly the two most important activities of the government for a number of years have been (1) the direct action to support farm prices by loans and purchases, for peanuts produced within farm quota and allotment regulations, and (2) the quality regulations initiated under a special contract in 1964 and applied under a marketing agreement since 1965 designed to insure that peanuts marketed for edible use are free of aflatoxin.

It was pointed out in the previous section that the forces of supply and demand operating in a free-price market determine the price of a product. In the case of a fixed or pre-determined price support this affects the demand side of the equation for determining price. It has the effect of an additional buyer so that when all the regular commercial buyers who have been competing against each other for peanuts have purchased all they want, this additional buyer, namely, the government, stands ready to purchase the remaining supply at a specified level so the price does not go below that level. The limitation on planted acreage of peanuts affects the supply side of the equation for determining price. Without this limitation, and with price support, farmers would likely produce so many peanuts that the government would need to

buy huge quantities in order to maintain the price. In theory the government is saying to peanut producers that it will help maintain a reasonable price for peanuts but only under the provision that a reasonable quantity be produced.

Conditions prior to the establishment of the price support program for peanuts were disastrous for peanut producers. In 1931 the average price of peanuts reached a depression low of 1.7 cents per pound or only 25% of parity. In 1932 they rose to 30% of parity. In 1933, with the advent of the first government program, the farm price rose to 53% of parity; from 1934 to 1940, the farm price fluctuated between 54 and 64 percent of parity. Prior to 1941 the Commodity Credit Corporation (CCC) made nonrecourse loans to peanut cooperatives to finance the purchase, storage, and diversion or sale of farmers' stock peanuts by cooperatives to facilitate a surplus removal program.

These early programs were successful in raising prices but ineffective in controlling acreage and production. In 1941 peanuts were designated a basic commodity by legislation which also provided for farm allotments and quotas. When the United States entered World War II, the emphasis of Government programs shifted from an attempt to restrict the supply of peanuts. Farm allotments and quotas were suspended. Farmers were asked to expand peanut production to help alleviate the shortage of vegetable oils.

After the war acreage and farm marketing quotas and allotments were reestablished. The national marketing quota for peanuts was set at a level that would provide a national acreage allotment of 1,610,000 acres. Price support, under the Agricultural

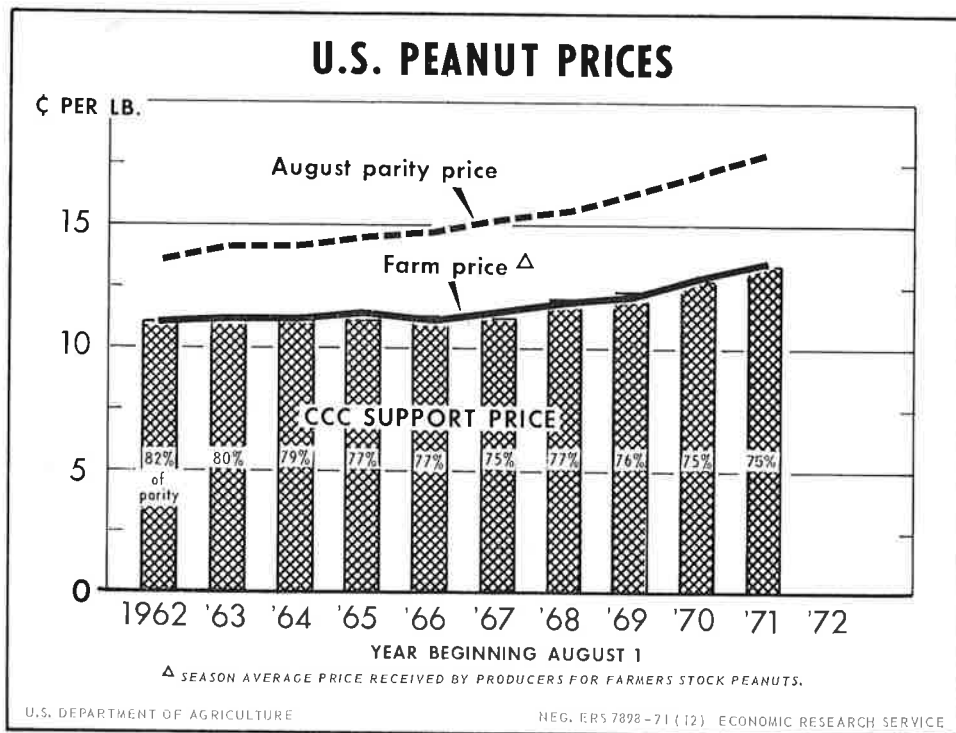


Figure 1

Act of 1949, as amended, was required at a level between 75 and 90 percent of parity depending upon the percentage which the total supply of peanuts is of the normal supply at the beginning of the marketing year (August 1). During the decade of the 1960's the support price increased from 10.1 cents per pound to 12.75 cents per pound. The support rate as a percentage of parity varied from 86 percent in 1961 to the legal minimum of 75 percent since 1967. As shown in Figure 1, producers received prices at the support level throughout the period of the 1960's.

Since 1956 the annual national allotment has been held to the 1.6 million acre minimum permitted by law. Peanut acreage allotments are small, averaging about 19 acres per farm in 1971. However, many farmers rent farms or allotments and the average acreage per farmer is larger. During the 1960's, acreage planted held steady at about 1.5 million acres and acreage harvested for nuts at 1.4 to 1.5 million.

An important aspect of the price support program for peanuts pertains to quality. The quality regulations were established in 1964 by a one-year CCC contract with shellers. In 1965, a marketing agreement was developed which will be discussed in the next section. The continued effectiveness of the marketing agreement, which is a voluntary contract between handlers (mostly shellers) and the Secretary of Agriculture is dependent in part upon the coordination with the price support program. The marketing agreement provides that only peanuts meeting specific quality standards and found by chemical tests to be free of aflatoxin can be marketed for food use. As part of its price support program CCC offers to purchase some of the lower quality shelled peanuts normally sold for food use. These purchases consist mainly of sound split kernels and sound "immature" kernels of small sizes at prices below the cost of kernels contained in unshelled peanuts acquired from farmers by loan operations. The sale of these lower quality kernels to CCC, which is conditional upon participation in the marketing agreement program, is attractive to shellers. This provision under the program diverts some of the lower quality kernels from food channels and thus increases the proportion of better quality kernels for food use. Furthermore, the cost to CCC of diverting the lower quality shelled kernels is less than the cost of diverting offsetting quantities of kernels in unshelled farmers' stock peanuts.

By far the largest outlet for CCC peanuts over the years has been for crushing at about half the support price. The major problem of the peanut industry has been the inability to market the total production for domestic use at the support prices established for farmers under existing law. The national policy of supporting prices by loans and purchases for all peanuts produced on a "minimum" acreage allotment fixed by law came under increasingly critical review during the late 1960's. Program costs increased as the rate of increase in yield per acre moved ahead of the rate for domestic food consumption. Total net costs realized by CCC amounted to \$66 million for the 1970-crop peanuts compared with \$13 million in 1961. On a per pound basis, CCC losses averaged 6 to 7 cents, about half the support price, for all peanuts acquired under the support price program.

In 1971, aggregate CCC realized losses and costs for 6 major crops amounted to \$4.6 billion of which peanuts contributed 1.4%. In 1970, government costs as related to crop values were as follows: rice 56%, upland cotton 54%, wheat 49%, feed grains 20%, peanuts 17%, and tobacco 10%. On a per acre basis, government costs were: tobacco \$146, rice \$130, cotton \$98, peanuts \$45, wheat \$30, and feed grains \$18.

During 1959-63, the years immediately before the industry-wide quality control

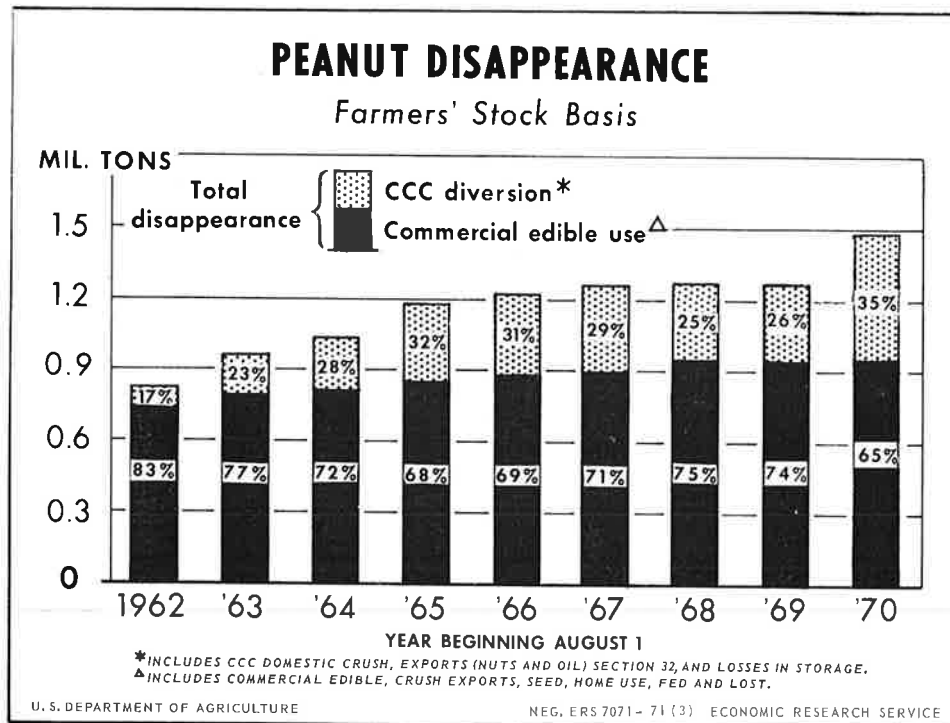


Figure 2

program, total diversion of peanuts by the CCC averaged about 18% of the annual production. By 1970 the diversion level had risen to 35% as shown in Figure 2.

The Marketing Agreement of 1965

The identification and isolation of aflatoxin in the early 1960's was to make a serious impact on the peanut industry. The Federal Food, Drug and Cosmetic Act forbids the sale of adulterated food products and the FDA is required by federal law to cause the seizure, the recall, or otherwise to prevent the distribution of such products. The presence of aflatoxin in peanut food products in amounts demonstrable by procedures established by the FDA laboratories is adulteration under Sec. 402 (A) of the Act.

During 1963 samples of peanuts and peanut meal were found to contain aflatoxin. Later tests of samples of peanut butter showed the possibility of contamination carrying through into the final product. By 1964 this new development posed a serious threat to the peanut industry. Several years earlier, in 1959, some producers of cranberries applied a weed killer, amino triazole, to the growing crop which carried over into the harvested crop. The weed killer was believed to be injurious to human health. Publicity associated with FDA action to remove contaminated berries and products from the market caused a "public scare" and a serious decrease of consumption. The memory of the cranberry situation was still fresh in people's minds and responsible persons in the peanut industry were aware of what could happen if a wave of consumer alarm were to spread over the country with respect to peanuts and their products.

Recognizing the seriousness of the problem, the industry and the United States Department of Agriculture initiated a program to deal with it. All segments of the

industry — producers, shellers, and manufacturers supported the regulatory program established for the 1964 crop under a contract between the CCC and individual peanut shellers. The next year, 1965, a marketing agreement embodying quality regulations and indemnification provisions was formed with all handlers participating. The agreement has been modified and extended in subsequent years. The CCC support program provisions were coordinated with the agreement.

Under the agreement all lots of farmers stock peanuts are tested and placed in one of three categories. The first category, Segregation I peanuts, can move directly into food channels. Segregation II peanuts, can move into food channels only if the supply of Segregation I is below food needs. Segregation III peanuts, are diverted for crushing into oil and meal. The agreement operates under the authority of the Secretary of Agriculture and is supervised by a Peanut Administrative Committee (PAC) elected by growers and shellers. The 18-member committee is made up of 3 growers and 3 shellers from each of the three production areas in the United States. It is a self supporting program. Handlers are assessed the amount needed to cover administrative expenses and to provide indemnification of losses on lots of shelled peanuts found to be contaminated by aflatoxin. The rate of assessment for the 1970-crop program for indemnification purposes was \$2.50 per ton; for expenses of administration, 25¢ per ton. With about 1,000,000 tons of peanuts being acquired by handlers, approximately \$2,500,000 was collected for the indemnification fund and \$250,000 for administration. Prices received by producers for their peanuts are not affected by the segregation category into which they fall.

Under the marketing agreement a sheller must submit a sample of all shipments of edible grade peanuts for testing to a PAC approved laboratory. The results are forwarded to the buyer. Only lots found to be aflatoxin "negative" can be sold for food use. In addition to the marketing agreement, the National Peanut Council representing all segments of the peanut industry developed a Voluntary Code of Good Practices for Purchasing, Handling, Storage, Processing and Testing of Peanuts. This is an additional effort to give complete assurance that all peanuts and peanut products entering the edible trade are wholesome. Present regulations on the marketing of peanuts together with manufacturing practices prevent the marketing of low quality peanuts and products that were marketed in the past. This adds somewhat to the costs of the products, but, considering the protection and improvement of quality, gives the consumer a better value for food expenditures.

The Quality Problem

In the first section of this chapter it was pointed out that quality is a variable factor and has an influence on price. Also that a system for describing quality and communicating it throughout the industry is an important aspect of marketing. It provides a form of "market language" that facilitates sales and other transactions with an understanding of the relationship between gradations of quality involving physical and other attributes and economic values. New knowledge and technology enable farmers and processors to produce peanuts and peanut products more efficiently and of higher quality than in past years. Improved grades and standards contribute to this. Nonetheless, there is need for further improvement.

The problem of quality identification, measurement and maintenance has been stressed for a number of years. The needs have included more accurate methods of determining quality of peanuts and improved methods of sampling and grading

raw peanuts. In 1963 the Peanut Improvement Working Group (PIWG), an organization of industry, state, and federal personnel established in 1957 for the purpose of exchanging information, cooperative planning, and periodic review of all phases of peanut research and extension, stressed the need for standardized procedures for evaluating peanut quality. In 1964 a subcommittee of PIWG was appointed to develop such procedures. Substantial progress has been made, but the quality problem has persisted and there is still need for more objective methods of quality determination. This effort has been continued under the auspices of the American Peanut Research and Education Association, Incorporated, established by PIWG in 1968 as its successor organization.

In 1960 industry efforts were initiated for a Federal laboratory devoted to peanut quality. In 1969 the laboratory became a reality at Dawson, Georgia, as the Peanut Marketing Research Laboratory. Its role is to provide a central focus for stepped up work on peanut quality involving a number of scientific disciplines.

Changes In Peanut Marketing

Much has happened within the peanut industry since the early days when a farmer would take his peanuts to a buyer who more-or-less guessed at the quality. The product brought in by the farmer and the manner of delivery has changed tremendously. So has the method of determining quality changed and although still not perfect it is far better than "guess-work" of earlier years.

The functions and activities which have been subject to change include assembly of raw material, inspection, grading, handling, storage, transportation, processing, manufacturing, and distribution. For some of these functions only limited information on changes is available and other functions may be a part of, or intertwined with, other aspects of marketing which makes it difficult to examine each one. Some of the more important changes that have occurred will be discussed next.

During World War II peanut production was encouraged under government programs to help alleviate the shortage of vegetable oils. This shortage continued immediately following the war. This stimulus brought about a substantial increase in the number of peanut shelling plants, hitting a peak of 176 in 1948. With the return of production controls there was an over-capacity of shelling facilities. By 1965 only 90 of the shelling plants remained active. The eight largest firms handled over 50% of the peanut crop and controlled one-third of the shelling plants in operation.

Since World War II, technological advances in peanut production and mechanical harvesting and curing have had an important impact on marketing. Prior to mechanical harvesting the peanuts were dug and stacked in the field by hand to cure. After curing for 4 to 6 weeks they were hauled to a thresher for picking and bagging and then hauled to a first buyer's receiving station to be graded and sold. Under mechanical harvesting they are dug and placed in rows to dry for a few days. They then are combined and handled in bulk. Receiving stations and warehouses have installed specialized equipment and facilities to take advantage of the more economical bulk handling. The economies of scale inherent in bulk operations are having an important impact on the economic structure of the first buyer phase of peanut marketing.

The shift from stacking and bags to combining and bulk handling reduced labor requirements for harvesting from 28 man-hours per acre to 4.3 man-hours. It reduced the labor requirements for moving the peanuts from farm to first receiver from 3.2

man-hours to 1.3 man-hours per acre. In 1961 a study showed savings of \$7.00 per acre resulting from the reduction in labor requirements, equipment, and bags.

With mechanical harvesting came artificial drying. This enabled farmers to move the bulk of their crop to first buyers within three weeks after the start of digging. This accelerated movement caused first buyers to purchase their supply in a much shorter period and increased their need for financing. It also meant larger investment in drying, receiving, and dry storage facilities for the farmers' stock peanuts.

The new harvesting and drying technology resulted in an improvement in quality from the farmer's standpoint with reduced loss from insects, rodents, molds and weather damage. From the shellers and processors standpoint, the improper use of high temperatures in artificial drying caused problems of skin slippage on peanut kernels, thus lowering the grade of shelled peanuts by increasing the quantity of split kernels. Also a deterioration of flavor was associated with high artificial drying temperatures. Improved techniques resulting from research and experience have largely overcome these problems.

Storage practices for shelled peanuts have changed also. In the late 1920's and the 1930's, nearly all shelled peanuts were held in cold storage in terminal markets. Manufacturers and merchandising brokers usually laid in a full year's supply early in the season. Chicago, which was the leading peanut storage center, commonly had as many as 20,000,000 pounds of peanuts in storage in its warehouses. As storage in production areas gained, the importance of terminal markets declined. Storage at Chicago declined to 5,000,000 pounds at any time. Shellers found that holding peanuts in or near production areas gave them greater flexibility in shipment. By the mid-1960's over 90% of the shelled peanuts were being held in southern storage points and shipped to terminal markets on order.

Important advances have been made in the official grading of peanuts. For farmers' stock peanuts a major change has been the development and adoption of a number of mechanical devices which have made it possible to obtain a more representative sample and to grade a larger-sized sample, thus improving accuracy of results, and speeding up the entire operation. Among the types of mechanical equipment now approved for use by the Federal-State Inspection Service are automatic samplers, sample dividers, pre-sizers, shellers, splitters, sizers, kernel counters, and moisture meters. Previously, these operations (except moisture determination) were performed by hand. This not only required a large amount of hand labor, but it seriously limited the size of sample that could be examined and graded within the time available. While several of the mechanical inspection devices are especially designed for use on farmers' stock peanuts, others, such as automatic sizers, splitters, dividers, counters, and moisture meters, also are used in the inspection and grading of shelled peanuts.

Marketing Margins

The cost of marketing food products has been an item of national interest for many years. In 1964 Congress established a National Commission of Food Marketing which studied the food industry and issued a report in June 1966. The Congressional mandate to the Commission was to study and appraise the marketing structure of the food industry. Included in this charge were historical changes, changes in the statutes and public policy, changes in relationships among segments of the economy, the effect of government services, and the kind of food industry that would assure

efficiency of production, assembly, processing, and distribution, provide appropriate services to consumers, and yet maintain acceptable competitive alternatives of procurement and sale in all segments of the industry from producer to consumer. In the introduction of its report the Commission said, "The economic performance of the food industry is highly important to the productivity of the total economy of the Nation and thus to the welfare of its people. The system operates under private enterprise subject to regulations to insure healthfulness of the food supply and effective competition. The role of competition is central. It is relied upon to direct the activities of firms toward efficiency and progress, to provide goods and services to consumers and other buyers at prices consistent with the necessary production costs, and to return to producers the full market value of their commodities".

For many years USDA has estimated the farm value and civilian consumption expenditures for domestically produced farm food. In addition "market basket" statistics provide information about the farm share of the consumer's food dollar. The market basket comprises 65 farm-produced foods in the quantities bought by wage-earner and clerical-worker families. This is valued at retail prices, and after adjustment for by-products, at farm prices. Peanut butter in 12-ounce jars is one of the food items contained in the market basket.

The amount of processing and handling affects the proportion of the consumer's food dollar that is left for the producer. For example, the farmer's share of the retail price of shell eggs is more than four times that of bread. This is because the shell eggs received by the consumer are still in the same form as when they left the poultry house, but in the case of wheat, much has happened to it between the time it left the farm and ends up in a loaf of bread. Because there is more processing in peanut butter than peanuts in the shell the margin would be different. At the time of the Food Commission study which used 1964 data the farmer's share of a 12-ounce jar of peanut butter was 34%.

Another report, "Agricultural Markets in Change", prepared by the Economic Research Service, USDA, in 1966 indicated that peanut butter marketing costs are influenced by the type of retail outlet, the amount of brand promotion, location of market, and container size. In 1960-61, chain stores sold 12-ounce jars of peanut butter for 2 cents less than small independent stores. Advertised brands of peanut butter sold for 8 cents more per 12-ounce jar than the comparable price of non-advertised brands. Cities long distances from peanut producing areas had higher prices than those located near peanut producing areas. With respect to container size, retail prices in 1960 were 35.1 cents for 18-ounce jars; 41.8 cents for 12-ounce jars; and 46.9 cents for 8-ounce jars.

That part of the above study pertaining to components of the consumer's food dollar spent for peanuts has been updated to 1969 and shows: farmer's share 28%; shellers 5%; manufacturers 36%; and wholesale-retail 31%.

Factors Affecting the Supply of Peanuts

In the last 20 years, peanut acreage has been limited by the government program, but yields per acre have almost tripled. In 1971 the production of peanuts in the U. S. had reached 3 billion pounds, almost double the amount produced a decade earlier, with just a slight increase in acreage harvested as shown in Figure 3. Imports of peanuts are negligible as they are limited by an import quota — 1.7 million pounds

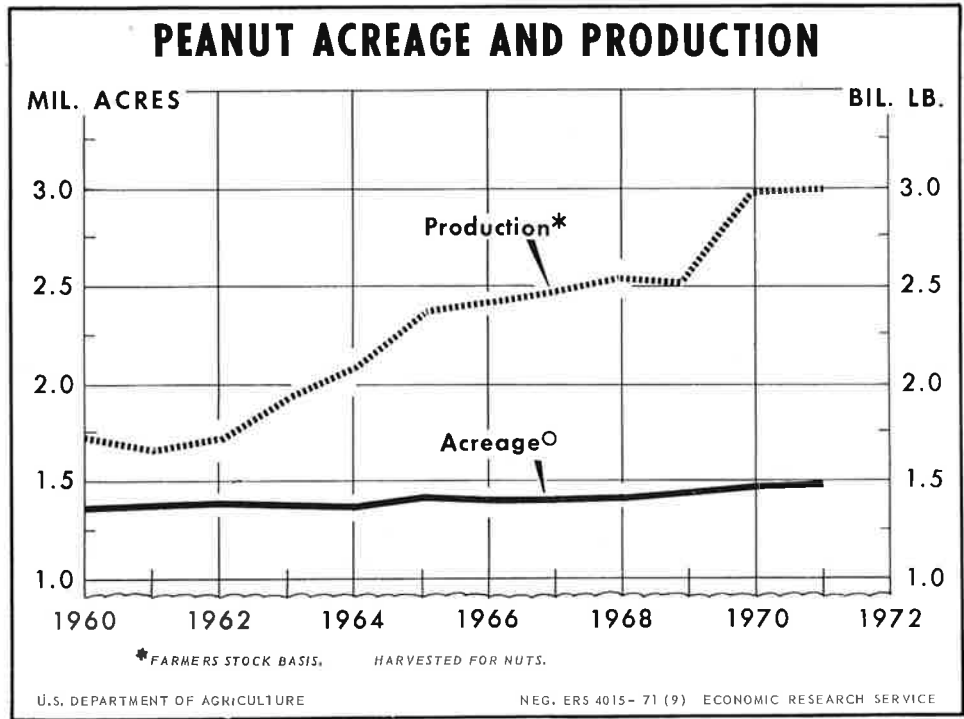


Figure 3

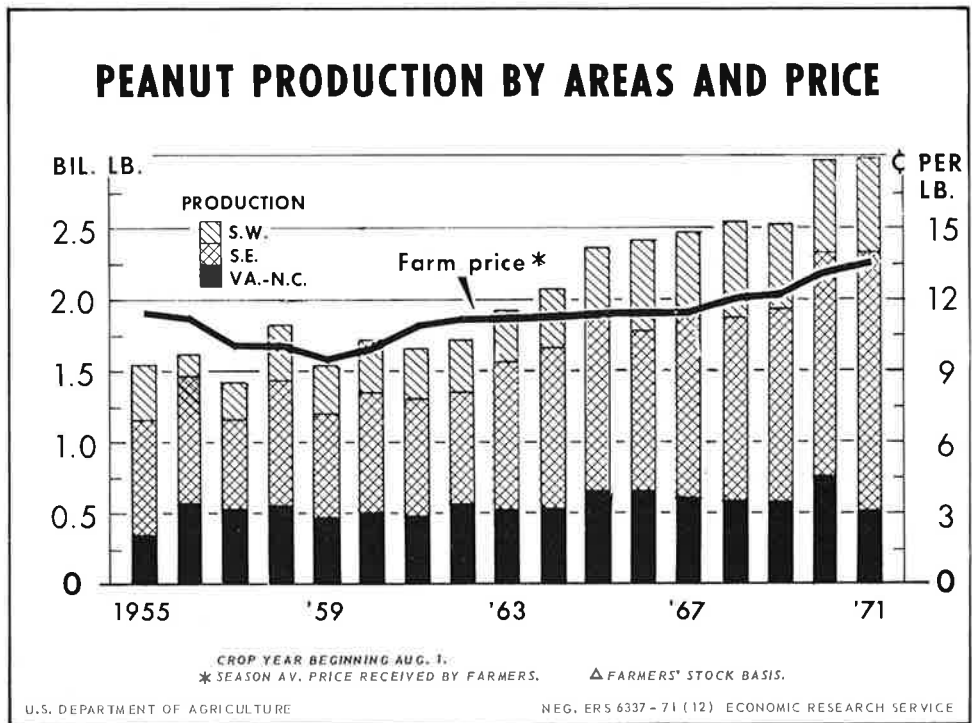


Figure 4

of shelled peanuts annually. Because U. S. peanut price supports are nearly double the world market price for peanuts, import controls are necessary to protect the program.

Peanuts are a basic crop of economic importance to approximately 84,000 farmers in the United States. There are three main peanut producing areas: (1) Virginia-Carolina area (Virginia, North Carolina, and that part of South Carolina north and east of the Santee-Congaree-Board Rivers, Tennessee, and Missouri); (2) Southeast area (Georgia, Florida, Alabama, Mississippi, and the southern part of South Carolina); and (3) Southwest area (Arkansas, Arizona, Louisiana, Oklahoma, Texas, California, and New Mexico). The division into these areas is based largely on the type of peanuts grown.

About half of the U. S. Crop is produced in the Southeast area, with the other two areas each producing roughly one-fourth of the total national crop. The production areas are shown in Figure 4 for the period 1955-71.

Peanut yields per acre are usually highest in the Virginia-Carolina area and lowest in the Southwest. Annual fluctuations in production are largely due to weather conditions, such as drouth during the growing period, hurricanes or sustained rains during harvesting and curing, and untimely frosts. Peanut yields per acre have increased in each producing area as shown in Figure 5 along with the national average for the period 1955-71.

The government's acreage allotment program and rising mandatory support prices have influenced the rapid rate of technological advance in U. S. peanut production. With land restricted by allotments for peanut production, growers have substituted other inputs — such as fertilizer, herbicides, and pesticides — for land. These practices

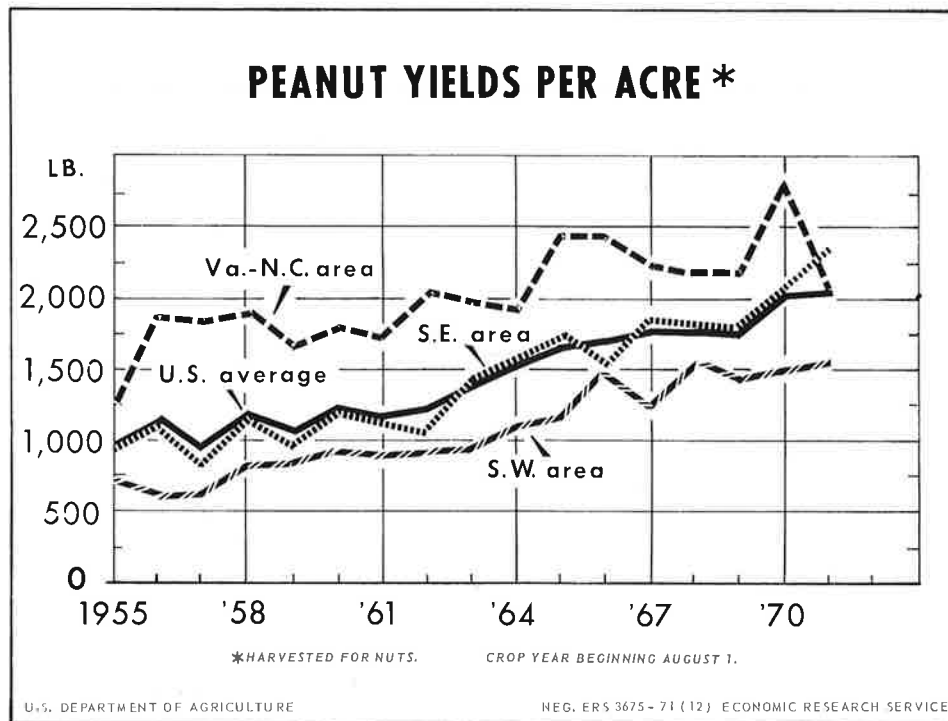


Figure 5

plus the shift to higher-yielding new varieties, growth of more plants per acre by closer plantings and closer rows, irrigation, and increased use of mechanical harvesters and dryers, have contributed to the increase in yields per acre. As peanuts must be harvested promptly upon maturity, mechanical equipment that makes it possible to dig and combine the crop rapidly has greatly reduced losses in years when weather at harvest time is unfavorable. Also, the increase in the average size of allotment farms — due to combining of allotments within counties — has helped boost peanut yields.

Factors Affecting the Demand for Peanuts

Because peanuts are such an excellent source of human food it is difficult to understand why consumption is not greater. Roasted peanuts and peanut butter are eaten primarily because of their appealing aroma and flavor, although they are also sources of good quality protein. A Federal-State task force on peanut research in 1968 indicated that improvements in roasted peanut flavor and retention of fresh roasted flavor on aging are needed to increase markets for edible peanut products. The nature of flavor changes during and subsequent to roasting is relatively unknown. Staling is an important deterrent to increased consumption. Knowledge of the flavor components determinable through newer analytical methods would guide changes in pre-processing, processing, and market techniques to improve flavor, control staling, and increase consumer acceptance. The task force recommended a number of research approaches and pointed out that the peanut industry would benefit from stabilization and enhancement of the characteristic, appealing flavor of freshly roasted peanuts. Also, these improvements should increase the demand for peanut butter, confections, and snack items for domestic markets and for export to developed countries. Roasted peanuts of improved and more permanent flavor could be expected to have an increased value at little or no added processing cost.

In spite of their food value, flavor, and aroma, peanuts for food use are limited almost exclusively to a few products — peanut butter, roasted or salted peanuts, and confections. There is an increasing need for low-cost protein foods that are nutritious and attractive not only in the United States but throughout the world. Increased research to develop a wide variety of high protein food products such as peanut flake, flour, blended and textured products was recommended by the task force.

The acceptability of peanuts depends on the external attributes such as shape, size, and color and on more subjective attributes such as flavor, aroma, chemical composition and shelf-life. There is need to develop objective methods of measuring preference factors so producers will know what kind of product to produce. Such information can be used to modify the plant by breeders, to adjust cultural handling, curing, and marketing practices. Consumer acceptability factors have not received their needed attention in plant breeding programs.

The future domestic demand for peanuts in the edible market will depend upon such factors as population growth, peanut prices, and the peanut industry's product development, product quality, and merchandising and promotional programs. Per capita use of peanuts leveled off during 1967-70 as peanut support prices advanced. Aggregate consumption will continue to increase, but the annual rate of gain may not match the past rate of 3%. Future significant gains in domestic edible consumption will become more difficult to achieve with higher market prices for peanuts and increased competition from other products — especially in the growing snack-

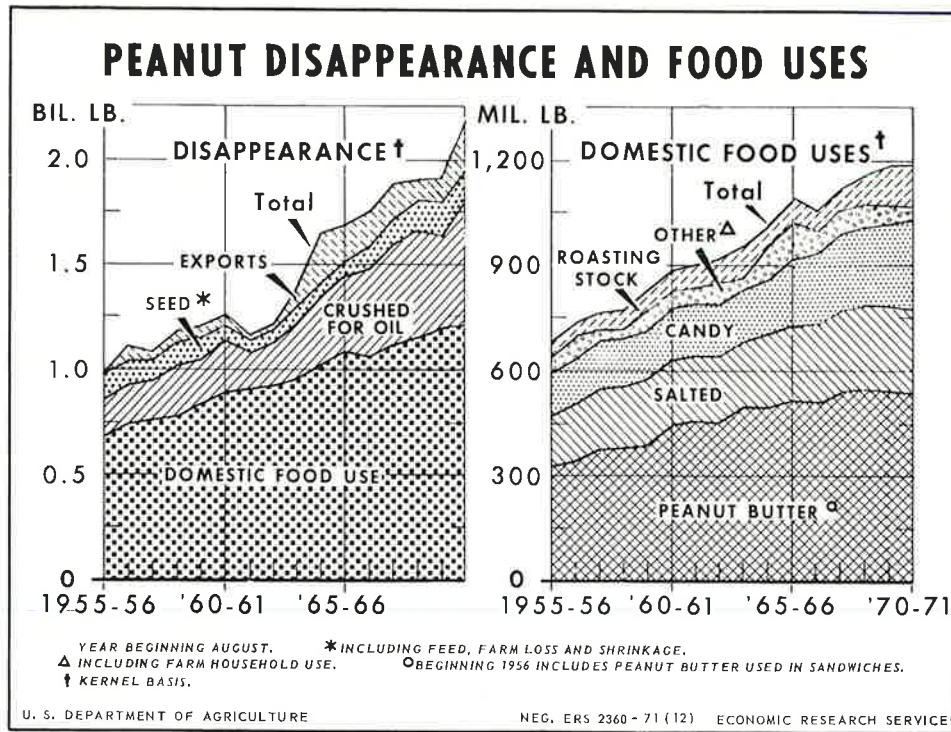


Figure 6

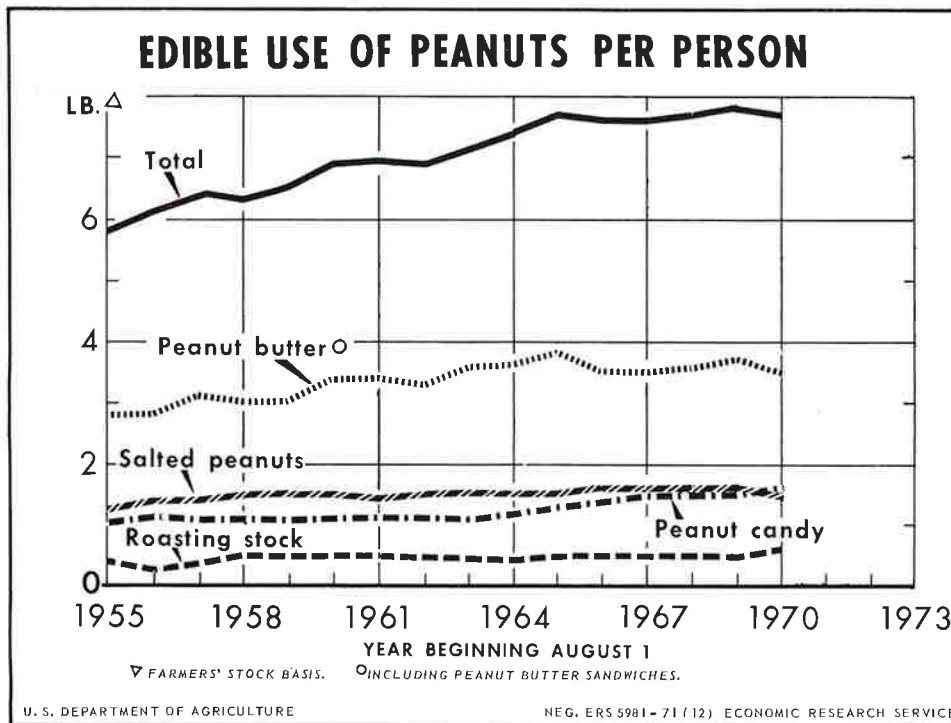


Figure 7

food market. To share in this growth of market outlets, peanuts must be competitively priced and the peanut industry must continue to compete in new-product development and promotion.

Approximately two-thirds of the total disappearance of peanuts is used for edible products — chiefly peanut butter, candy, salting, roasting-in-the-shell, and related uses. Aggregate edible consumption of peanuts has increased over the years reflecting population growth and increasing per capita consumption. During the latter half of the 1950's and all of the 1960's the consumption of peanut butter increased three times faster than population growth. The growing population with more income to spend along with effective promotion by the peanut industry and increased consumer acceptance of quality peanut products were factors boosting consumption. Figure 6 shows the utilization of peanuts for all uses and a further breakdown of food uses.

About half the total edible peanut supply has gone into the manufacture of peanut butter, almost one-fourth has been used for salting, and nearly one-fifth has been used for candy. On a per capita basis edible peanut consumption (unshelled farmers' stock weight) has slowly trended upward during the 15-year period shown in Figure 7 from about 6 pounds to nearly 8 pounds.

There is some competition for peanuts from other nuts such as almonds, filberts, pecans, walnuts, cashews, pistache, Brazil, and chestnuts. The average consumption of these nuts per capita has averaged about 1.7 pounds, shelled basis. The usage rates of these competitive nuts remained steady while the per capita consumption of peanuts has increased.

Peanut butter utilizes mostly Runner and Spanish type peanuts. For salting purposes Virginias are used for the most part and Spanish type for the remainder. All three types are used for candy, however the proportions of Runners and Virginias have increased. The uses of peanuts in primary products are shown in Figure 8.

Exports of peanuts from the United States for food uses have become an increasing outlet for CCC surplus peanuts. Foreign outlets increased during the decade of the 1960's from about 25,000 tons to about 62,000 tons as shown in Figure 9. Canada has taken most of these peanuts although Japan increased its purchases late in the decade. An expanded merchandising program by the peanut industry, and availability of surplus peanuts from CCC stocks at competitive world prices spurred U. S. peanut exports in the late 1960's. Peanuts and peanut oil are important commodities in the world's oilseed economy, accounting for about one-fifth of world edible vegetable oil production. About 90% of the world exports of peanuts and peanut oil moves to Europe, with France the major market. Export promotion efforts by industry and the USDA have been limited to edible peanuts. To aid this endeavor, the United States has a self-imposed restriction to export only nuts of the highest quality.

Residual uses for oil and meal also affect the demand for peanuts. Peanut supplies for crushing come from low-quality peanuts obtained in the shelling operation and CCC surplus peanuts. Most oil mills are equipped for both shelling and crushing. Peanut crushings increased substantially during the latter 1960's due to heavy CCC diversions. As shown in Figure 10 peanut oil supplies doubled during the decade of the 1960's. Both domestic use and exports of peanut oil increased substantially during the period shown. Peanut oil is utilized primarily as a cooking and salad oil with this outlet accounting for about three-fourths of total U. S. consumption. Peanut cake and meal, joint products with oil of the peanut crushing industry, contains about 50% protein and is a good livestock feed.

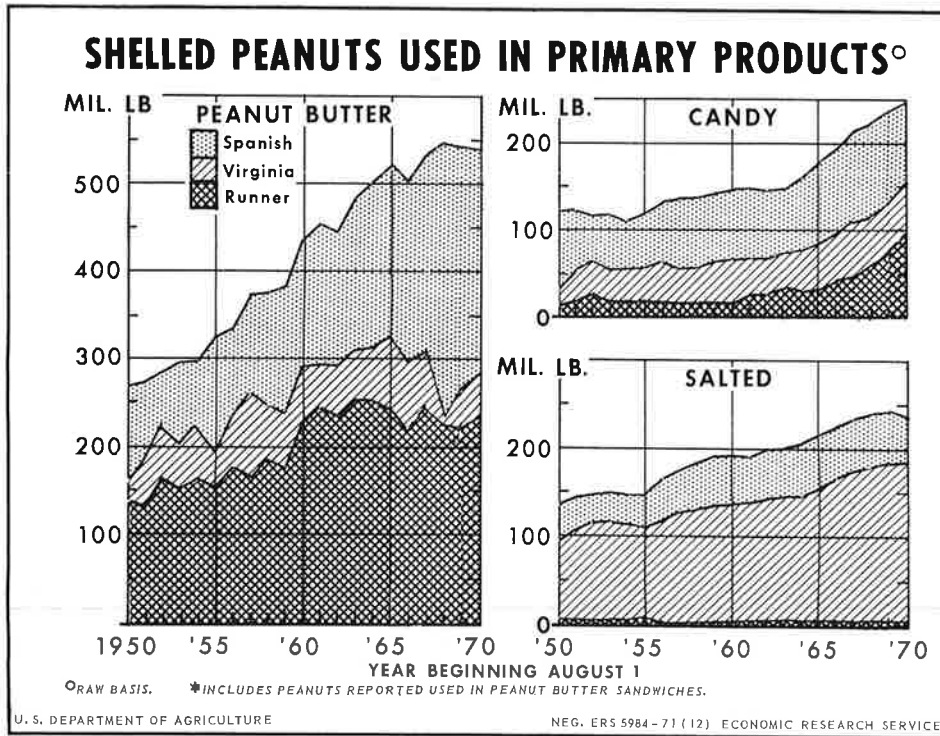


Figure 8

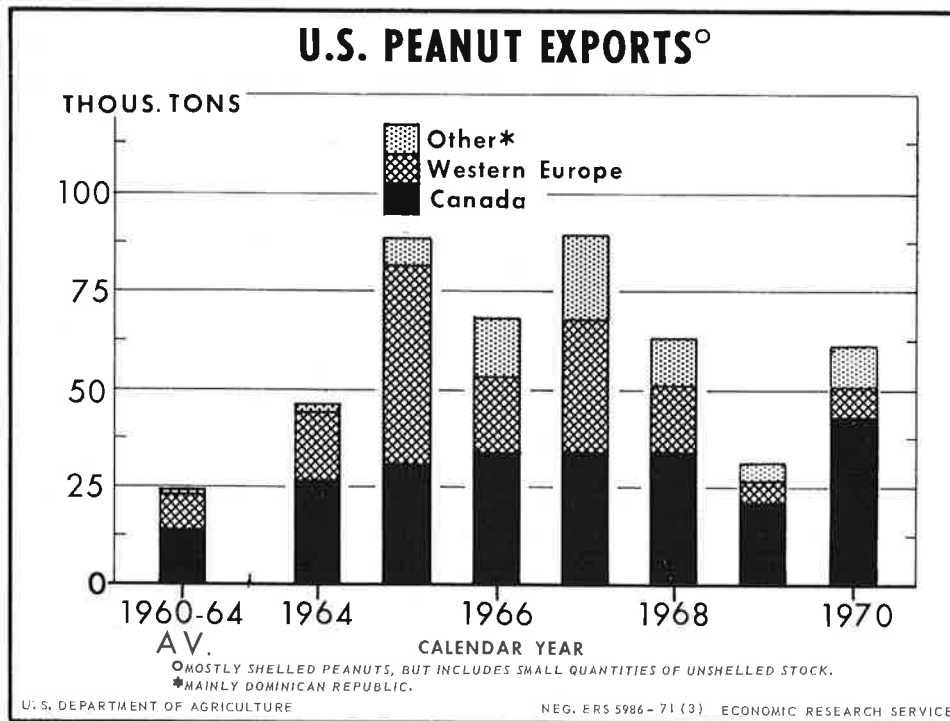


Figure 9

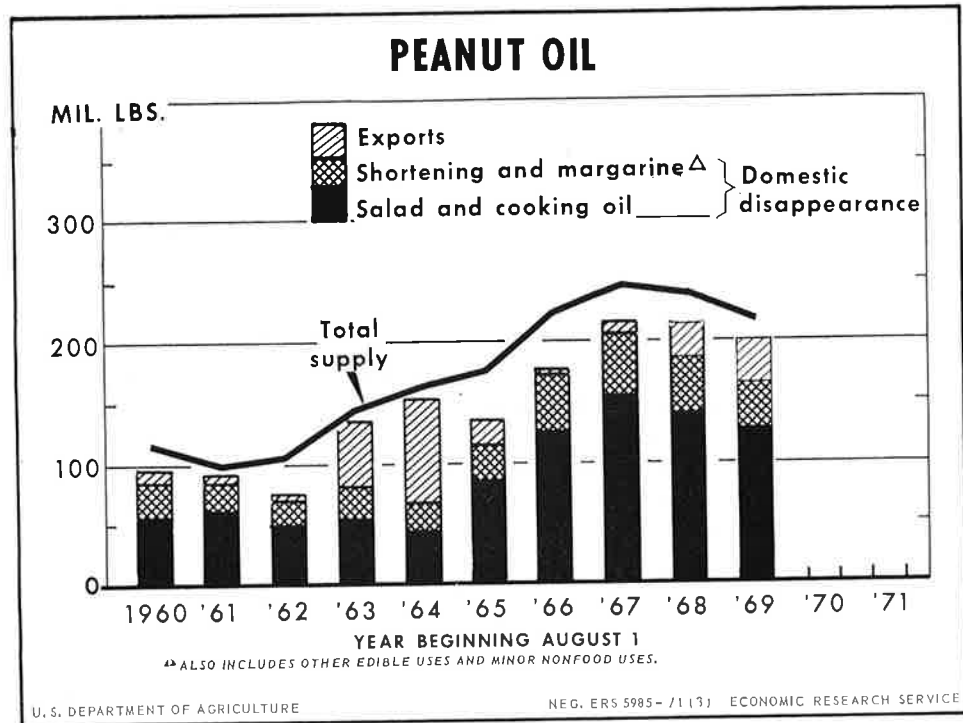


Figure 10

The lack of demand for peanut hulls, a byproduct of the shelling industry is a recent and difficult problem of the peanut industry. Peanut hulls traditionally have been used for livestock feed, fertilizer conditioners, fuel and poultry litter. In recent years the use of pesticides during the production process has practically eliminated the markets for hulls as a livestock feed and poultry litter. The sudden loss of markets for hulls has left peanut shellers with a serious problem of disposal. Burning the hulls in out-doors incinerators creates an environmental problem. A solution to this residue problem is urgently needed.

An encouraging development in regard to the problem with hulls is the attention being given to the problem by the Richard B. Russell Agricultural Research Center at Athens, Georgia. Research personnel and representatives of the peanut industry have been developing cooperative approaches aimed at finding new uses for peanut hulls. About 374,000 tons of hulls result from the processing of peanuts in the U. S. Two-thirds of the hulls accumulate from shelling plants in the Southeast. Exploratory research is being directed toward treating hulls so they can be used for roughage in cattle rations and as carriers for liquid supplements such as molasses. Another research approach is to use peanut hulls in the manufacture of pressed fireplace logs. Such logs now on the market are made from wood shavings, weigh about five pounds, and sell for \$.88 to \$1.09 retail. On this basis, exclusive of additives and manufacturing cost, a ton of peanut hulls would bring close to \$400. Hulls are presently available at \$11-\$12 a ton. Logs have been fabricated in the laboratory using suitable additives and pressures. Similar logs also were made from commercial materials and both types were burned side by side. The logs burned with a bright yellow flame with no

noticeable smoke. The wood chip product burned more intensely than the peanut hull log, but the latter burned longer. Based on work thus far it appears that peanut hulls can be used in synthetic logs and make a satisfactory product. Other research includes exploration for additional uses such as sweeping compounds.

Prices for Peanuts

Most of the story on peanut prices has been told. In the first section of the chapter it was pointed out that according to theory and principles the interaction of the forces of supply and demand determine the price of a product under a free price system. In the section on the role of the government it was observed that for a number of years the prices for peanuts were at the support level as shown in Figure 1. In the two preceding sections factors were reviewed that affected supply and demand during the latter part of the 1950's and the 1960's. In the section on the marketing agreement for 1965 and subsequent years we observed that market prices are influenced by quality. In the section on marketing margins and proportions of the final consumer price allocated to the different functions performed between the producer and the consumer were discussed. The data presented have told us that in spite of increasing demand for edible grade peanuts, peanut supplies in the United States from the national acreage allotment have increased faster (about 6% per year) than commercial requirements (about 3% per year). This situation made it necessary for the Commodity Credit Corporation to acquire surplus peanuts under the government program. The CCC has diverted these peanuts from the edible market, at prices below acquisition cost, into crushing channels and into exports. An over-view of total supply and total disappearance is shown in Figure 11.

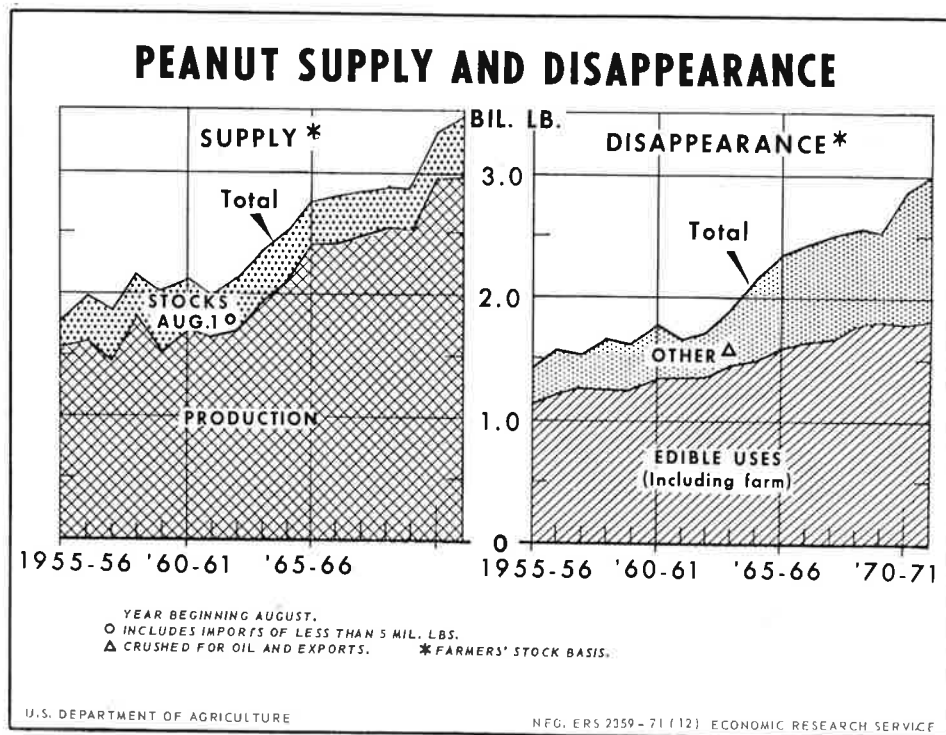


Figure 11

In summary, the United States produces peanuts primarily for the domestic food market, and these outlets command higher prices than peanuts for crushing. The CCC price support rate is related to the value of peanuts for domestic food use. This maintains U. S. peanut prices above the world prices of peanuts. In other major producing countries — India, Mainland China, Senegal, and Nigeria — peanuts are produced primarily for their oil and meal, and peanut prices average below those in the U. S. Consequently, the U. S. plays a relatively minor role in the international trade of peanuts for crushing into oil and meal.

Peanut Marketing Research

Research in marketing helps the peanut industry keep abreast of conditions and adapt to change. In 1968, a Federal-State research task force reviewed the status of all publicly financed research pertaining to peanuts. The members of the task force were of the opinion that considerable opportunity existed for more emphasis on research in peanut marketing. It was indicated that many imperfections exist in the marketing system for peanuts which provide opportunities for improvement in most handling and distribution activities. The limited attention given to peanut marketing in public research programs was indicated by the fact that only 4 scientist-man-years were devoted to marketing out of a total of 66 scientist-man-years for all research on peanuts. Another indication was that over a 10 year period during which 150 papers given at meetings of the Peanut Improvement Working Group, only 10 items pertained to marketing and 5 of those were given in 1960.

The task force recommended increased emphasis aimed at increasing the demand for peanuts through improved flavor and flavor retention in peanut products; improved processes for, and food products from, full-fat partially defatted peanuts, peanut flour, and oil. Research in the area of physical efficiency was recommended that would bring about reduced costs of marketing peanuts and maintain product quality through better equipment for drying, conditioning, handling, and storing, along with improved transportation procedures. Research in the area of economic efficiency was recommended that would continue to evaluate the economics of the marketing system for peanuts with special emphasis on market organization, competition, pricing, market information and communication, equity, and consumer preferences.

REFERENCES

- Agricultural Markets in Change, Agricultural Report No. 95, Economic Research Service, USDA, July 1966, Chapter 13.
- A National Program of Research for Peanuts, Prepared by a Joint Task Force of USDA and the State Universities and Land Grant Colleges, November 1968.
- Cost Components of Farm-Retail Price Spreads for Foods, Technological Study No. 9, National Commission on Food Marketing, June 1966.
- Goldblatt, L. A., Aflatoxin, Scientific Background, Control and Implications, 1969, Academic Press, New York and London.
- Kohls, Richard L., Marketing of Agricultural Products, The Macmillan Company, New York, 1955.
- Pender, Robert R., Role of the Peanut Administrative Committee in the Peanut Industry, Address at the annual meeting of the American Peanut Research and Education Association, July 13, 1970.
- Thomsen, F. L., Agricultural Marketing, McGraw-Hill Book Company, Inc., 1951.
- Peanut Growing, Farmers Bulletin, USDA, 1931.
- Webster, Marvin W., Peanut Marketing, USDA Marketing Bulletin No. 29, 1964.

